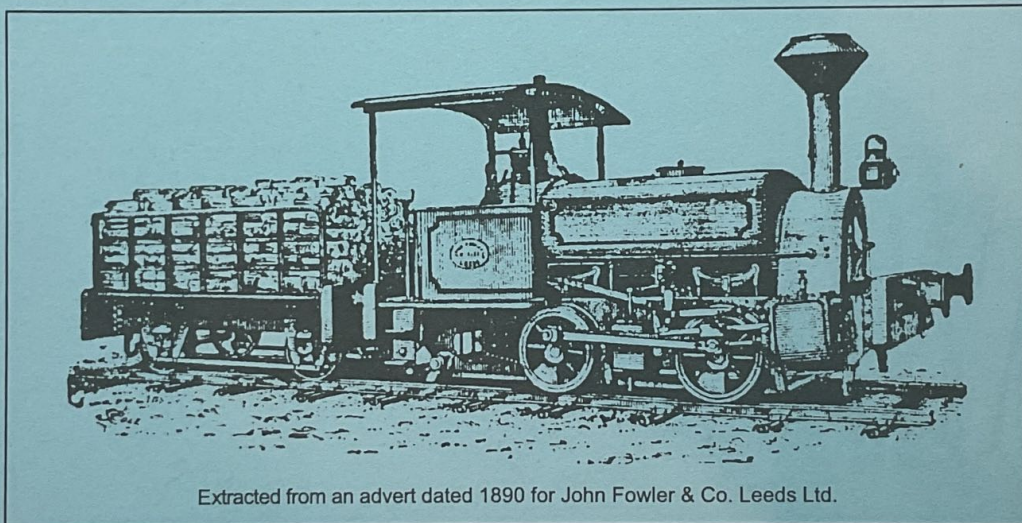


# IMLEC 2002



Extracted from an advert dated 1890 for John Fowler & Co. Leeds Ltd.

**LEEDS SOCIETY of MODEL and  
EXPERIMENTAL ENGINEERS**

*present*

**THE INTERNATIONAL MODEL  
LOCOMOTIVE EFFICIENCY COMPETITION**

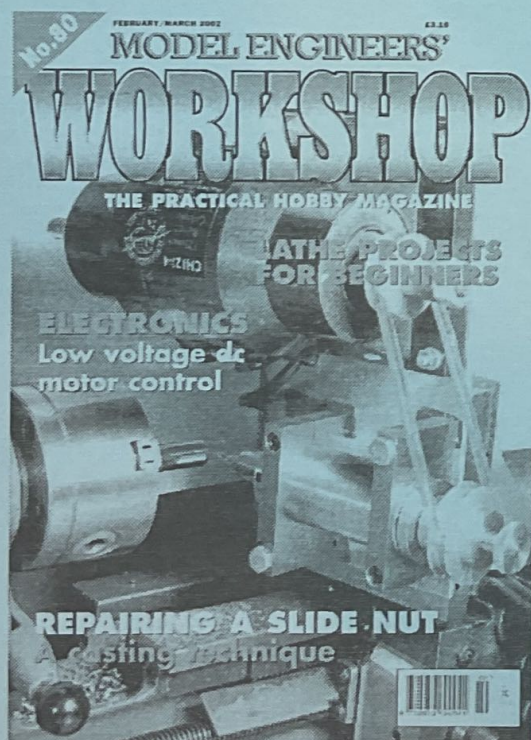
*for the*

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The Thirty-third Annual  
International Model  
Locomotive Efficiency Competition  
for the  
**Martin Evans Challenge Trophy**

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The overall winner of the competition will receive the Martin Evans Challenge Trophy and £100; the runner-up will receive £50, with £25 and £15 awarded to third and fourth places respectively.

One year's subscription to Model Engineer will be awarded to the best 3½ inch gauge locomotive if not in the first four.

### **PRESENTATION OF PRIZES**

Geoff Bird, former York Shed Master, will present the prizes at the close of the competition, late on Sunday afternoon.

## A message from our Chairman

A warm welcome to Eggborough, home of Leeds SMEE track.

I don't think Martin Evans realised what he was starting when he suggested an International Model Locomotive Efficiency Competition way back in 1969.

You may remember that at that time he was the Editor of our magazine "Model Engineer" and that he had been writing small locomotive construction articles in that journal for several years, starting more or less where LBSC left off.

Martin Evans was as good as his word and provided the magnificent trophy out of his own pocket to give impetus to the competition.

I think it unlikely that Martin Evans will come to Leeds this year but we wish him well and thank him for starting it off.

We are most grateful to "Highbury Nexus Special Interests Limited", publishers of the Model Engineer, for supporting the event and providing the financial prizes for the winner and runners up.

Good luck to all the competitors and I hope they, and all our visitors, have an enjoyable weekend.

## LEEDS SOCIETY OF MODEL AND EXPERIMENTAL ENGINEERS

### IMLEC COMMITTEE

Chairman:	Arthur Bellamy
Secretary:	Edwin Hughes
Treasurer:	Alf Bamfield
Committee:	Jim Mitcheson
	Nigel Bennett
	John Hunt
	Colin Abrey

### IMLEC OFFICIALS

Chief Judge	Edwin Hughes
Public Address	Arthur Bellamy
Reception	Bill & Lilly Webster
Results Computation	Glynne Hughes
Results Display	Steve Russell
Station Masters	Les Davis
	Bill Holland
Time Keeper	Brian Andrews
Coal Supplies	David Beale
	Tony Sanders
Exhibition Organiser	Tony Wall
Photographer	Nigel Bennett
Catering	Tony Fitton
Video Filming	Roger Spence
Chief Observer	John Hunt
Observers	Alf Bamfield
	Alistair Bootland
	John Coomber
	Jim Mitcheson
	Philip Turner
	Colin Abrey

