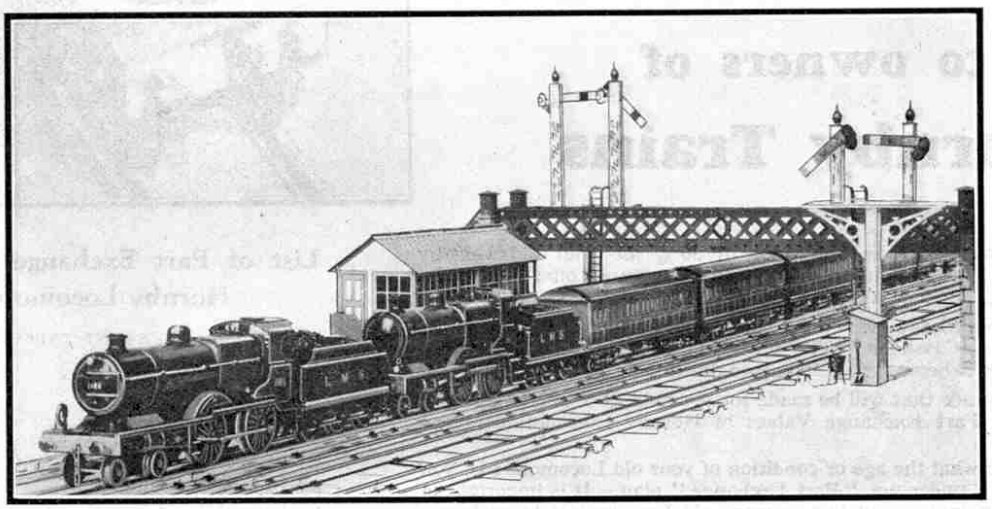
Why Trains are Double-Headed

Piloting in Miniature Practice

A PHASE of railway working that is of great interest to railway enthusiasts, and always arouses the curiosity of the casual onlooker, is piloting or "double-heading."

The general reason for the use of two locomotives at the head of a train is that neither of them alone is sufficiently powerful to haul a load at the speed required; but there are many cases where the necessity for double-heading is not immediately obvious. For instance, two locomotives of large and powerful design may be seen heading a light and possibly easily-timed train. In this case the double-heading may be due to the fact that an engine is required farther down the line for certain work. In such a case, in order to avoid running the engine light, thus occupying the track in possibly a busy district, the engine is attached as a pilot to a convenient train. If this train is heavy, and the line is sharply graded, the assistance thus afforded will be valuable, and may perhaps prevent a loss of time that otherwise might have occurred.



A heavy express, hauled by two Hornby Midland Compounds, running on a busy stretch of four-road track. The position of the headlamp of the pilot engine indicates that this is assisting over a portion of the journey not exceeding twelve miles in length.

Alternatively it may be that a special train was worked by the engine, and that there is no train that it can conveniently take on the return journey. Therefore it goes back to its home shed as a pilot engine, even though the particular train may be well within the powers of the train engine provided.

A rather surprising feature of piloting is that the performance put up by two engines on one train frequently excels what would have been done if the load had been divided into separate trains in proportion to the respective capacities of the engines. Owing to the general use nowadays of powerful locomotives, the need for piloting is not so great as when engines of more limited tractive power were widely employed on our railways.

Certain combinations of locomotives have acquired in the past a great reputation for speedy running with heavy trains. For instance, two L.N.W.R. locomotives were regularly used for many years between Crewe and Carlisle for the heavy Scottish expresses. These engines were both of the 2–4–0 type, one of the "Samson" class with 6 ft. driving wheels, and the other of the "Precedent" class with 6 ft. 6 in. driving wheels.

