# SMALL ENGINES

## TABLE OF CONTENTS

**General**
- G - 1 Operation of the Two-stroke Cycle Engine
- G - 2 Operation of the Four-stroke Cycle Engine
- G - 3 Compression Ratio
- G - 4 Piston Displacement
- G - 5 Valve Parts Named
- G - 6 Valve Operation Conditions
- G - 7 Importance of Small Engine Maintenance (fill in visual)
- G - 8 Regular Small Engine Maintenance (Air Cleaner)
- G - 9 Regular Small Engine Maintenance (Spark Plug)
- G - 10 Regular Small Engine Maintenance (Crankcase Oil)
- G - 11 Winter Storage of Small Engines

**Trouble Shooting**
- T - 1 Causes of Poor Compression
- T - 2 Two Cycle Trouble Shooting - Lack of Power
- T - 3 Two Cycle Trouble Shooting - Excessive Knock
- T - 4 Two Cycle Trouble Shooting - Misfiring
- T - 5 Two Cycle Trouble Shooting - Fails to Start I
- T - 6 Two Cycle Trouble Shooting - Fails to Start II
- T - 7 Engine Starts - Heats Excessively
- T - 8 Engine Starts - Consumes Oil Excessively
- T - 9 Engine Starts - Vibrates, Lacks Power

**Ignition**
- I - 1 Parts of Magneto Ignition System
- I - 2 Checking Magneto Output
- I - 3 Causes of Faulty Ignition
- I - 4 Engine Diagnosis from Spark Plug Deposits
- I - 5 Checking Breaker Points
- I - 6 Function of a Magneto

(Continued)
TABLE OF CONTENTS (Continued)

Ignition (Cont'd)  I - 7  Laminated Mageto Assemblies  
                   I - 8  Functions of a Condenser  
                   I - 9  Checking the Coil and Ignition Circuit  
                   I - 10 The Condenser  
                   I - 11 Flywheel Rim Magnets  
                   I - 12 Flywheel Type Magneto  
                   I - 13 The Coil (Cutaway)  
                   I - 14 The Coil (Checking)  
                   I - 15 Magneto Ignition Operation I  
                   I - 16 Magneto Ignition Operation II  
                   I - 17 Magneto Ignition Operation III  
                   I - 18 Causes of Preignition  

Carburetion  
             C - 1  Gasoline for Four-Cycle Engines  
             C - 2  Fuel Supply Systems  
             C - 3  Parts of Float Carburetor  
             C - 4  The Float System  
             C - 5  The Choke System  
             C - 6  The High Speed System  
             C - 7  The Idle System  
             C - 8  The Throttle System  
             C - 9  Carburetor Adjustment  
             C - 10 Functions of Float Carburetors  
             C - 11 Fuel Supply Problems  
             C - 12 Fuel Problems Affecting Starting  

This series was prepared from material developed by the following companies:  
Briggs & Stratton Corporation, Milwaukee, Wisconsin; Clinton Engines Corporation,  
Maquoketa, Iowa; Champion Spark Plug Company, Toledo, Ohio; McCulloch Corporation,  
Los Angeles, California; and P. A. Sturtevant Company, Addison, Illinois.