## RULES & ORGANISATION

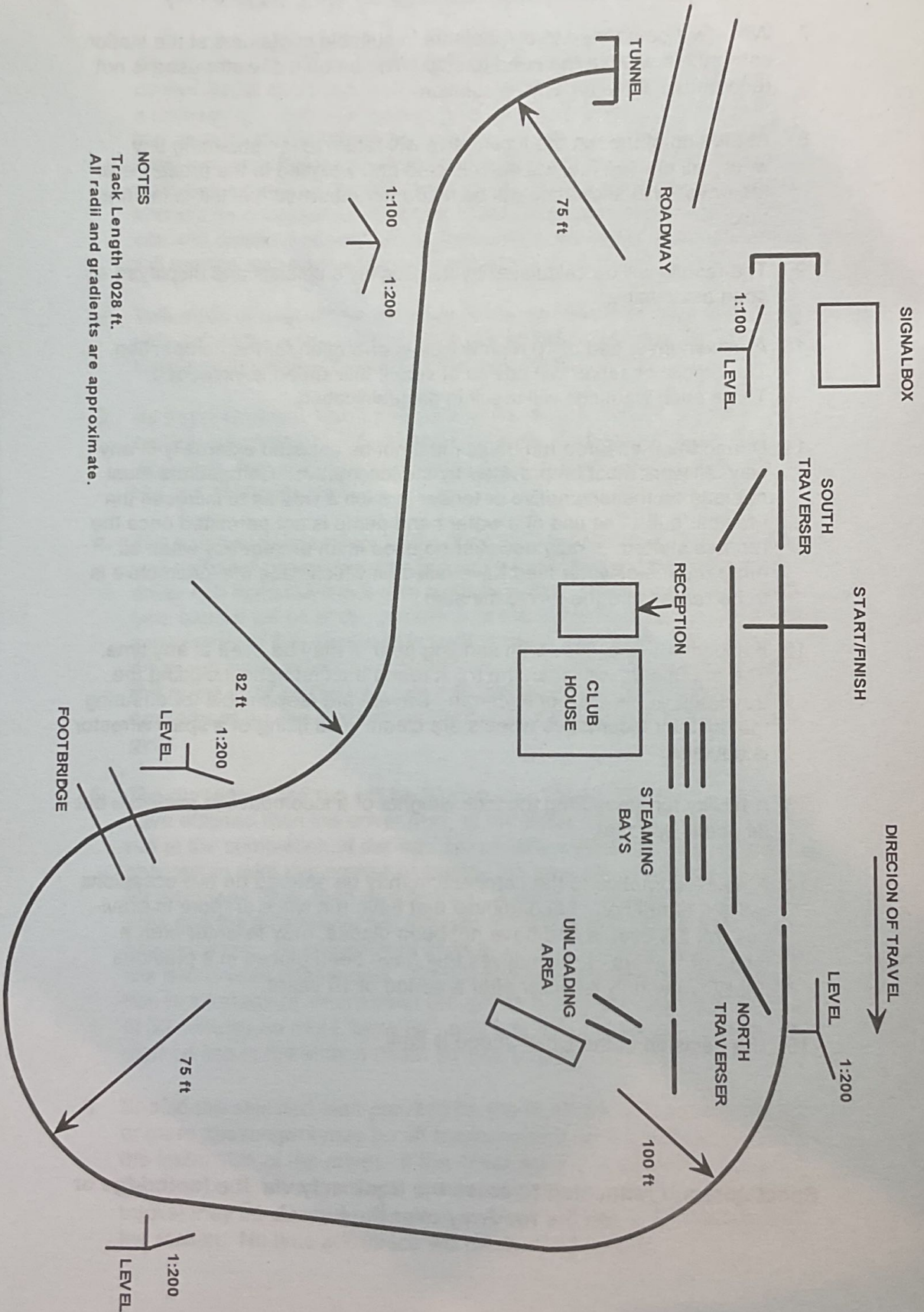
1. On arrival, competitors will be required to register at reception, with a current Boiler certificate (not a Copy), Club Membership Card, or if not a member of a club evidence of adequate public liability insurance. All the necessary information concerning the day's events will be available, including the approximate time of the run. One hour before the start of the run the competitor will be called to prepare the locomotive and will be allocated an observer. Two Dynamometer cars will be on site and checked against each other before the event. All competitors will use the same car wherever possible.
2. Two sizes of coal will be available in pre weighed 2 lb bags, the driver may select the size required which will be check weighed in his presence and the weight entered on the run sheet.
3. As much charcoal, wood and paraffin as required will be available in order to raise steam. The change to weighed coal is at the driver's discretion, however, the driver must have a good coal fire **before leaving the steaming bay.**
4. The train will be prepared on the Main Line with the dynamometer car and sufficient passenger cars to carry the number of passengers the driver has nominated and with room to spare. The number of passengers carried will be at the discretion of the driver but each car will carry a maximum of five passengers (and in some cases only four). The driver will issue tickets for passengers. ***It may be necessary to limit the number of passengers due to the capacity of the recording equipment on the dynamometer car to a maximum of 25 passengers.***
5. The duration of the run will be 30 minutes. When 25 minutes of the run have elapsed then the driver may, at his discretion, decide to finish his run at the completion of the lap. No penalty will be incurred if the driver chooses to take this course of action. No time allowance will be made for any stops other than derailments. A clock is provided in the Station area and the timekeeper will indicate to competitors when 25 minutes have elapsed. All competitors must finish in the station at the marked line and unload passengers. Should a driver stop short of the station due to shortage of steam even though he has been running in excess of 30 minutes he must "blow up", and add fuel if required, to reach the marked line in the station under its own power.
6. Should the selected load prove to be too much for the locomotive, one or more passengers may be off loaded wherever it is safe to do so on the instruction of the driver. If the driver feels that additional passengers will be to his advantage, then additional passengers, (but not trucks) may be added at any time, but only with the train stationary in the station. No time allowance will be credited for this.

