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The Britannias - The Other Side of the Coin ~ By Bob Fitzhugh

I read with interest the article in the May news sheet regarding the Britannia Class locomotives. Whilst I am not in a position to dispute any the assertions concerning experiences on the Western Region, I would like to look at the 'other side of the coin' and acknowledge their positive attributes.

Firstly we must remember the immediate post-war conditions prevailing at the time the design was inaugurated. The railway system was at its lowest ebb in so far as the state of locomotives, rolling stock and infrastructure were concerned. Materials, fuel and most of all labour were in short supply or of dubious quality. The parameters within which the designers were working must have been something like these:-

1. Produce a machine which will be easy to service and have a minimum maintenance requirement.
2. It should be capable of steaming satisfactorily burning coal of varying quality.
3. It should be able to attain high mileages between main works overhauls and attention at such overhauls should be a minimum.
4. Whilst being principally aimed at passenger work it should have a mixed traffic capability.
5. It should have as good a route availability as possible.

These requirements dictated the design which emerged with the following features:-

1. A large boiler with wide firebox and adequate combustion chamber. This in turn led to the Pacific wheel arrangement.
2. Two cylinders made as large as possible, with outside motion for easy access.
3. The revolutionary design of integral welded horns, and very adequately stayed and stiffened main frames.
4. Roller bearings throughout.
5. A self cleaning smokebox and rocking grate.
6. As much of the pipe work for auxiliaries, control valves, manifold, etc placed outside the cab.

It should also be remembered that these locomotives aspired to be Class 7 only and were never expected to out - or even equally perform in terms of power and speed, the more costly Class 8 machines of the pre-war and pre-nationalisation era. I would submit that there was no pre-nationalisation design which could so well satisfy ALL the requirements I have listed.

Peter's article highlights the poor starting performance of locomotives with rear carrying axles. The weight transfer effect is a matter of physics and there was nothing the steam locomotive designer could do to prevent this. In my younger days I had much footplate experience on ex LNE Pacifics and V2's and knew many of the Kings Cross and Copley Hill (Leeds) top link drivers. A number of them, unofficially of course would sometimes allow me, as a Motive Power Trainee, to have a go in the driving seat. I recall that my first attempt at a start from rest was indeed pitiful and accompanied by the wheels spinning as described in Peter Kearon's article. However, I soon learnt the correct technique, which was to watch that invaluable aid, the steam chest pressure gauge, observing the pressure rise as the regulator is opened and easing it back closed if the pressure rises too high or too quickly. In other words the potential slipping is corrected before it occurs and a clean, though not necessarily rapid get away ensues. The important thing is not to be in a hurry and to remember that if slipping is allowed to occur then adhesion is lost and the overall start will take longer.

Once the train was underway the locomotive was 'notched up' and the regulator fully opened. On these LNE locomotives the normal practise was to leave the regulator wide open and drive purely 'on the lever'. This practice together with the low cylinder clearance volumes and high superheat was the reason for their high front end efficiencies.

With regard to slipping on the move, that well known Kings Cross driver, Bill Hoole, showed me the best way of dealing with this was by leaving the regulator untouched but rapidly winding up the reverser until the slipping ceased and then slowly letting it down again towards the original setting. This was a more controllable method than closing the regulator and kept optimum power applied to the wheels continuously. I do not know however, whether it could have been so successfully applied generally to other classes.

My personal experience of footplate riding on the Britannias was confined to a few trips over the GE Line where they were indisputable masters of their job. They could not however, be 'notched up' to the same degree as the big East Coast Mainline engines and their riding always seemed a little harsh. In later years (1959/60) my work involved frequent travelling over the Midland Mainline to and from Derby. My observation was limited to that from the train using a stop watch. The Britannias worked turn and turnabout with Rebuilt Scots on the Manchester services and whilst my very fastest trip was with a Scot, in average day to day service there appeared to be nothing between the two classes. Both could be relied upon for a good performance over this undulating route.

Here then is a tribute to the Britannias, a product that generally fulfilled the requirements of its time, perhaps not one of the star performers, but an everyday locomotive which was basically less demanding than most in its servicing and maintenance requirements.

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