

SUPER SEQLEC 2007

Michael Jones reports that seasoned campaigner, John Painter, took the honours again at Sutton Coldfield.

The Seven and a Quarter Locomotive Efficiency Competition was organised this year by the **Sutton Coldfield Model Engineering Society**. Five entrants from around the UK took part during a most enjoyable day's steaming.

As usual for this type of event, all contestants pulled a dynamometer car equipped with various recording devices. It was also equipped with an

electric water pump providing extra water for the locomotives during the run. Every train included a brake car.

Drivers could choose the number of riding cars and passengers for their run and, following an initial familiarisation lap, the train returned to the station where the fire was made up sufficiently so that full pressure was showing on the steam gauge. The level of the coal in the firebox was checked

with a gauge and the driver issued with measured coal supplies for the run.

On completion of each run, the fire was built back up to a the initial level, checked, and the remaining coal removed and weighed.

The dynamometer car recorded the other competition data such as the distance run, drawbar horse-power developed, and other measures as shown in the table.



Run No.	Driver	Locomotive	Run Duration (min:sec)	Distance (ft)	Coal Used (lbs)
1	James Duncan	GWR 2-8-0T 42xx	29:47	19,624	5.250
2	John Painter	GWR 0-4-2T 14xx	30:00	21,693	2.938
3	Peter Goodman	GWR 2-8-0 38xx	32:26	21,747	7.125
4	Dennis Mulford	Baldwin 2-4-2T L&B 'Lynn'	31:46	16,454	6.125
5	George Finnemore	0-4-0T <i>Romulus</i>	30:10	18,572	5.625

Note: Coal used had a specific calorific value of 14,000 BTU/lb.

1. James Duncan.
2. John Painter.



James Duncan

First on the track was a mechanical engineering apprentice, James Duncan, a member of the **Bristol Society of Model and Experimental Engineers** (BSMEE), with a GWR 2-8-0T 42XX class locomotive (photo 1). In two previous SEQLECs, he competed with a ‘Pug’ 0-4-0, but this year he drove a much larger locomotive owned by Anthony Newberry.

James chose to pull six carriages and 14 adults. He started off well and had an uneventful run which ended 31 minutes later.

On return to the start, a technical fault was discovered with the dynamometer car and the performance readings for his run were not available. The judges decided he would be given another chance and in short order he set off on another timed run with the same load.

His second try was as evenly run as his first, unrecorded one, although there was some blowing off of the safety valves which was not the case during his first run. James achieved a 1.11% thermal efficiency, a fine effort of concentration for an hour’s worth of running.

John Painter

Next in the competition was the GWR 0-4-2T 14xx class *Dart* driven by John Painter (photo 2). He is also a BSMEE member and stalwart supporter of SEQLEC having competed in every event since it began. He has been a winner twice and runner-up several times.

The 0-4-2T locomotive looked positively diminutive compared to the load that was initially attempted. After several attempts including backing up to get a better run out of the station, the locomotive was unable to start this load and a

successful start was made with a reduced load of ten carriages and three passengers. As he explained after the event, his strategy was to have a long train in case there were not enough passengers available.

The start wasn’t fast, but once on the mainline, the engine moved along very well, somewhat to the surprise of the spectators. At one point in the run, the train was timed going 9.2mph and the locomotive was consuming about 2 pints (1.13 litres) of water per lap.

He made the best of the downhill sections of the track

Work Done (ft.lbs)	Thermal Efficiency (%)		Average DB Pull (lbs)	Average DBHP (hp)	Coal Consumption Rate (lb/hr)	Specific Coal Consumption (lb/dbhp/hr)	Final Position
632,076	1.11 %	7.49	32.21	0.643	10.576	16.446	2
578,521	1.81 %	8.22	26.67	0.584	5.876	10.055	1
743,704	0.96 %	7.62	34.20	0.695	13.181	18.969	3
631,515	0.95 %	5.89	38.38	0.602	11.569	19.204	4
567,682	0.93 %	7.00	30.57	0.570	11.188	19.619	5

and showed skill coaxing the load up the hill towards the high point of the track. His run ended after 30 minutes and, as for all the competitors, the spectators warmly welcomed him into the station on his return. He achieved a 1.81% thermal efficiency.

Peter Goodman

A GWR 2-8-0 38XX tender locomotive was next in the competition. The engine, owned by Anthony Newberry, was built in 7 1/4 in. gauge from the scaled up 5 in. gauge design of Martin Evans for *Swindon*.

Peter Goodman, the driver, is a long time member of the Bristol Society of Model and Experimental Engineers (photo 3). He works as an engine designer for Rolls-Royce and somehow finds time to work on full-size locomotives and has a 5 in. gauge locomotive under construction.

After Peter's test lap he proceeded into the competition with 12 adults on the train. Shortly into his run, after experiencing some slowing on the hill, he reduced the passengers by two, continuing on with 10. Thereafter his run was swift with only a little slowing at the top of the hill.

Overall, Peter's run was steady

and fast and he managed to maintain good boiler pressure without the safety valves blowing off. He achieved a thermal efficiency of 0.96%.

Denis Mulford

Now, it was the turn of the narrow gauge locomotives. First up was Denis Mulford, chairman of the **City of Oxford S.M.E.** (photo 4). He ran a Lynton and Barnstable 2-4-2 Baldwin, 'Lynn' design, aptly named *Per Ardua*. This started as a Winson's kit. However, when the company folded, he was left with a partially completed locomotive, no drawings and only 14 of the

18 promised kits in hand. Most of the parts for the locomotive were made, or re-made, without drawings and the engine first ran in April 2006.

A load of 12 passengers on 10 coaches set off the competition run. On the second lap the engine nearly came to a stand-still at the top of the track, but he was able to recover.

There was a bit of slipping going up the hill on the track and occasionally some blowing off of the safety valves, but he successfully completed a good, steady run of 31 minutes and 46 seconds. His overall thermal efficiency was 0.95%.

George Finnemore

Fifth contestant was George Finnemore from the **Leicester Society of Model Engineers** (photo 5). He was driving his 0-4-0 narrow gauge 'Romulus' design which was built as one of a pair to the drawings of Roger Marsh, and completed in 1989. It now has over 2,000 miles on the clock. George describes himself as an "elderly person just having fun."

He had a good, steady run with nine passengers and six coaches. There was some blowing off during his run. His whistle signals added to the ambiance of the event.



