

# **AUTOMOBILE CATECHISM AND REPAIR MANUAL**

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Automobile Catechism and Repair Manual by Calvin F. Swingle & H. A. Tarantous

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**CALVIN F. SWINGLE & H. A. TARANTOUS**

**AUTOMOBILE  
CATECHISM AND  
REPAIR MANUAL**



**AUTOMOBILE CATECHISM  
AND  
REPAIR MANUAL**

**A Series of Questions and Answers Covering the  
Construction, Care, and Operation  
of Automobiles**

**ALSO**

**Complete Instructions for Locating Troubles and Making  
Adjustments and Repairs of All Kinds**

**PREPARED EXPRESSLY FOR**

**Owners, Chauffeurs, Garage Men and Automobile  
Machinists**

**BY**

**CALVIN F. SWINGLE, M. E.,**

**Author of "Swingle's Twentieth Century Hand Book for Steam Engi-  
neers and Electricians," "The Steam Turbine,"  
"Steam Boilers," Etc., Etc.,**

**AND**

**H. A. TARANTOUS**

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**ILLUSTRATED**

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## INTRODUCTION

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**T**HE phenomenal development of the automobile within the past few years has resulted in the creation of new branches of skilled labor of the highest grade, not only in the design and construction of this useful and valuable machine, but also in its care and operation. The safe and successful management of the swiftly moving auto, as it threads its way through the crowded street, or rapidly covers distance upon the highway, calls for skill, intelligence, and a thorough knowledge of the machine in all its details. With a view of supplying this information in a condensed, and at the same time clear and accurate form, the authors have prepared this little book in which the autoist can find without delay just the instructions needed for guidance in the repair, adjustment and operation of his machine.

For convenience the work is divided into two parts. Part I comprises over four hundred questions and answers, covering all parts of the automobile with respect to construction, care and operation, and reference tables with charts, illustrating all parts in minute detail. The questions and answers are arranged alphabetically so that the desired information may be easily obtained.

Part II is devoted entirely to repairs. It is one thing to know how to make repairs and adjustments, another to know what the trouble is. This book takes nothing for granted, but proceeds in a

### *Introduction*

systematic manner to show how to locate a cause of trouble. Once the offending part is determined, the best method of repairing it is graphically described and illustrated. The methods of adjustment and repair of all the widely used types are explained. The last chapter will be found particularly valuable to the man who wishes to keep his tire bills low, showing the various tire ailments, their cause and their cure.

## QUESTIONS AND ANSWERS.

### A.

Ques. 1. Mention some of the inconveniences connected with the use of the Acetylene light?

Ans. It contains impurities which endanger health when burned in a closed room. Carbon dust gets into the burners and clogs them; sometimes causing explosions.

Ques. 2. What should be done with an Acetylene lamp system in order to get satisfactory service from it?

Ans. Strict cleanliness should be maintained at all times, and the various parts should be examined and replaced from time to time as necessary.

Ques. 3. How is the electrolyte for storage battery cells made?

Ans. By pouring sulphuric acid into distilled water until the specific gravity is 1.12; then allow the solution to cool until its temperature is about 60 degrees.

Ques. 4. What is an electrical accumulator?

Ans. The storage battery is an accumulator of electrical energy, and is used for driving the electrically propelled car.

Ques. 5. Define the word Acceleration.

Ans. The increase of motion; the time period of mutation in velocity.