

# Gascope<sup>®</sup>

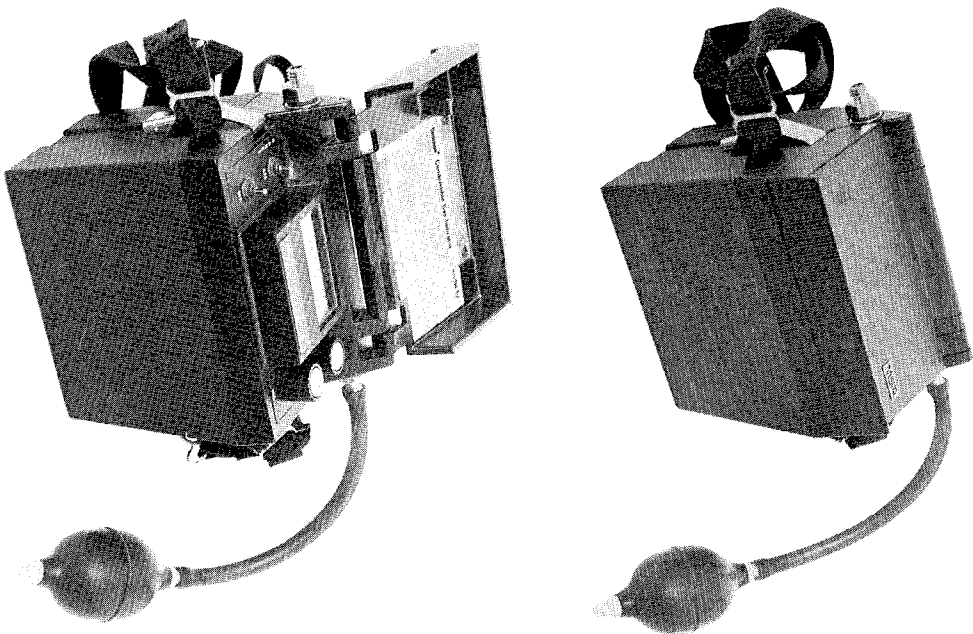
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**MSA**

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Gascope®  
COMBUSTIBLE GAS INDICATOR  
UTILITY MODEL 60



MINE SAFETY APPLIANCES COMPANY  
PITTSBURGH, PENNSYLVANIA, U.S.A., 15230

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## SECTION 1 GENERAL INFORMATION

### INTRODUCTION

This manual provides operating, theory of operation, maintenance and calibration information for the Gascope® Combustible Gas Indicator. Section 2 includes an initial checkout procedure, operating instructions for the Gascope and application information. Section 3 briefly describes: 1) the flammable property of methane; 2) its measurement with the Gascope and 3) the operation of the instrument's sampling system and electronic circuitry. Section 4 contains instructions on periodic and corrective maintenance, troubleshooting and parts information. Section 5 provides information on calibrating the instrument.

### GENERAL SPECIFICATIONS

General specifications for the Gascope are given in Table 1-1.

### SERIAL NUMBER IDENTIFICATION

The Gascope is identified by a serial number on the instruction label inside its cover (see Figure 2-1). This number should be included in correspondence with MSA which concerns the unit.

**WARNING**

Use only genuine MSA replacement parts when performing any maintenance procedures provided in this manual. Failure to do so may seriously impair instrument performance. Repair or alteration of the GASCOPE® COMBUSTIBLE GAS INDICATOR UTILITY MODEL 60, beyond the scope of these maintenance instructions or by anyone other than a certified MSA serviceman, could cause the product to fail to perform as designed and persons who rely on this product for their safety could sustain severe bodily injury or death.

**Table 1-1. General Specifications**

<p><b><u>ELECTRICAL CHARACTERISTICS</u></b></p> <p>Accuracy: Factory calibrated to <math>\pm 5\%</math> of fullscale on methane</p> <p>Power supply: Eight carbon-zinc "D" cells (Eveready 950 or equivalent)</p> <p>Power supply life: 8 hours min. continuous usage with fresh batteries at normal ambient temperature</p> <p>Ranges: 0 to 5% and 0 to 100% methane</p> <p><b><u>PHYSICAL CHARACTERISTICS</u></b></p> <p>Sample flow rate: 0.03 to 0.05 cfm (0.8 to 1.4 Lpm)</p> <p>Construction: Plastic case with stainless steel hardware</p> <p>Dimensions: 6-1/2 X 7-1/4 X 4 in.</p> <p>Weight: 5 lb 2 oz</p>
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**APPROVALS**  
The Gascope Model 60 is approved. It is suitable for use in Class I, Division 1, Groups C and D hazardous locations when used with Eveready 950, carbon-zinc "D" cells or equivalent and in accordance with the instruction manual (Part No. 466520).

## **SECTION 2 OPERATION**

### **INTRODUCTION**

This section provides instructions on unpacking and inspecting the Gascope, making initial checks, operating the instrument and using the Gascope for various applications.

### **INITIAL INSPECTION**

Remove the instrument from its shipping container and examine the unit carefully. If damage or shortage is noted, advise the carrier promptly. Make the proper claim with the carrier and, if necessary, reorder from MSA.

### **INITIAL CHECKS (See Figure 2-1.)**

To verify the instrument is operating properly and retains factory calibration, perform the procedure which follows in an atmosphere free of combustible gases. If the proper indications cannot be obtained, contact the local sales office or return the instrument to Mine Safety Appliances Co., Repair and Customer Services Department, Mars, PA 16046.

1. Open cover and set RANGE switch to 0-5.
2. Set ON/OFF switch to ON. READY indicator should turn on within approximately 4 seconds. BATT indicator pointer should be at least halfway into the white zone.
3. Squeeze aspirator bulb eight to 10 times to purge instrument with fresh air. Permit bulb to inflate completely after each squeeze.
4. Lift and adjust 0-5 ZERO control to obtain zero indication on meter. (NOTE: To make zero adjustments, lift and turn the outer sleeve of the ZERO controls.)
5. Set RANGE switch to 0-100. READY indicator should momentarily turn off and then turn on within approximately 4 seconds.
6. Lift and adjust 0-100 ZERO control to obtain zero indication on meter.
7. Connect source of 100% methane to inlet fitting of instrument. Pass gas through instrument and then shut off flow. Meter should indicate at least 95.

