

2007 Efficiency Trials ~ *By Bob Lovett*

A low hanging mist seeped gently away as dawn broke, replaced by the fragrant smoke from charcoal and sweet wood fires lit by the Grooms preparing steeds for their upcoming contest. The date and place of one of the most significant struggles of 'man versus machine' versus 'man on machine' had been set – Sunday June 17th – and the Champs de Bataille was to be at Viables in Basingstoke. The rays from a watery sun probed the field of combat – setting light and dark contrast on the narrow steel path that trailed into shadows where questions would be posed to contestants and their machines as they progressed along their anticlockwise circuits.

Anticipation rose in concert with steam pressure. Grooms assumed the mantle and armour of Knights, with the appropriate heraldry representing their tribes – GWR, SR and BR. Friendly banter dwindled and mental preparation was to the fore. The battle flag marking 'right away' was due to drop at noon. Friends and colleagues became competitors engaged in pursuit of their Holy Grail. No hand of a virgin Princess to be won through tournament though. Instead, something far more precious – the coveted **Shield of Efficiency** that would be awarded to the winner of the B&DMES's 2007 Efficiency Trials.

Developing a winning strategy

As with any trial of strength and strategy, the rules of engagement should be set by the wisest old General. Unfortunately one was not available and the only person around was the Society's ex. CME (a.k.a. John H), so he would have to do! His words of explanation and strategy were weighed – quite literally – as intending opponents decided on their strategy for load, fuel and performance – the three components of the equation that would be used to determine overall efficiency.

Load - too much weight would create problems when tackling the tight, 12 chain radius curve onto a climbing gradient when leaving the safe haven of Harrow Halt. Too little and performance would be so easy it would fail to create a significant enough value in the efficiency calculations performed by the Wizard of Calculus (a.k.a. Malcolm) with his electronic abacus.

Fuel - the objective was to try and beat the Laws of Thermodynamics – squeezing a lot from a little. Contestants chose a specific number of weighed bags of fuel to take on board for their attempt. The objective was to burn the minimum of fuel needed to develop copious amounts of steam and use it efficiently through the dexterous conjunction of regulator and cut-off.

Performance - how far could you run in 20 minutes without exceeding the 12mph speed limit rigorously enforced by 'The General'? Each lap of the iron road would be a dragon slain. The winner of the competition would be the Knight whose steed carried most weight into battle, killed the most dragons and did it without consuming copious quantities of fuel.

Forward into battle at the height of noon

The Wizard took his seat near the Jesters' Gallery whose occupants were to give positive(?) encouragement and helpful(?) advice to the competitors from under the station canopy. The day was set. The General marshalled his troops, the Wizard stroked his beard as he prepared to count the dragon corpses metaphorically to be dumped as each lap was completed and Sir Mick de Teabag provided refreshments ahead of the start of the physical engagement.

Errrr..... what!! I must have been reading too many Terry Pratchett novels. No more Discworld but back to the real world.

Six contenders lined up to participate in the Efficiency Trials. First away was 'rookie' Bob Lovett flying the SR standard with his L1 Maid of Kent who loaded his carriages with a mixture of organic (James) and non-organic (several ½ hundredweight blocks) material. Disaster struck on lap 1 with two successive derailments of the riding trolley. Re-arrangement of non-organic weight rectified the problem but lost time. He continued smoothly, achieving an 8 lap performance including a water replenishment on the move at the Harrow troughs (achieved by a full jug of H₂O handed over by the CME!)

Then came Andy Hobbs, representing the hopes of the BR clan with his pristine black 'U' class 2-6-0. Careful preparation, a massive load and his Public Running experience made him a strong contender. Unfortunately, his strategy for optimising steam and fire to pull such a large load had been cut too fine and resulted in a stall at the station exit due to lack of steam. Losing precious time to generate sufficient pressure whilst his passengers lazed in the sun, his creditable run was eventually resumed, but he only managed to achieve 4 laps due to the time lost at the start.

Meanwhile, Terry, the other half of the famous Father and Son duo, prepared for his ordeal. Rumours suddenly permeated the field of struggle – was he the 'hooded Abbott' spotted practicing and testing strategies on the Tuesday before the main event? Taking the flag of the GWR into battle with his 45XX 2-6-2 Prairie Tank and drawing a significant load, he ran smoothly and steadily for the full 20 minutes. A quiet and purposeful look on his face seemed to indicate confidence in the outcome. A good run, but only 6 laps. Was that going to be enough?

Next up was Ian Roberts with his GWR 0-6-0 Pannier Tank. His mid-weight load strategy looked good and he was to run very smoothly and consistently with a light hand on the regulator and achieve a high lap count. However, his organic load, Sir Michael de Speedy (identical twin brother of Sir Mick de Teabag), had egged him on too much and the General docked him a few laps for speeding!

The last of the 5" gauge contenders was Darren Davis with his GWR Manor. This massive steed had steam to spare – and the heaviest load of the day was prepared with four equerries mounted in line. A worrying sight for Bob L, the leader up until then, Darren was away smoothly and ran, and ran, and ran.

Bob's only hope was that the appetite of the 4-6-0 would be voracious. With 12 laps achieved by the end of the 20 minutes and a significant amount of fuel to be handed back from the tender, it looked like it was going to be a great score.

Last up was the Young Pretender – behind a diminutive 3 ½ inch mount - Juliet. The initial load chosen was somewhat optimistic. For an apprentice of the Physic, his 'mathematicae' was 'obscurous' (in layman's terminology, he messed up his calculations!) However, readjusting the load to a level that would not cause respiratory arrest of his mount, he continued to finally deliver a highly commendable handicap score.

So, there we are. All contestants had run their rounds – and all awaited the outcome. There was no Steward's Enquiry thank goodness and the scores from the electronic abacus of the Wizard were rolled and ranked. A winner emerged – Darren with a score of 324. Second was Bob Lovett with 281 and third was Ian with a score of 268. Full results correct to 'n' decimal places are shown in the table below. Daren was duly presented with the coveted 'shield' in front of all his fellow contestants.

Well done everyone who took part and well done for all those who promoted the idea, invested their time to make it happen and generally helped. A good day was had by all. The black magic of Efficiency Trials became a little better understood by some and discussions were already starting from the contestants about the best strategy to adopt to win the 2008 Trials.
No chance!

Table of Results

Overall Position	Driver	Loco	Distance (ft)	Load (lbs)	Fuel (oz)	Efficiency (work/oz)
1st	Darren Davis	GWR Manor	12,000	919	34	324.35
2nd	Bob Lovett	L1 Maid of Kent	8,000	740	21	281.91
3rd	Ian Roberts	GWR Pannier Tank	11,000	634	26	268.23
4th	Terry Hobbs	GWR Prairie Tank	6,000	786	24	196.50
5th	Stephen Newell	Juliet	5,000	246	8	153.75
6th	Andy Hobbs	U Class	4,000	999	27	148.00