## RULES & ORGANISATION (Cont)

7. Water will be handed to competitors in suitable containers at the station as required without the need to stop. The amount of water used is not recorded or listed for any calculation.
8. At the end of the run the locomotive will return to the steaming bay where all unused fuel will be collected and weighed in the presence of the driver. No allowance will be made for unburned fuel left in the fire-box.
9. The results will be calculated by the Society's officials and displayed as soon as possible.
10. A maximum speed of 10 mph will be in operation for the competition. The official observer will advise drivers if this speed is exceeded. Three such warnings will result in disqualification.
11. During the measured run trains must not be assisted externally in any way, all work must be provided by the locomotive. Competitors must not lean on the locomotive or tender in such a way as to increase the drawbar pull. The use of a water hand pump is not permitted once the run has started. It may however be used in an emergency when all other means of water feed have failed, in which case the locomotive is to be retired and the run terminated.
12. If a locomotive is fitted with sanding gear, it may be used at any time. The organisers will clean the track round the first bend including the traverser, at the start of each run. Drivers are responsible for ensuring that all their locomotive wheels are clean. The fitting of a spark arrestor is optional.
13. A facility for measuring the axle weights of a locomotive is available but its use is optional.
14. A new locomotive to the competition may be entered on two occasions without restriction. Locomotives that have run twice or more in previous IMLEC events and have not been placed, may re-enter after a lapse of 5 years. Locomotives that have been placed in a previous IMLEC may only re-enter after a period of 10 years.
15. The decision of the Chief Judge is final.

**Spectators are requested to cross the track only via the footbridge or on the roadway over the tunnel.**

# Leeds SMEE Track Plan



NOTES  
Track Length 1028 ft.  
All radii and gradients are approximate.



## DRAWINGS AVAILABLE FOR 5" GAUGE LOCOMOTIVES

LNOR Class V2, 2-6-2, 3 cylinder, 'Green Arrow'  
LNOR Class A3, 4-6-2, 3 cylinder, 'Flying Scotsman'  
LNOR Class A4, 4-6-2, 3 cylinder, 'Sir Nigel Gresley'  
LMSR 'Duchess of Hamilton', 4-6-2, 4 cylinder  
LNOR Class A1, 4-6-2, 3 cylinder, 'Sea Eagle'  
LNOR Class P2, 2-8-2, 3 cylinder, 'Cock o' the North'  
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LNOR Class K5, 2-6-0, 2 cylinder, 'Northumbrian'  
Freelance Class B20, 4-6-0, 3 cylinder, 'Shergar'  
Freelance Class A12, 4-6-2, 2 cylinder, 'The Talisman'  
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**V2:** "To date I've found them easy to read and understand. The measurements are accurate" **D.W.**  
**Duchess:** "The most powerful 5" gauge pacific locomotive developed 0.883 D.H.P."- **G.G.**  
**V2:** "The valve gear detailed on the drawings fitted together perfectly" - **GA.**  
**A1:** "Boiler steams like a witch"— **D.G.**     **A3:** "Goes like a dream"— **P.V.- J.P.**  
**A4:** "Goes like a flying bullet"- **PC.**  
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## Previous IMLEC Winners

Year	Host Club	Engine	Gauge	Effic'y	Driver/Society
1969	Birmingham	Royal Scot	5	<i>5.03*</i>	J.Drury, Birmingham
1970	Whitney	Firefly	5	<i>1.41*</i>	L.Labram, Birmingham
1971	Southampton	Dean Single	5	<i>2.28*</i>	A.Haydon, Newton Abbot
1972	Tyneside	GWR 57XX	5	1.06	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, Southampton
1977	Chingford	Speedy	5	2.32	B.Perret, Southampton
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, Private
1981	Bournemouth	LNER J39	5	2.41	P.Wood, Chingford
1982	Leyland	GWR De Glehn	5	1.5	R.Amsbury, Derby
1983	Guildford	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, Private
1986	Bournemouth	Nigel Gresley	5	1.64	A.Crossfield, Private
1987	Birmingham	LSWR Adams	5	2.29	K.Moonie, Chingford
1988	Leeds	BR Prop. 2-8-2	5	4.39	L.Flippance, Guildford
1989	Leyland	BR Prop. 2-8-2	5	3.02	L.Flippance, Guildford
1990	Guildford	BR Prop. 2-8-2	5	3.31	L.Flippance, Guildford
1991	Bristol	BR Prop. 2-8-2	5	1.73	K.Ayling, Worthing
1992	Leeds	S&D 7F	5	1.88	D.Sutcliffe, Ribble Valley
1993	Leyland	LMS Stanier	5	2.08	J.Heslop, Rydale
1994	Gravesend	LMS Stanier	5	1.51	J.Heslop, Rydale
1995	Kinver	LNER P2	5	3.32	J.Heslop, Rydale
1996	Northampton	GWR Manor	5	2.43	A.Crossfield, Leyland
1997	Llanelli	Britannia	5	1.88	L.Steel, S.T.E.A.M.
1998	Kinver	BR Prop. 2-8-2	5	2.27	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	Formal competition not held due to foot & mouth disease.				
2002	Leeds				

\* **Note:** The efficiency figures in italics for 1969/70/71 have been calculated from data in Model Engineer Magazine assuming coal with a CV of 14,000 BTU/lb.

