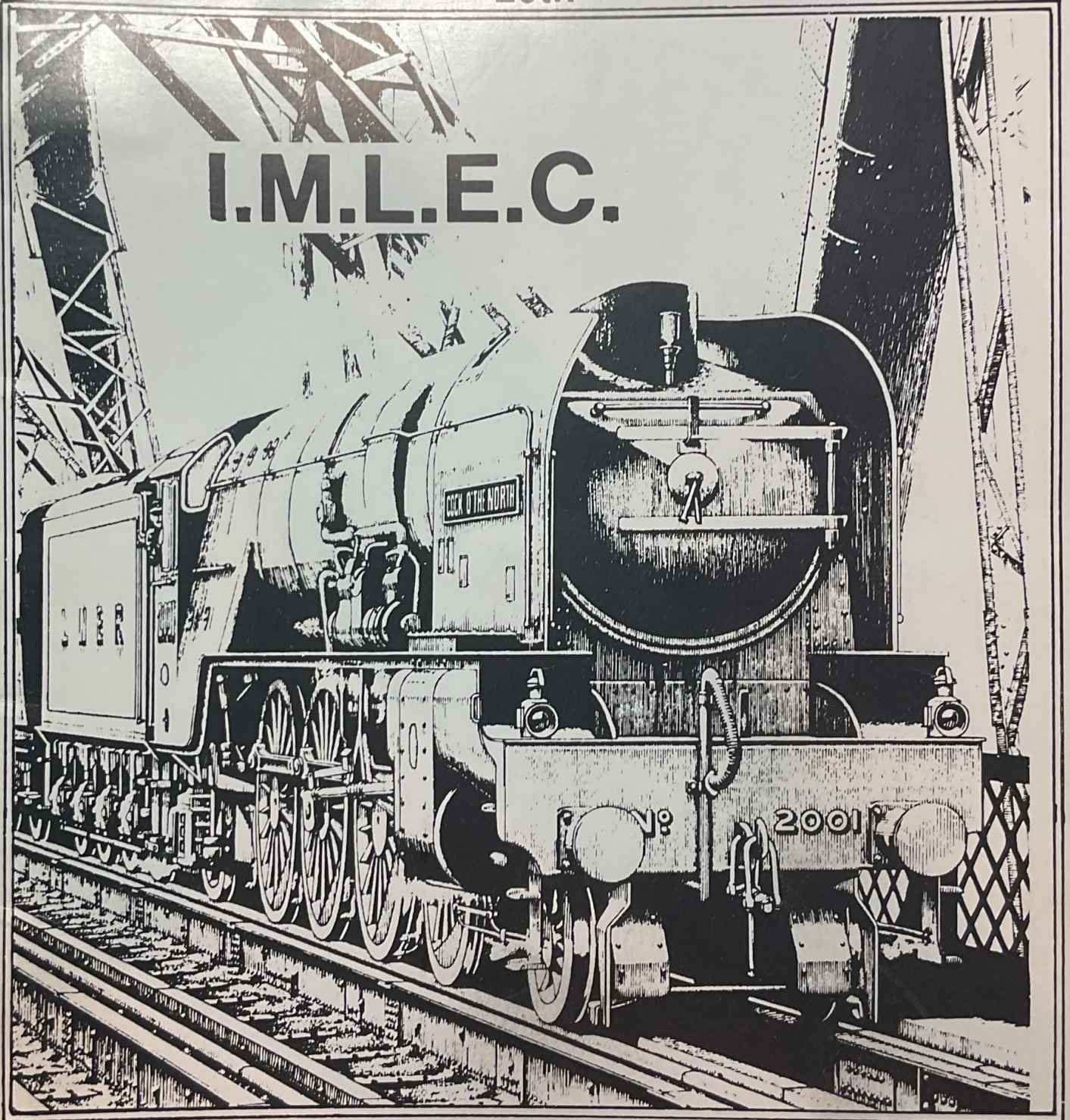


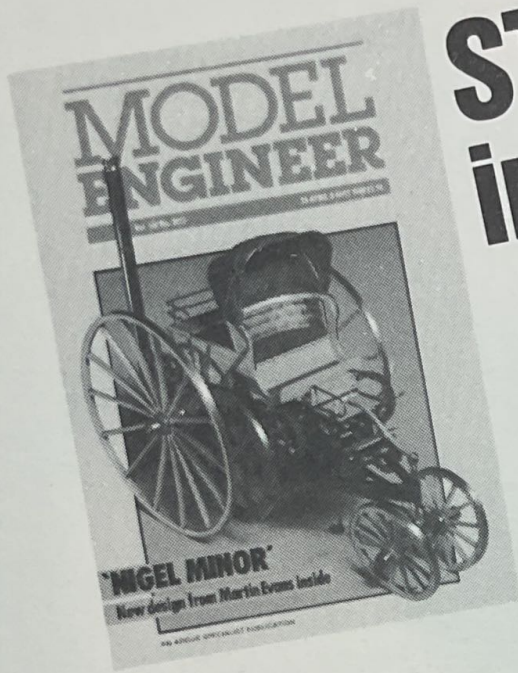
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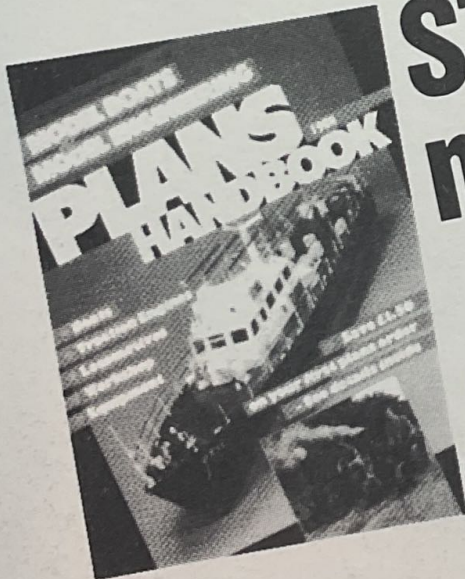
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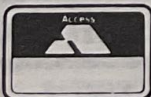
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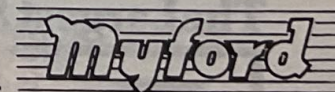
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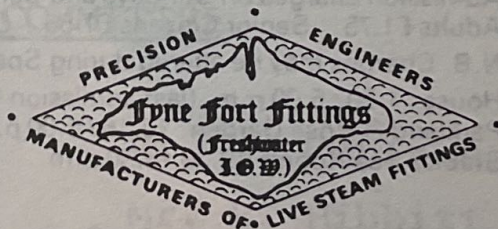
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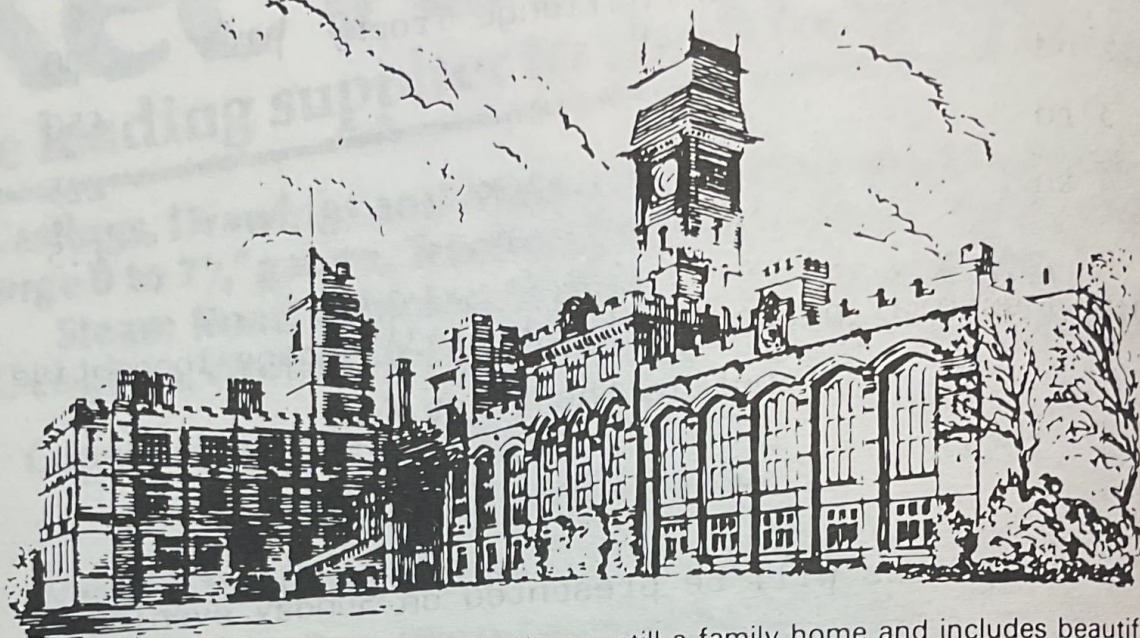
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ABOUT I.M.L.E.C.

During the early 1960's a gentleman named Martin Evans proposed that a competition should be staged to test the efficiency of model locomotives. This proposal was later published in "MODEL ENGINEER". Some doubts were expressed about the proposal and it was not until 1968 when Martin Evans, who had then become the editor of "Model Engineer", raised the suggestion again. The Birmingham Society eventually volunteered to stage the first event at their Illshaw Heath track, where they were lucky enough to have not only a raised 3 1/2" and 5" gauge track and sufficient car parking space but also a willing band of members who were agreeable to take on the task. This first event took place on the first Sunday in July 1969. The Society had to set to and design and build a suitable dynamometer car to measure and record the work done by each locomotive so that the required comparisons could be made. They decided to allow each competitor a 30 minute run, which was as long as thought wise with the 15 or more competitors envisaged.

Fortunately the weather could not have been better (as it was 19 years later in 1987 when they again hosted the event) and over 600 visitors attended this first event. At the end of the day the Birmingham Societies own entry a 5" gauge Royal Scot, was adjudged the winner.

The second event was held in the grounds of Blenheim Palace, with the permission of the Duke of Marlborough, on the track of the Witney and West Oxfordshire Society. Since then the competition has gone from strength to strength at venues up and down the country. A list of host societies and winners appears elsewhere in the programme.

