Contents

Preface to Part 3

The reasons for building a particular model locomotive can vary widely. It may be that the prototype operated on a particular section of the line that the modeller wishes to re-create, or that it hauled the train which took him to school in his youth, or simply that he just likes it. Whatever the reason there comes a point when fancy has to be translated into fact.

If the model is intended only for display on a shelf the major consideration is its external appearance, but as most locomotives are intended to haul trains on a railway, reliable operation will be of equal importance. An average model which works reliably will give many hours of pleasure whilst an exquisite one which constantly derails or stalls becomes a source of frustration and annoyance. Although the ideal is an exact scale model which works as well as its prototype and also incorporates all external detail, practical considerations make some degree of compromise inevitable. The extent of this must be decided by each builder to meet his individual requirements, but there is no doubt that in recent years the general standard of appearance has noticeably improved without any sacrifice of reliability. This is largely due to the use of nearer to true scale wheels and running gear, which in earlier years were often grossly out of scale.

The building of a prototype locomotive can be divided into three stages. The first is to specify the performance requirements. These will include the maximum speed, the weight of trains to be hauled and the timings desired over various routes, the maximum permissible axle load and loading gauge dimensions, and the minimum radius curve to be traversed. The second stage is the translation of these requirements into a locomotive design and the production of working drawings to enable it to be built, and the third stage is the actual building and testing of the locomotive culminating in its release for traffic.

All three stages occur in the building of a model locomotive except that the second one mainly consists of choosing a suitable power unit which will fit into the overall dimensions derived from drawings of its prototype. In determining the performance required from a model, prototype methods have been used as far as is practicable, but they have been modified to take account of the fact that the laws of nature which govern movement do not follow the same relationship as the scale of the vehicles to which they are applied.

Similarly the sharp curves, irregular track, and steep gradients on most model railways make compromise necessary in some features of vehicle construction if satisfactory running is to be achieved.

The methods of construction described in this part are all extensively used, but the Technical Committee recognise that they are by no means the only ones employed, the ultimate test of any method being whether it meets the builder's requirements for both appearance and performance.