## D. Hewson Models

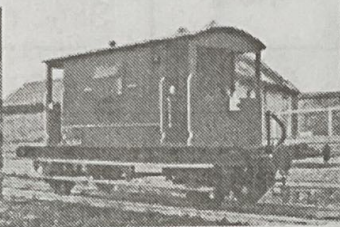
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# STOOLS

Saturday 6th July

Run	Locomotive	Gauge	Wheel Arrangement	Entrant/Driver	Club/Society
1	Betty	3½	2-6-2	Martyn Chapman	Scunthorpe
2	Britannia	3½	4-6-2	Philip Holroyd/ Simon Holroyd	Brighouse & Halifax
3	Charles	3½	0-4-0T	Alan Bibby	Leyland
4	Buffalo	3½	2-8-0	Ian Jaycocks	Peterborough
5	Minx	5	0-6-0	John Richardson	Brighouse & Halifax
6	Stirling Single	5	2-2-2	Steve Eaton	Chesterfield
7	Speedy	5	0-6-0T	David Mayall	Bracknell Rly S
8	LNER B1	5	4-6-0	Geoff Elliott/ Nick Elliott	NW Leicester
9	Minx	5	0-6-0	Paul Tompkins	Guildford
10	Peppercorn A1	5	4-6-2	David Gregson	Leyland

Sunday 7th July .

Run	Locomotive	Gauge	Wheel Arrangement	Entrant/Driver	Club/Society
1	Conway	3½	0-4-0T	John Brady	York
2	Euston	3½	2-8-0	Dave Kerry	Chesterfield
3	Rob Roy	3½	0-6-0	Mike Foreman	North London
4	NLR Adams	5	4-4-0T	John Peterson	Norwich
5	Metro	5	2-4-0T	Glyn Winsall	Rugby
6	LNER V3	5	2-6-2T	John Coomber/ Philip Moore	Leeds
7	Jubilee	5	4-6-0	John Hurley	Kinver & WM
8	Nigel Gresley	5	2-8-0	Alan Crossfield	Leyland
9	LNER B1	5	4-6-0	Geoff Moore	Guildford

Saturday 6th July

Load (Adults)	Running Time (mins)	Distance (ft)	Total Work (ft lbs)	Average Drawbar HP	Coal Used (lb)	S.F.C	Efficiency %	Position

Notes: Load excludes driver & observer.

SFC is Specific Fuel Consumption with units of lbs/DBHP hr

Sunday 7th July

Load (Adults)	Running Time (mins)	Distance (ft)	Total Work (ft lbs)	Average Drawbar HP	Coal Used (lb)	S.F.C	Efficiency %	Position

## Leeds SMEE—a Brief History

The earliest editions of Model Engineer suggest that there was modelling activity in Leeds at about the turn of the century, but our present Club can be traced to 1935. A copy of the first page of the first minute book has been framed and is on display in the Club House.

Originally the Club met at the works of one of the founder members, Mr Francis Cook of Kidacre Street, in the centre of Leeds. Some meetings were held on Sunday mornings (possibly due to the blackout regulations) when tuition was given in silver soldering etc.

A portable track was in use during the war years giving children rides at fetes and in particular "Holiday at Home week" each year as it was not practical to go to the seaside during the war—so Leeds (and other towns) brought the seaside to the town.

After the war a permanent track was built in Temple Newsam Park (south east Leeds) but, when houses were built in an adjacent field, it was regularly vandalised; the final blow came when a large tree fell across the track. At this time some of our members were employed at the local power stations and the CEEB agreed that we might re-site the track at Eggborough Power Station.

Before this happened the Power Station held a public open day and, in addition to our portable track, we had full size traction engines, a fairground etc; this was to be our first event at Eggborough.

With much "blood, sweat and tears" the permanent track was moved from Temple Newsam to Eggborough and opened, just twenty years ago, in May 1982 by the then Station Manager Mr Melvin Wright.

Since then the track has been developed by adding the station loop, pneumatic traversers, a tunnel, a simple signalling system and, recently the hydraulic unloading table. Our Club buildings are continually expanding to accommodate storage space (or too much junk). We have a workshop with an 8 inch Mitchell lathe, purchased with a bequest from a pre war member, and useful for those jobs too large for the Myford, gas and electric welding gear plus the usual workshop tools. More recently a flush W.C. and septic tank were installed, financed again by a donation.

Membership now stands about 70 but in the early eighties, when the track was moved, we had about 60 members and the work was carried out by perhaps a dozen; of these only 2 or 3 are still members.

We normally run trains on the second Sunday of each of the summer months and welcome visitors with or without locomotives—don't forget the boiler certificate!

Formal meetings, often with speakers giving talks on a variety of subjects, are held on the 1<sup>st</sup> and 3<sup>rd</sup> Wednesday of each month in the pleasant surroundings of the Sports and Social Club. Meetings on alternate Wednesday evenings are normally held in our own clubhouse; just for a natter!

This is the third time the Leeds club have hosted IMLEC and we are grateful that British Energy, the owners of the site and the Sports and Social club allow us to do this. I am pleased that the IMLEC equipment is making a return visit, the clock was made in 1988 and the scoreboards and engine axle weight board for the 1992 event. Thanks to the Leyland club for the use of the "competing engine" board, which they made for the 1989 competition.

This event is about enjoying yourselves, a chance to meet old friends and make new ones, the end result is satisfying but to me the social advantages are great. I have now visited 24 IMLECs and recall many happy times; I intend this to be another happy occasion.

Arthur Bellamy, LSMEE Chairman

## ***Acknowledgements.***

The Committee of the Leeds Society of Model and Experimental Engineers extend our thanks to the following for their assistance in staging this event.

- The Bristol and Birmingham Societies for the use of their dynamometer cars.
- British Energy and Eggborough Sports & Social Club for allowing us to use their facilities for the whole weekend.
- The competitors without whom the competition could not take place.
- All our Club members who have worked so hard in the months leading up to the event plus those here today.
- Finally to our wives who let us out to play trains!