It must be emphasised that IMLEC is not a "scientific" competition - it can not be in the time available - but it does give some idea of the prowess of the individual locomotives and perhaps of the individual drivers, since the compatibility of their technique and the matching of the chosen load to the locomotive and track has a profound effect on the results obtained.

More important, however, than the final results obtained is that the competition should be fun, done for the enjoyment of competitors and spectators alike and above all a "great gathering of the clans".

(With acknowledgement to the Urmston and District Model Engineering Society Ltd.,)



MR. K . MOONIE OF CHINGFORD, LAST YEARS WINNER ON HIS ADAMS L.S.W.R. " JUBILEE"

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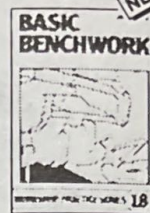
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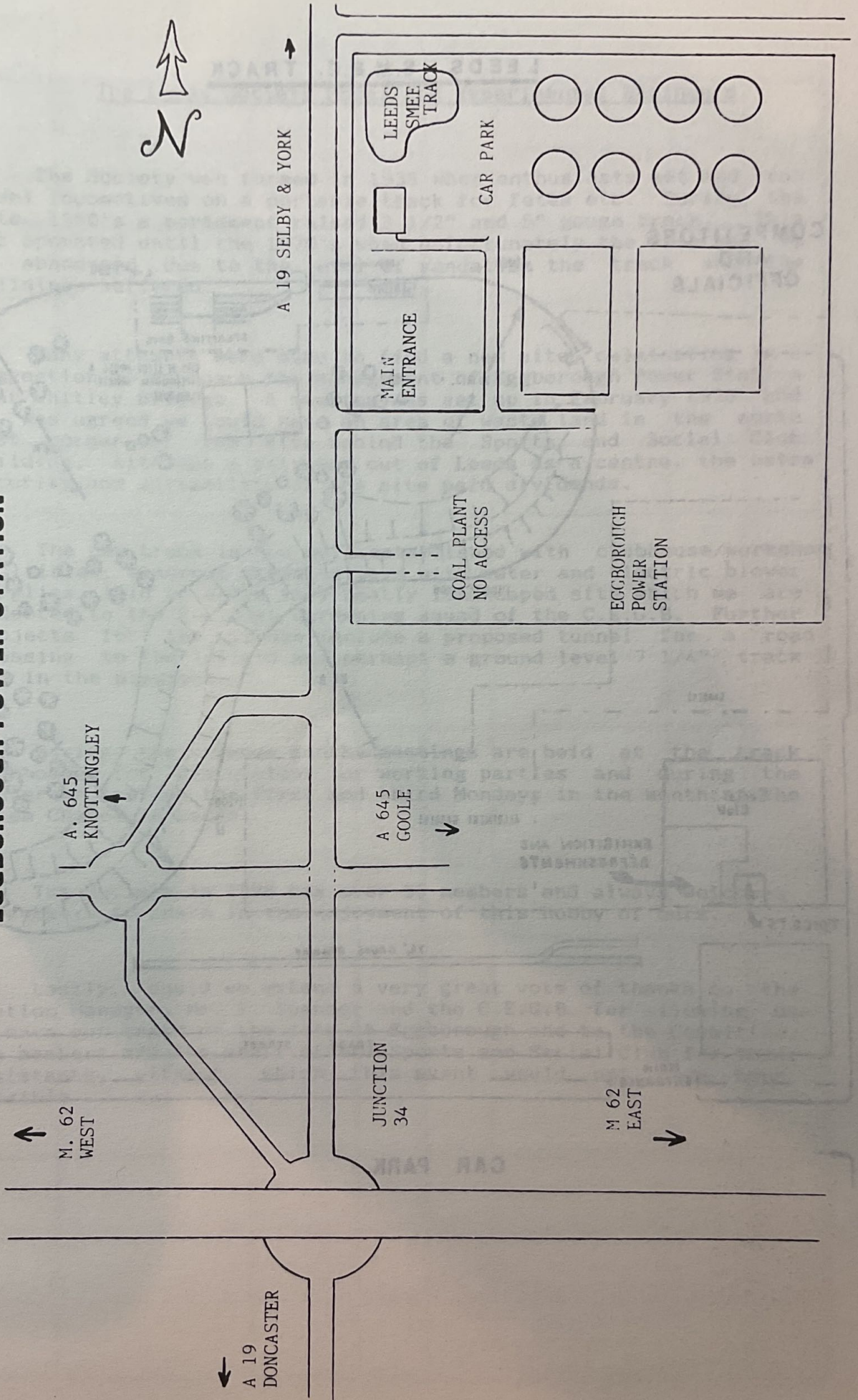
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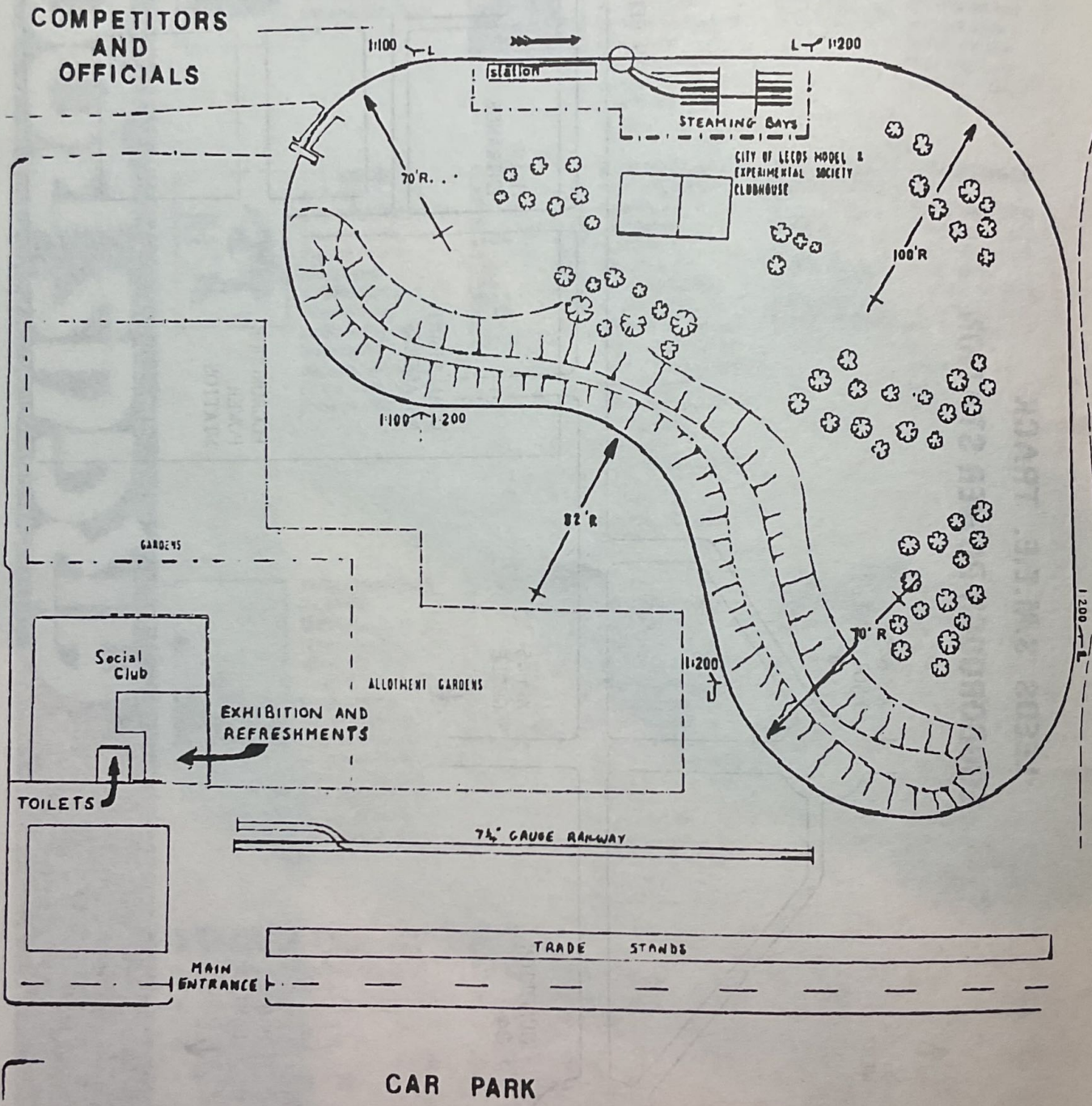
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Many attempts were made to find a new site, culminating in a suggestion to approach the management of Eggborough Power Station near Whitley Bridge. A meeting was set up in February 1978 and it was agreed we could have an area of waste land in the north west corner of the site behind the Sports and Social Club building. Although a fair way out of Leeds as a centre, the extra security and suitability of the site paid dividends.