On the Midland Railway a 4–2–2 single wheeler and a 4–4–0 compound have been known to give splendid results. More systematic piloting was carried on on the Midland Railway than perhaps on any other line. This was no fault of the locomotives provided, for they were consistently good. The reason for the large amount of double-heading was that weight restrictions prevented the employment of large locomotives. This, combined with the speed of the Midland services and the severe grading of the main line, made it necessary to restrict the loads hauled by the various classes of engines, so as to prevent them from being unduly pushed to maintain time. The punctuality of the Midland train services was to a considerable extent due to this policy. The practice of limiting the loads to be hauled by the various locomotive classes is pursued on similar lines to-day by the L.M.S.R.

Much piloting has been done at various times on other systems, but there have been some locomotive superintendents whose invariable practice was "one train one engine." This was the case on the Great Northern Railway for a long time; but with the great increase in loads in more recent years arrangements were made for piloting certain trains before the famous Gresley "Pacifics" were introduced in 1922. Piloted trains were exceptionally rare on the London, Brighton and South Coast Railway, and the G.W.R. have always been noted for the capability of their locomotives, which made pilot engines unnecessary except over the very severe gradients in Devon and Cornwall.

A curious example of the use of two engines where one normally would have sufficed occurred more than 30 years ago on the North British Railway. The through expresses from King's Cross to the North were then, and had been for a number of years, hauled by North Eastern locomotives between Newcastle and Edinburgh. The course from Berwick onward was over the North British Company's line, and suddenly this company decided to work the trains on this section with their own engines, and the North Eastern were given notice accordingly. It was announced also that although the trains would stop at Berwick for the engines to be changed, the run would be made in the same time as before. In order to ensure that this should be accomplished, and to prevent the possibility of any failure on the road, two North British engines were used for a considerable time. Finally, however, an agreement was reached by which each company worked certain trains between Newcastle and Edinburgh, and the necessity for the use of two locomotives disappeared.

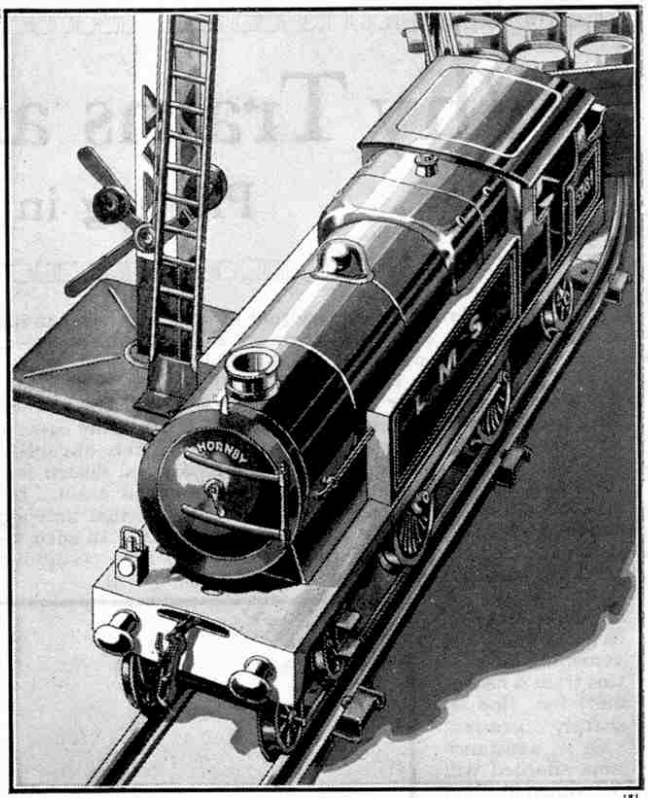
Owing to the varying conditions of railway operation, some curious locomotive combinations are to be observed at times. All railway enthusiasts are familiar with the famous L.M.S.R. single-driver locomotive "*Cornwall*," which has the largest driving wheels in the world, and has been used in recent times as an inspection engine. On one occasion this engine worked from Crewe to Euston with a directors' special, and in order to return her conveniently to her home shed she was actually attached as a pilot to the mid-day Scottish express from Euston, the train engine being the well-known "Claughton" class locomotive "*Patriot*." It is a great pity that no photograph was taken of the engines on this notable occasion.