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- 2.5" 4-6-0 (Eagle) Tender Loco
- 2.5" 4-6-0 (St. James) SR
- 2.5" 0-4-0 (Caterbury) Lamb
- 2.5" 0-4-0 (Carnegie) Tank Loco
- 2.5" 0-4-0 (George) Tank Loco
- 2.5" 0-4-0 (Heron) Tank Loco
- 2.5" 0-4-0 (Hornet) Tank Loco
- 2.5" 0-4-0 (Javelin) Tank Loco No. 1
- 2.5" 0-4-0 (Javelin) Tank Loco No. 2
- 2.5" 0-4-0 (Tich) Tank Loco (Large boiler)
- 2.5" 0-4-0 (Tich) Tank Loco (Small boiler)
- 2.5" 2-4-2 (Tribble) Tender Loco
- 2.5" 0-4-0 (Duke) 4F Tender Loco
- 2.5" 0-4-0 (Moby) Tank Loco
- 2.5" 0-4-0 (Roh) Tank Loco
- 2.5" 0-4-0 (Moss) Tank Loco
- 2.5" 0-4-0 (Caribou) Tender Loco
- 2.5" 0-4-0 (Weta) Tank Loco
- 2.5" 2-4-0 (Earning) Tank Loco
- 2.5" 2-4-0 (James) Tender Loco
- 2.5" 2-4-0 (Leaves) Tank Loco
- 2.5" 2-4-0 (Mable) Tank Loco
- 2.5" 2-4-0 (Phonix) Tender Loco
- 2.5" 2-4-0 (Lucy) Tank Loco
- 2.5" 2-4-0 (GIR) Tender Loco
- 2.5" 2-4-0 (Barnum) Tender Loco
- 2.5" 2-4-0 (Betty) Tender Loco
- 2.5" 2-4-0 (Wally) Tank Loco
- 2.5" 2-4-0 (Mushroom) Tank Loco
- 2.5" 2-4-0 (William) Tank Loco
- 2.5" 2-4-0 (Julian) Tank Loco
- 2.5" 2-4-0 (Buffalo) Tender Loco
- 2.5" 4-4-0 (County) Tender Loco
- 2.5" 4-4-0 (Delby) Tender Loco
- 2.5" 4-4-0 (Roden) Tender Loco
- 2.5" 4-4-0 (Virginia) Tender Loco
- 2.5" 4-4-0 (Virginia) Tender Loco
- 2.5" 4-4-0 (Mavis) Tender Loco
- 2.5" 4-4-0 (1000) Tender Loco
- 2.5" 4-4-0 (7500) Tender Loco
- 2.5" 4-4-0 (Dora) Tender Loco
- 2.5" 4-4-0 (Greene) Tender Loco
- 2.5" 4-4-0 (Hunt) Tender Loco
- 2.5" 4-4-0 (Process) Tender Loco
- 2.5" 4-4-0 (Spencer) Tank Loco
- 2.5" 4-4-0 (St. Christopher) Loco
- 2.5" 4-4-0 (Bertha) Tender Loco
- 2.5" 4-4-0 (Helen) Tender Loco
- 2.5" Passenger Car Bogies

## 5" LOCOMOTIVES

- 5" 0-4-0 (Aga) Tank Loco
- 5" 0-4-0 (Bishop) Tank Loco
- 5" 0-4-0 (Duchess) Tank Loco
- 5" 0-4-0 (Gemma) Tank Loco
- 5" 0-4-0 (Herald) Tank Loco
- 5" 0-4-0 (Irene) Tender Loco
- 5" 0-4-0 (Kilmister) 1 Tank Loco
- 5" 0-4-0 (Kilmister) 2 Tank Loco
- 5" 0-4-0 (Kilmister) 3 Tank Loco
- 5" 0-4-0 (Scott) Tank Loco
- 5" 0-4-0 (Swiss) Tank Loco
- 5" 0-4-2 (Duke) Tank Loco
- 5" 0-4-2 (Edwin) Tender Loco
- 5" 0-4-2 (Tom) Tank Loco
- 5" 0-4-2 (Hornet) Tank Loco
- 5" 0-4-0 (Achilles) Tank Loco
- 5" 0-4-0 (Aspiral) Tender Loco
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- 5" 0-4-0 (Barnum) Tank Loco
- 5" 0-4-0 (Weta) Tender Loco
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- 5" 4-4-0 (New York) Tender Loco
- 5" 4-4-0 (Robinson) Tender Loco
- 5" 4-4-0 (Washington) Tender Loco
- 5" 4-4-2 (Jenny) Tender Loco
- 5" 4-4-0 (Black) Tender Loco

- 5" 4-4-0 (Eastern) Tender Loco
- 5" 4-4-0 (Lark) Tender Loco
- 5" 4-4-0 (Imingham) Tender Loco
- 5" 4-4-2 (King's) Tender Loco
- 5" 4-4-0 (Lander) Tender Loco
- 5" 4-4-0 (Royal) Tender Loco
- 5" 4-4-0 (Springbok) Tender Loco
- 5" 4-4-2 (Tyrone) Tender Loco
- 5" 4-4-2 (Dunster) Tender Loco
- 5" Passenger Car Bogies