The new track is now well established with clubhouse/workshop facilities, numerous steaming bays with water and electric blower supplies laid on and a very neatly landscaped site which we are indebted to the Regional Gardening squad of the C.E.G.B. Further projects for the future include a proposed tunnel for a road crossing to the infield and perhaps a ground level 7 1/4" track are in the pipeline.

During the summer months meetings are held at the track clubhouse for discussions or working parties and during the winter we meet on the first and third Mondays in the month at the Salem Chapel in Leeds.

The Society in 1988 has over 30 members and always welcomes newcomers to share in the enjoyment of this hobby of ours.

Lastly, could we extend a very great vote of thanks to the Station Manager, Mr. P. Spencer and the C.E.G.B. for allowing us to have our track on the site at Eggborough and to the Committee, the members and the staff of the Sports and Social Club for their assistance, without which this event would not have been possible.

THIS YEARS ENTRANTS

(Not in running order)

PETER WILLEY A member of Newport Model Engineering Society is driving a 5" gauge Great Western 43XX class 2-4-0 based on Kennion/Wilson design. Completed in 1983, the loco is a weighty performer at 130lbs (just the engine!) so tractive effort should be excellent.

EDWARD GIBBONS This years entry of the Sunderland Model Engineering Society with a 3½" gauge L.N.E.R. A4 Pacific. Undergoing two livery changes in its career since its construction in 1976 it is now as built as No. 4498 "Sir Nigel Gresley".

V.E. HICKS From the Stroud Society of Model and Experimental Engineers has entered his 5" gauge Castle class.