War-time conditions accounted for many curious locomotive assortments, for with the curtailment of passenger train services a large number of express engines became available for goods work. Two passenger engines might be used together; a little goods engine of old design might be piloted by a relatively up-to-date express engine; or a heavy coal train might be seen with a single-driver or 2–4–0 as train engine, and perhaps a modern 0–6–0 as pilot. For a considerable period the large 4–6–4 "Baltic" tanks that had been designed for the former London, Tilbury and Southend Railway were employed in coal train operation between Wellingborough and London on the Midland. They were sometimes to be seen in company with regular goods engines, or sometimes with a large-wheeled express locomotive. Their appearance on this duty would hardly have occurred in normal times, as they were unsuited for the work, their bunker capacity being somewhat limited for heavy-duty trips of this length.

(*Continued on page 272*)

New Hornby Locomotives for old!

Wonderful offer to owners of Hornby Trains



Just think of it—an allowance of 50% for your old Hornby Locomotive! This is the most generous part exchange offer ever made.

You have probably been using a Hornby Locomotive for some years and would like to own one of the fine new models that now figure in the Hornby Catalogue. The object of the Hornby Locomotive Part Exchange Scheme is to help you to do this.

The allowance that will be made for your old Locomotive is shown in the list of Part Exchange Values of Hornby Locomotives given on this page.

No matter what the age or condition of your old Locomotive is, you can exchange it under our "Part Exchange" plan. It is important to note that we cannot accept two or more old Locomotives in exchange for one new Locomotive.

What you have to do

Here is an example of how the plan works. Assuming you have a No. 1 Tank Locomotive that you wish to exchange, you see from the list that its exchange value is 6/3. You then look at the Hornby Train catalogue and choose one of the new Locomotives, the cost of which is not less than 12/6 (or, in other words, not less than double the Part Exchange value of your No. 1 Tank Locomotive).

Say that you decide to have a No. 2 Special Tank, the price of which is 25/–. Pack up your old No. 1 Tank and deduct 6/3 from 25/– (the price of the new No. 2 Special Tank) enclose a remittance for 18/9 plus 1/– carriage on the new Locomotive—19/9 in all. Send the Locomotive and the remittance to Meccano Limited, Liverpool.

Alternatively, you can take your old No. 1 Tank Locomotive to your dealer with a remittance for 18/9, and he will give you the new No. 2 Special Tank Locomotive that you require.

IMPORTANT.—The Hornby Locomotive Part Exchange Scheme is not applicable to any country outside Great Britain.

List of Part Exchange Values of Hornby Locomotives

CURRENT TYPES

M2930 Locomotive	1/–
M1/2 Locomotive No. 3031	2/3
No. 0 Locomotive	5/3
No. 1 Tank Locomotive	6/3
No. 1 Locomotive	6/3
No. 1 Special Locomotive	8/3
No. 1 Special Tank Locomotive	8/3
No. 2 Special Locomotive	11/3
No. 2 Special Tank Locomotive	11/3
No. 1 Electric Tank Locomotive, Permanent Magnet	12/6
No. 2 Electric Tank Locomotive	18/9
No. 3E Locomotive	18/9
No. 3E Riviera "Blue" Locomotive	18/9
No. 3C Locomotive	13/9
No. 3C Riviera "Blue" Locomotive	13/9
Metropolitan C Locomotive	11/3

OBSOLETE TYPES

George V Locomotive / No. 00 Locomotive (These models were identical)	3/3
M3 Locomotive	4/3
Zulu Locomotive	5/3
Zulu Tank Locomotive	6/3
No. 2 Locomotive	10/–
No. 2 Tank Locomotive	11/3
No. 1 Locomotive, fitted for Hornby Control	7/6
No. 1 Tank Locomotive, fitted for Hornby Control	7/6
No. 2 Locomotive, fitted for Hornby Control	11/3
No. 2 Tank Locomotive, fitted for Hornby Control	12/6

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