## 7.25" LOCOMOTIVES

- 7.25" 0-4-0 (Hazel) Tank Loco
- 7.25" 0-4-0 (Adam's) Tank Loco
- 7.25" 0-4-0 (Dorothy) Tank Loco
- 7.25" 0-4-0 (Elliott) Tank Loco
- 7.25" 0-4-0 (Hercules) Tank Loco
- 7.25" 0-4-0 (Jesse) Tank Loco
- 7.25" 0-4-0 (Lincolnton) Tender Loco
- 7.25" 0-4-0 (Mark) Tank Loco
- 7.25" 0-4-0 (Railmotor) Tank Loco
- 7.25" 0-4-0 (Rex) Tank Loco
- 7.25" 0-4-0 (Tug) Tank Loco
- 7.25" 0-4-2 (Brigade) Tank Loco
- 7.25" 0-4-2 (Dan) Tank Loco
- 7.25" 0-4-2 (Edward) Tank Loco
- 7.25" 0-4-2 (Tom) Tank Loco
- 7.25" 0-4-2 (Dean) Tender Loco
- 7.25" 0-4-2 (Hermes) Tank Loco
- 7.25" 0-4-2 (Hornet) Tank Loco
- 7.25" 0-4-2 (Paddington) Tank Loco
- 7.25" 2-4-4 (Lucy) Tank Loco
- 7.25" 2-4-2 (GN 43AN) Tender Loco
- 7.25" 2-4-2 (Lynx) & Barnstable Loco
- 7.25" 4-2-2 (Luna) Tender Loco
- 7.25" 4-4-0 (Goach) Tender Loco
- 7.25" 4-4-0 (New York) Tender Loco
- 7.25" 4-4-2 (Adam's) Tank Loco
- 7.25" 4-4-0 (Highlander) Tender Loco
- 7.25" 4-4-0 (King George V) Loco
- 7.25" (Dennis) and Rio GR-C19 Loco
- 7.25" Passenger Car Bogies
- 7.25" Scale Waggon

## 12.25" LOCOMOTIVES

- 12.25" 0-4-2 (Danzon) & H.A. Loco
- 12.25" 2-4-4 (Lark) & Manilla Loco

## STATIONARY ENGINES

- Barker Engine
- Centaur Gas Engine
- Colman Compound Locomotive

- Concept Vertical Engine
- Diagonal Piston Engine
- Double Taper Horizontal Engine
- Empire Vertical Engine
- Halt Rotary Engine
- Hornet No. 10 Engine
- Hornet Steam Crane
- Lady Stephanie Beam Engine
- Masher Vertical Engine
- Newton Vertical Engine
- Mary Beam Engine
- Muster Oscillating Range
- Model Engineer Beam Engine
- Moscow Vertical Engine
- Nicholas Vertical Engine
- Pearson Horizontal Engine
- Precision Oscillating Range
- Royal Vertical Engine
- Shannon Vertical Engine
- Southern Vertical Engine
- Steam Hammer
- Tender Horizontal Engine
- Triple Expansion Engine
- Trojan Vertical Engine
- Wagon Horizontal Engine
- Wagon Beam Engine
- Warrior Vertical Engine

## TRACTION ENGINES

- 1" SC Minnie Locomotive Engine
- 1" SC Minnie T Engine
- 1" SC Alton T Engine
- 1" SC Marshall Portable Engine
- 2" SC Clayton Wagon
- 2" SC Lancelotti LAD T Engine
- 2" SC Stuart Mason Free Engine
- 2" SC Thetford T Engine
- 2" SC Titan Tractor
- 2" SC Alkison Wagon
- 2" SC Foden Wagon
- 2" SC Foden STGS Wagon
- 2" SC Foden Tender Tractor

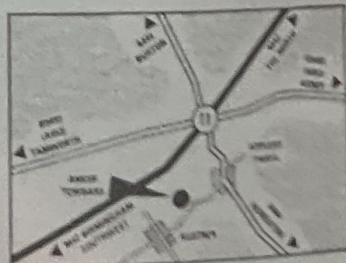
## STEAM LAUNCH DRAWINGS AND CASTINGS

- 13 HP Lark, 2 1/2" x 5" x 7" Compound
- 2 1/2" x 5 1/2" x 7" Triple Expansion
- 4 (5 1/2") x 7" x 4 1/2" Compound
- Marine Oscillator Engine

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## CALCULATION OF RESULTS

*(With acknowledgement to the Bristol Society of Model and Experimental Engineers)*

The dynamometer car measures and gives a direct reading of Total Work Done (in ft lbs) and Total Distance Travelled (in feet). Additionally the Overall Run Time (in minutes) and Weight of Coal Used (lbs) are recorded. From these parameters the following calculations can be made.

$$\text{Average Drawbar Horsepower} = \frac{\text{Total Work Done (ft lbs)}}{\text{Overall Run Time (mins)} \times 33000} \quad \text{DBHP} \quad -(1)$$

$$\text{Coal Consumption Rate} = \frac{\text{Weight of Coal Used} \times 60}{\text{Overall Run Time (mins)}} \quad \text{lb/hr} \quad -(2)$$

$$\text{Specific Fuel Consumption (SFC)} = \frac{\text{Coal Consumption Rate}}{\text{Average Drawbar Horsepower}} \quad (3)$$

$$\text{Substituting 1 \& 2 in 3: SFC} = \frac{\text{Weight of Coal Used (lb)} \times 1980000}{\text{Total Work Done (ft lb)}} \quad \text{lb/DBHP.hr} \quad -(4)$$

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

From (4)

$$\text{Overall Thermal Efficiency} = \frac{1980000 \times 100}{\text{SFC} \times K \times 778} \quad \%$$

Where K is the calorific value of the coal in BTU/lb; the value of K will be displayed on the results board. The constant 778 is the number of BTU per HP.

**The locomotive returning the highest Overall Thermal Efficiency will be the competition winner.**



# The 2002 IMLEC Competitors

**Martyn Chapman** represents Scunthorpe MES with his 3½ inch gauge 2-6-2 "Betty". The locomotive was originally constructed in the early 1970s by F.R.Knights of Brigg and subsequently bequeathed to Martyn in the knowledge that it would be run regularly and not allowed to gather dust.

**Simon Holroyd** is driving Philip's 3½ inch gauge 4-6-2 Britannia "Dornoch Firth". The locomotive, originally built to LBSC's design, has been improved considerably since it was first steamed in 1966. At Kinver in 1977 Philip was awarded the LBSC Memorial Cup for "Dornoch Firth".

**Alan Bibby** is representing the Leyland SME with his 3½ inch gauge 0-4-0 "Charles". The chassis for this locomotive was purchased at a club sale and involved much rework, in particular making special slide valves to correct wrongly positioned cylinder ports. Modifications to the original design include a combined spark arrestor and exhaust oil separator.

