

PREFACE

Tractors employed on heavy-duty farm work in the fields or shifting huge quantities of earth again and again will attract the attention of the looker-on. Tractors not only relieve man of the wearisome physical labour but perform it also in a considerably reduced time. Tractors are modern universal tools whose versatility is increased by attachments and modifications. The possibilities of modifying or converting tractors are of great importance, especially for agriculture because these provisions are necessary to use tractors both in the fields and for indoor farming in any season of the year.

In the course of half a century, the modern types of tractor today seen everywhere have been developed from small beginnings. Complicated designs are required, however, to meet the requirements of the great variety of applications. Careful and sensible operation of tractors and their maintenance according to the rules of good workmanship call for special knowledge. Further, tractorists are expected to repair small damages, which are occasionally encountered in operation, with the only aid of the readily available tools.

This versatile and partly complicated work is the reason why it has become an accepted practice in several industrial states to consider the driving of tractors and associated maintenance work a special job which can be learnt in 2 to 3 years, in the same way as a special trade in the field of the metal-working industry or electrical industry can be learnt.

This Manual of Tractors is intended, above all, for tractorists who know to drive tractors but wish to improve their knowledge of the mode of operation and functioning of engines. That is why particular attention has been paid to the description of the design and mode of operation of the engine and the function of its units of construction. The engine is the heart of the tractor, no tractor can be operated without a reliably functioning engine. Frequently, but insignificant faults or incorrect maintenance are at the bottom of irregularities in the engine operation. Frequently their removal requires little energy; everything depends, however, on finding the fault immediately. When considering the heavy duties demanded of the engine it becomes clear that insignificant troubles may rapidly lead to serious damages whose repair is time-consuming and expensive. However, not only the engine but all other major assemblies, e.g. the power transmission system and the running gear, should be checked and maintained at regular intervals. The tractorist should know the intervals at which the clutch, the steering gear or the brakes have to be readjusted and how this work has to be done.