DAVID SUTCLIFFE A private entrant from Burnley with an ex M.E. Exhibition Bronze Medal winning G.W.R. "Star" class loco. No. 40 "North Star" is the prototype modelled from his own design with the help of works drawings.

KELVIN MOONIE Last years winner from Chingford and District Model Engineering Club, hoping for a repeat performance with his immaculate 5" gauge L.S.W.R. Jubilee. Another ex Bronze Medal winner, the Adams A12 was completed in 1984 and features needle roller axle boxes.

GLYN WINSALL A member of Rugby Model Engineering Society entering a 5" gauge "Hunslet" 0-4-0 ST. Another competitor from last years event, Glyn has competed in many I.M.L.E.C.'s driving a combination of his and his father's locos.

GEORGE DAVIDSON A member of the Rolls Royce Society at Paisley with another 5" gauge Hunslet (nice to see another Leeds designed engine!) Completed in 1987 to Don Youngs design "Cahlyn" is no stranger to efficiency trials having competed in the Scottish Efficiency Trials at Paisley in 1987.

L. FLIPPANCE A private entry from Worthing in Sussex with a 5" gauge 2-8-2 of a proposed design of B.R.

ALAN CHURCH With the Bristol Society of Model and Experimental Engineers entry with a 5" gauge "Sweet Pea" 0-4-0 PT. Alan completed the loco in 1987 and features a Turner steam feed pump.

JIM CROSS From the North Wales Model Engineering Society. Jim has entered his John Clarke designed 5" gauge Polly II 0-4-0 Tender engine. Built in an incredible six months. Maid Marion should be no stranger to power stations as Jim is an engineer at a Nuclear Station in Wales.

JAMES DICKSON Glenrothes and District Society of Model Engineers entry of a 5" gauge 2-10-0 "Austerity". Like James the WD's were one of my earliest recollections of steam locos pulling endless goods trains. This one could easily stretch the Leeds S.M.E.E.'s supply of passenger trucks to the limit!

JOHN ACTON From the Wulfruna and District Engineering Society with a 5" gauge 2-6-2 T. "Firefly" a previous I.M.L.E.C. entrant coming 11th at Bournemouth in 1986.

PETER CARR The White Rose Model Engineering Society (Leeds) entrant with a 5" gauge G.W.R. 0-6-0 Pannier tank "Pansy" completed in 1985 the loco has run for two seasons and was an entrant for the LBSC trophy at Sunderland.

VINCENT WILLIAMS Of the Sussex Miniature Loco Society is driving his 5" gauge "Sweet Pea". Having a "loco" type of boiler instead of the usual Marine type of boiler. Mr. Williams engine is in regular passenger service on the Beechurst Track.

MICHAEL OSTAPJUK Wakefield Society of Model Engineers entry of a 5" gauge Martin Evans "Simplex". Completed in 1980 the locos construction was started in 1974 at the builders tender age of 12. It is now a regular performer at Thorne Park and is no doubt a popular engine with the children sporting its "Thomas" style smokebox.

NEIL COUNSELL A member of Urmston and District Model Engineering Society driving a 5" gauge 4-4-0 "Maid of Kent".

GEORGE GOLIGHTLY From the Llanelli Model Engineering Society driving Peter Volbrecht's 5" gauge L.M.S. rebuilt Royal Scot. Built to Martin Evans drawings in just eighteen months, the Scot is in the L.M.S. livery in double chimneyed rebuilt form. George was 7th in last years I.M.L.E.C. on Peter's American outline 4-4-0.

DAVID GREGSON The Leyland Society of Model Engineers entry is David's 3½" gauge G.W.R. Atlantic 4-4-2 to LBSC's Maisie design. An LBSC Memorial Bowl winner in 1986.

ANDREW LEAHY A member of the Exeter and District Model Engineers with a 3½" gauge V4 2-6-2 Bantam Cock. Built in the 1960's the engine has been completely rebuilt from virtually a Barry style wreck to the immaculate loco you see today. Preservation is alive even in 3½" gauge.

D.C. MARSHALL Another private entrant, this time driving a 5" gauge Southern Railway "River" class 2-6-4 T. A retired B.R. employee from Lancing, Mr. Marshall built the loco over a period of eight years to S.E. & C.R. General Arrangement drawing with detail information gleaned from M.E.'s "Ashford" series.

JEFFREY RODWAY Driving John Campbell's 5" gauge "Super Claud" as a private entrant. The 4-4-0 is to Martin Evans design but incorporates a lot of John's own features including feed water heating and modified draughting.

ALAN JACOBS Romford Model Engineering Society's entry of a 5" gauge LBSC "Thunderbolt". A very detailed model based on Lion with a lot of the builders own modifications to improve performance and general appearance including crafty use of footplate sundries - lamps, jacks etc. to disguise presumably non-standard controls.

LARRY LOUGHBOROUGH From Perranporth Model Engineering Society in Cornwall entering a Horwich bred Midland 1300 class Mogul in 5" gauge. A previous I.M.L.E.C. entrant at Bournemouth, Larry completed this engine just this year having taken six years to build.

DAVID WAINWRIGHT A member of Brighouse and Halifax Society of Model Engineers David has entered his 5" gauge Thompson B1 4-6-0. Based on the preserved "Mayflower" (it would be being a boat builder by profession!) the B1 is built to Martin Evan's design with modifications to the regulator, crossheads and lubricators.