**Ian Jaycocks** has entered his 3½ inch gauge 2-8-0 Consolidation, to Martin Evans' "Buffalo" design, and will be representing the Peterborough SME. The builder of the locomotive is unknown but it is thought to originate from West Leicester area. Ian has been slowly rebuilding it since it was purchased from a member of the Bristol SMEE some years ago.

**John Richardson** from Brighouse & Halifax will be driving his 5 inch gauge 0-6-0 "Minx" to LBSC's design. Completed in 1974 this was John's first locomotive and he has drove it in 1976 & 1982 IMLECs. The chassis has been rebuilt twice and it is now due for a new boiler.

**Steve Eaton** of the Chesterfield Society will be driving his 5 inch gauge 2-2-2 Stirling Single. The locomotive, to Martin Evans' design, was completed in 1996 and named "Frederick" after Steve's late father. Steve has twice won best 3½ at IMLEC - in 1992 at Leeds with "Juliet" and 1997 at Llanelli driving "Bantam Cock".

**David Mayall** first competed at Bristol in 1991 and this year will be his eighth IMLEC. The locomotive, a 5 inch gauge 0-6-0 GWR 1500 "Speedy", to LBSC's design, was originally purchased as a "part built chassis and a box of bits". The original boiler barrel was undersize so the boiler was built minus eight small tubes and a super heater flue, however this has been offset by the inclusion of four radiant super heaters and improved drafting. David represents the Bracknell Railway Society.

**Nick Elliott** will be driving his father's 5 inch gauge LNER 4-6-0 B1 and is representing the North West Leicester MES. The locomotive was originally built by D.Scott, to Martin Evans' "Springbok" design, and purchased by (Dad) Geoff in 1992.

**Paul Tompkins** represents Guildford MES with his 5 inch gauge 0-6-0 "Minx" to LBSC's design built as a twelve month "quickie" by Paul and David (his uncle). Paul achieved 5th place in 2000 at Leyland and has competed in every IMLEC since 1995.

**David Gregson** will be driving his 5 inch gauge A1 4-6-2 pacific "Alcazar". David, representing Leyland SME, has entered IMLEC on six previous occasions and in 1988 he drove his 3½ inch "Masie" in the event held at Eggborough. The locomotive was built mainly to M.L.Breeze drawings but includes various modifications.

## The 2002 IMLEC Competitors (Cont.)

**John Brady** is representing the York City District ME with his 3½ inch gauge 0-4-0 "Conway". The locomotive was originally built by Tim Pearson and named "Brown Owl" as a tribute to his wife and her involvement with the local Girl Guides.

**David Kerry** will be driving his 3½ inch gauge 2-8-0 8F Euston which was originally built by Eric Woodcock to the Martin Evans' design. David, from the Chesterfield Society, finished in 7th place at both Leeds in 1992 and Leyland in 1993 with his Simplex.

**Michael Foreman** started building his 3½ inch gauge 0-6-0 "Rob Roy" whilst still at school and completed it in time to be exhibited at the 1975/6 ME Exhibition at Seymour Hall. Initially fitted with radiant super heaters, the locomotive has been improved over the years by the fitting of needle roller axle boxes, longer super heaters and an improved smoke box. Michael is representing the North London Society of Model Engineers.

**John Peterson** designed and built his 5 inch gauge 4-4-0 Passenger Tank No. 12 based on a prototype, by W.Adams, originally built for the North London Railway. The model, built over a period of seven years, includes a faithful reproduction of the original Adams "rubber sprung" bogie and a boiler with a combustion chamber. John, a newcomer to IMLEC, represents Norwich & District SME.

**Glyn Winsall** built his 5 inch gauge 2-4-0 GWR Small Metro Tank between 1974 and 1976 whilst still at school and first entered IMLEC at the tender age of 14, managing a second place. Glyn has lost count of the number of times he has entered but considers it has all been down hill since Newcastle! Glyn represents Rugby MES Ltd.

**Philip Moore** will be driving John Coomber's 5 inch gauge LNER 2-6-2T V3. The locomotive, which has three cylinders, was completed by John some 12 years ago and in the past couple of years has been a regular performer at Eggborough steaming days.

**John Hurley** represents the Kinver & West Midlands Society with his 5 inch gauge 4-6-0 Stanier Jubilee "Thunderer". John, who has been a fireman on full size locomotives, produced his own drawings from "Leander" when it visited Severn Valley Railway for overhaul in 1980. The locomotive took some 15 years to build and had its first run in 1994. It was finally painted in time for the 1996 IMLEC at Northampton where John achieved a fourth place.

**Alan Crossfield** is no stranger to IMLEC having won the event in both 1985 and 1986 with his 5 inch gauge G.N.R. 2-8-0 "Nigel Gresley" to Martin Evans' design. The locomotive is a regular passenger hauler at Worden Park (Leyland SME) and was overhauled and repainted during 1977.

**Geoff Moore** was so inspired by Martin Evans' "Springbok" design in ME that he purchased full size BR drawings to build his 5 inch gauge 4-6-0 B1 "Impala". The locomotive was awarded a first prize at the Midlands exhibition in 2000 and a gold medal plus the Crebbin Memorial Trophy at the 2000/2001 ME Exhibition. Driving his "Minx" Geoff managed a third place at Bournemouth IMLEC in 1981 and second place at Leyland in 1982. He gained 4th place at both Birmingham in 1987 and Kinver in 1998 driving his GWR 1661 saddle tank. Geoff represents Guildford MES.



