

DEPARTMENT OF THE ARMY TECHNICAL MANUAL

OPERATOR, ORGANIZATIONAL, FIELD AND
DEPOT MAINTENANCE MANUAL
WELDING MACHINE, ARC
GENERATOR; ELEC MOTOR DRIVEN; AC
220V, 3-PHASE, 60 CYCLE, SINGLE
OPERATOR; REMOTE CONTROL; 300 AMP,
DC ARC; WHEEL MOUNTED, 4 WHEEL,
STEEL TIRES; 60 AMP AT 20V, MIN,
375 AMP AT 40V MAX CURRENT
(LIBBY MODEL LA 300) FSN 3431-081-8059

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DEPARTMENT OF THE ARMY
WASHINGTON, D.C., 27 August 1963

**Operator, Organizational,
Field, and Depot Maintenance Manual**

**WELDING MACHINE, ARC: GENERATOR; ELEC MOTOR DRIVEN; AC, 220V, .
PHASE, 60 CYCLE; SINGLE OPERATOR; REMOTE CONTROL; 300 AMP, DC ARC;
WHEEL MTD, 4 WHEEL, STEEL TIRES; 60 AMP AT 20V MIN, 375 AMP AT
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CHAPTER 1

INTRODUCTION

Section I. GENERAL

1. Scope

a. These instructions are published for the use of personnel to whom the Model LA-300 Arc Welding Machine is issued. The instructions contained herein provide information on the operation, lubrication, maintenance, and overhaul procedures for the equipment.

b. Appendix I, contains a list of Publications applicable to this manual. Appendix II, contains the Maintenance Allocation Chart which lists the Maintenance and Repair Operations authorized for all echelons of responsibility and shall be strictly adhered to. Appendix III, contains the Basic Issue Items Lists.

c. Numbers in parentheses on the illustrations indicate quantity. Numbers preceding nomenclature callouts on illustrations indicate the preferred maintenance sequence.

d. Report all deficiencies in this manual on DA

Form 2028. Submit recommendations for changes, additions, or deletions to the Commanding Officer, U. S. Army Mobility Support Center, ATTN: SMOMS-MM, P. O. Box 119, Columbus, Ohio 43216. Direct communication is authorized.

e. Report unsatisfactory equipment performance and suggestions for equipment improvement to the organizational unit for initiating necessary corrective action.

2. Record and Report Forms

DA Form 2258	Depreservation Guide
of	Engineering Equipment

For other record and report forms applicable to The Operator, Crew, and Organizational Maintenance refer to TM 38750.

Note. Applicable forms excluding standard Form 46 which is carried by the operator, shall be kept in a canvas bag mounted on the equipment.

Section II. DESCRIPTION AND DATA

3. Description

a. *General.* The welding machine (fig. 1 and 2) Model LA-300, is a self-contained, trailer mounted, semi-enclosed unit and is, excluding the controls, completely winterized. The welding machine is equipped with the necessary controls, instruments, and accessories for operation. All accessories and controls which are mounted on top of the welding machine are readily accessible. The unit is equipped with one towing arm attached to one end and a lifting eye located on top of the machine.

b. *Motor-Generator.* The motor-generator is an electric A.C. unit with a D.C. output made by Lincoln Electric Co. The unit is rated at a nominal 300 amperes at 40 volts while operating at a 60 percent duty cycle. The A.C. motor is protected by a special protective device operated by both temperature and current. This device, consisting of two current transformers and two thermostats mounted on the laminations of the motor

frame, gives protection against burn-out of the motor from all usual causes. Protection is assured against burn-out if the windings reach a maximum safe operating temperature from any cause too frequent overloads, high room temperature plus overload, abnormally high or low voltage, or abnormally high current due to single phase or unbalanced phase conditions. The thermostats automatically reset when the motor returns to a safe temperature and no manual operations are required to restart the machine except pushing the start button.

c. *Control Panel.* The control panel (fig. 3) contains all the switches and indicators necessary for the operation of the unit. Included in this group are the job selector, current control, remote switch, current volt-amp meter, circuit breaker and polarity switch. Also included on the control panel is the push-button starter switch.