GRAHAM J.G. GAIN. The Birmingham Society of Model Engineers entry is driving a 5" gauge L.M.S. 4-4-2 L.I.S.R. "Tilbury" tank.

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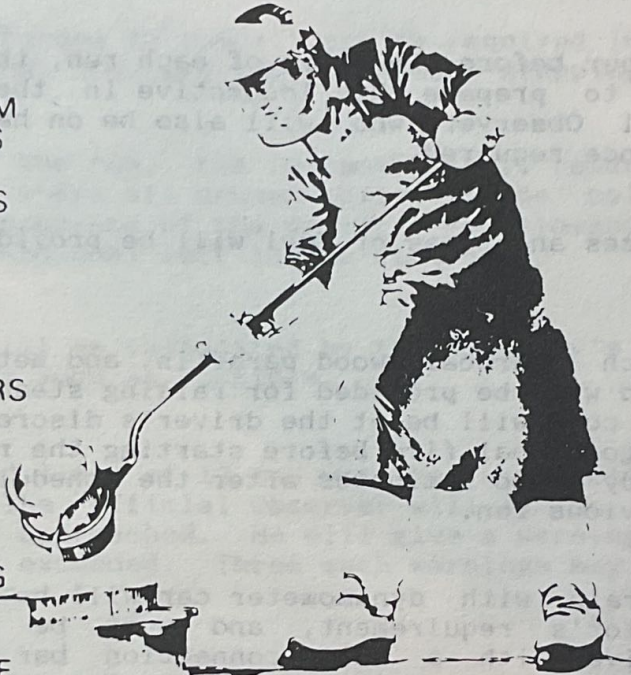
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1. On arrival, competitors should report to the Competition Secretary who will have all the necessary information concerning the day's events including finalised run times.
2. One hour before the start of each run, the driver will be called to prepare his locomotive in the presence of an Official Observer who will also be on hand to offer any assistance required.
3. Two sizes and types of fuel will be provided in pre-weighed bags.
4. As much charcoal, wood paraffin, and methylated spirit as required will be provided for raising steam. The change to weighed coal will be at the driver's discretion, but he must have a good coal fire before starting the run. This he must be ready to do 5 minutes after the scheduled conclusion of the previous run.
5. The train with dynamometer car will be prepared to the competitor's requirement, and must be connected to the locomotive with a solid connection bar. The number of passengers carried will be completely at the discretion of the competitor, tickets for each run will be issued by the Station Master who will also assist with the provision of passengers if informed at least half an hour before the run. A maximum of 5 people will be allowed on each car and competitors must nominate the number of cars required to the Competition Secretary on arrival at the track. Variations to the number will be by arrangement with the Station Master up to half an hour before the run time, after this time no changes will be accepted.
6. The duration of the run will be a nominal 30 minutes. When 25 minutes of the run have elapsed the driver may, at his discretion, decide to finish his run at the conclusion of that lap. No penalty will be incurred should the driver choose to adopt this course of action. No time allowance will be made for any stops other than derailments. The timekeepers will keep competitors informed of their progress and indicate when on the last lap. The run must finish at the station to unload the passengers. Should a driver stop short of the station due to shortage of steam, even though he has been running for the full 30 minutes, he must "blow-up" and complete the run to within 2 metres of the station starting signal.

7. Should the load prove too much for the locomotive, one or more passengers may be off-loaded wherever it is safe to do so.
8. Water will be handed to competitors as required in suitable containers so that they may top-up without stopping.
9. At the end of the run, the locomotive will return to the steaming bay, where all unused coal will be collected and weighed in the presence of the driver. No allowance will be made for un-burned coal left in the firebox.
10. The results will be calculated by the Society's Officials and displayed as soon as possible.
11. A maximum speed limit of 12 mph will be in operation for the competition. The Official Observer will advise drivers if this speed is approached. He will give a warning if the speed limit is exceeded. Three such warnings may result in disqualification.
12. 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 the hand pump is not permitted except in an emergency when all other means of water feed have failed and the engine must then be retired. Infringement of any part of the rule will result in disqualification.
13. The use of sand is not permitted and an infringement of this rule will result in disqualification.
14. The decision of the Chief Judge is final.

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 foot pounds and Total Distance Travelled * in feet. In addition the Overall Run Time * (minutes) and Weight of Coal Used *(pounds) are recorded. Parameters marked * are shown on Results Board.

From these parameters the following calculations can be made :-

$$\text{Average Draw Bar Horse Power} = \frac{\text{Total Work Done(ft. lb)}}{\text{Overall Run Time(mins)} \times 33.000} \quad \text{h.p.} * \dots\dots\dots(1)$$

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

$$\text{Specific Fuel Consumption(S.F.C.)} = \frac{\text{Coal Consumption Rate}}{\text{Average Draw Bar Horse Power}} \dots\dots\dots(3)$$

$$\text{Substituting(1) and (2) in(3) S.F.C.} = \frac{\text{Weight of Coal Used(lb)} \times 1,980,000}{\text{Total Work Done (ft.lb)}} \quad \text{lb/D.B.H.P. hr} * \dots\dots\dots(4)$$

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

Assuming the calorific yield of the coal to be 14,000B.Th.U/lb., 1lb of coal will yield 14000 x 778ft.lb of heat where 778 is the number of ft.lb per B.Thu.U.

$$\text{From(4) Overall Thermal Efficiency} * = \frac{1,980,000 \times 100}{\text{S.F.C.} \times 14,000 \times 778} = \frac{18.1785}{\text{S.F.C.}} \quad \% \dots\dots\dots(5)$$

The locomotive which returns the highest Overall Thermal Efficiency is the winner.