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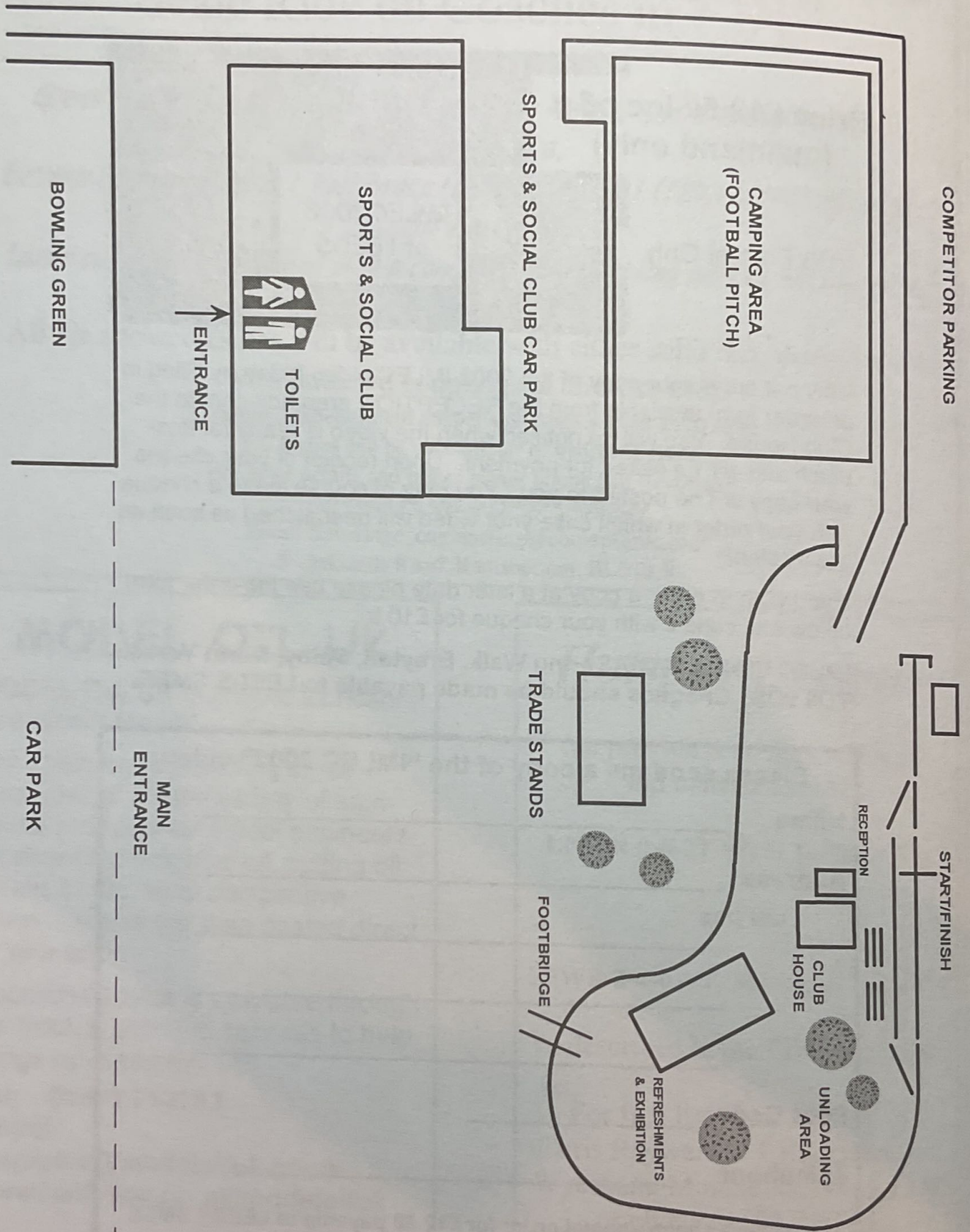
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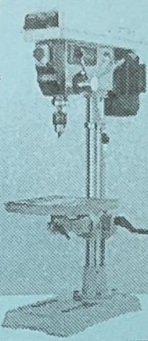
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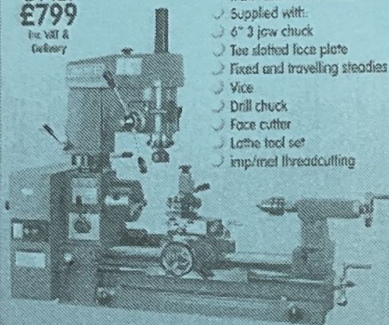
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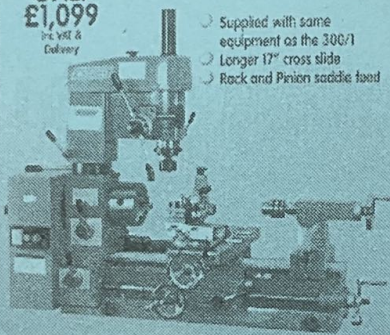
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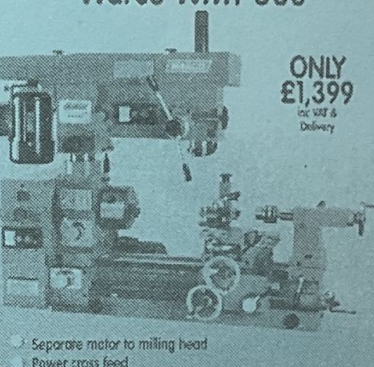
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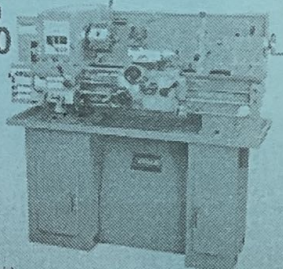


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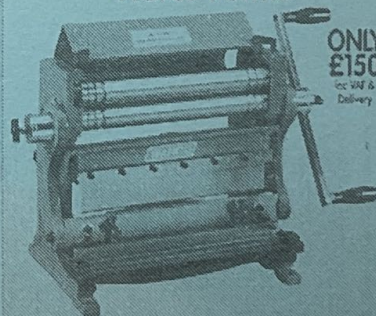
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