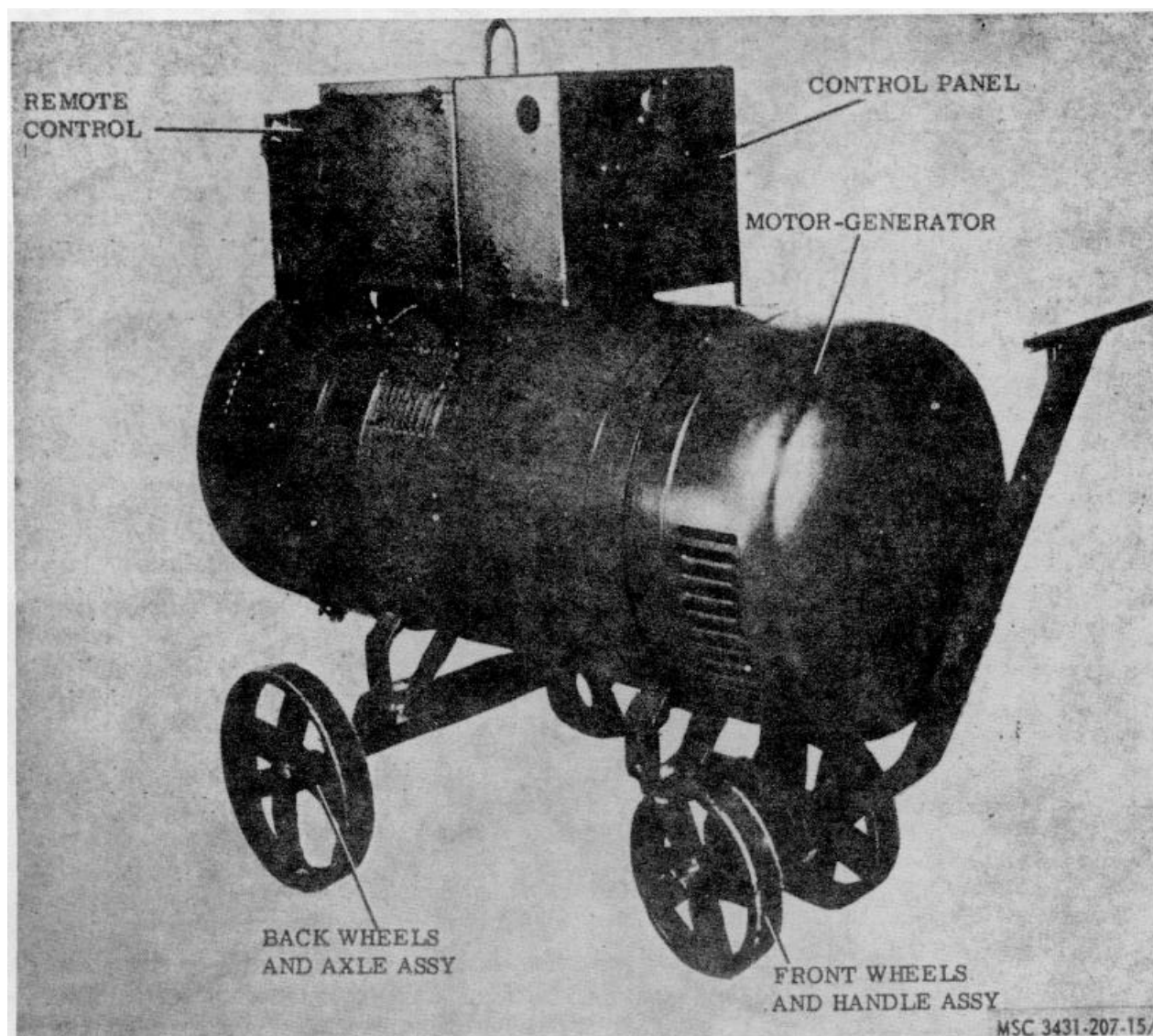


Figure 1. Welding machine, right front three-quarter view.

4. Identification and Tabulated Data

a. *Identification.* The Welding Machine has a Manufacturer's Identification Plate (fig. 4) and U.S. Army Corps of Engineers Identification Plate, located on the Motor Generator

b. *Tabulated Data.*

(1) *Welding machine*

Manufacturer..... Libby Welding Co.,
Inc.
Model..... LA-300

(2) *Motor-generator.*

Manufacturer..... The Lincoln Electric
Co.

Model..... SA-300
Type..... A.C. with D.C. output
Speed..... 1800 RPM

(3) *Welder.*

Manufacturer..... The Lincoln Electric
Co.
Rating..... 300 Amperes at 40
Volts
Duty Cycle..... 60%
Voltage..... 220 or 440 Volts
Type..... 3 phase

(4) *Wiring diagram.*

The electrical connection wiring diagram can be seen in figure 5.