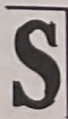
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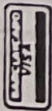
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PREVIOUS WINNERS

YEAR	HOST CLUB	ENGINE	Gauge	Effic %	DRIVER/ OWNER	SOCIETY
1969	Birmingham S.M.E.	Royal Scot	5"	not quoted	J. Drury	Birmingham S.M.E.
1970	Whitney & W. Oxford	"Firefly"	5"	"	L. Labram	Birmingham S.M.E.
1971	Southampton & District	G.W.R. Dean Single	5"	"	A. Heyden	Newton Abbott
1972	Tyneside S.M.E.E.	G.W.R. 57 XX	£"	1.06	N. Spink	Chesterfield
1973	Chingford & District	L.N.E.R. L1	5"	1.6	W. Longstaff	S. Durham
1974	Bristol S.M.E.E.	"Nigel Gresley"	5"	2.54	F. Winsall	Rugby
1975	Tyneside S.M.E.E.	G.W.R. King	3½"	1.55	L. Joyce	Chingford
1976	Kinver & W. Midlands	"Speedy"	5"	1.58	W. Perret	Southampton
1977	Chingford & District	"Speedy"	5"	2.32	W. Perret	Southampton
1978	Guildford	"Maid of Kent"	5"	1.61	P. Wood	Chingford
1979	Bristol S.M.E.E.	G.W.R. Stirling	5"	2.17	D. Morris	Urmston
1980	Bedford M.E.S	B.R.C.1.7	3½"	1.37	P. Wood	Private
1981	Bournemouth District	L.N.E.R. J39	5"	2.41	P. Wood	Chingford
1982	Leyland M.E.S.	G.W.R. De Glehn Comp.	5"	1.50	R. Armsbury	Derby M.E.S.
1983	Guildford S.M.E.	L.M.S. Royal Scot	5"	1.35	L. Pritchard	Harlington S.M.E.
1984	Bristol S.M.E.	L.M.S. Royal Scot	5"	3.66	L. Pritchard	Harlington S.M.E.
1985	Urmston M.E.S.	"Nigel Gresley"	5"	1.85	A. Crossfield	Gravesend M.M. & E.S
1986	Bournemouth D.S.M.E.	"Nigel Gresley"	5"	1.64	A. Crossfield	Gravesend M.M. & E.S.
1987	Birmingham	Adams LSWR Jubilee	5"	2.29	K. Moonie	Chingford



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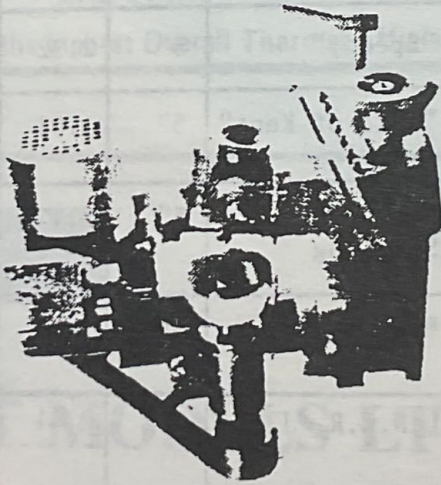
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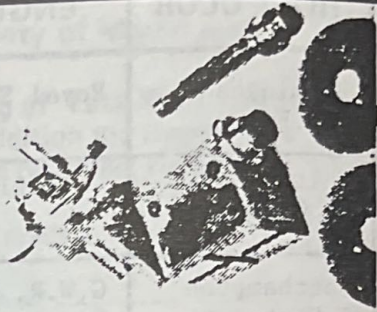


