

**SHOP TESTS ON ELECTRIC  
CAR EQUIPMENT FOR  
INSPECTORS AND  
FOREMEN**

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Shop Tests on Electric Car Equipment for Inspectors and Foremen by Eugene C. Parham & John C. Shedd

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**EUGENE C. PARHAM & JOHN C. SHEDD**

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AND  
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### PREFACE.

This book is the first of two books designed to cover in a practical manner the testing of electric car equipment with such instruments and other facilities as may be available or obtainable in a car house. An effort is made to so present the subject that the instructions and information given can be profitably used even if not entirely understood. To this end simple explanations, illustrations and practical examples are freely used. The appended questions, it is believed, will efficiently rehearse the readers' knowledge of the information contained in the text. In the methods given refinement is at times sacrificed to practicability with the object of showing how results are obtained rather than how they might be. As the subject covers new ground, at least in the method of presentation, the writers feel that suggestions from readers would be especially valuable and invite the readers' cooperation.

THE AUTHORS.

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# Shop Tests on Electric Car Equipment

## CURRENT MEASUREMENTS.

### AMMETER METHOD.

#### CONNECTIONS.

1. To measure current with an ammeter, connect the meter in series\* with the circuit in which the current is to be measured:—thus to measure the current of a series motor or dynamo, connect in at X, Y or Z, Fig. 1; as this is a simple series circuit the current in all parts is the same. In a shunt

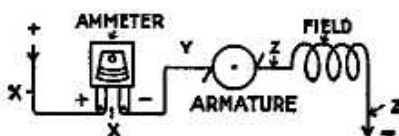


FIG. 1.

dynamo the current divides between the external and field circuits; in a shunt motor, between the armature and field circuits; in either case to measure: (a) total current, connect the meter at X, Fig. 2; (b) armature current, at Y; field current, at Z. Never break the circuit at the meter and be certain that the meter + post connects to the

\* See articles 20 and 21.