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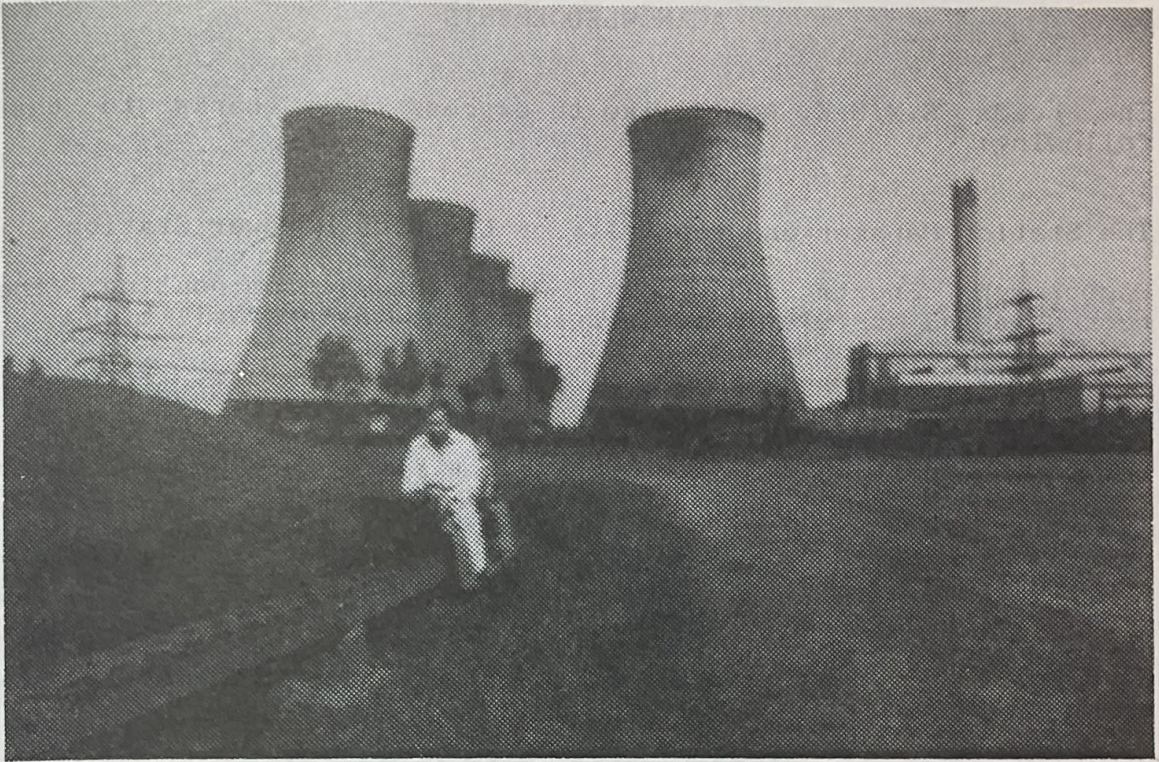
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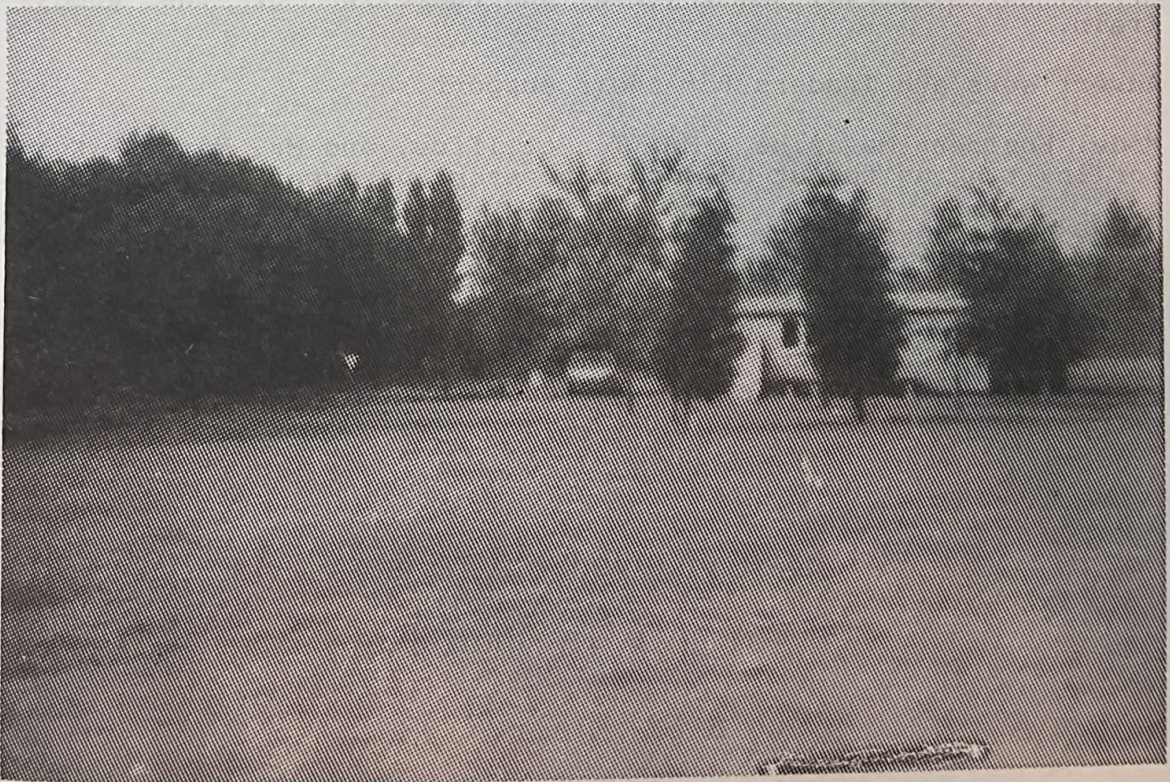
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The Leeds S.M.E.E. would like to express their thanks to the following:

The Station Manager and the Staff of Eggborough Power Station
Eggborough Sports and Social Club for accommodating the refreshments, exhibitin and providing the toilet facilities.

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Reeve Calendars Ltd., for allowing us to reproduce the cover illustration taken from a drawing by Mr. J. Haines.

And finally but by no means least !

Members, wives and friends without whom this event could not have been possible.

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