

TM 5-3431-200-15

DEPARTMENT OF THE ARMY TECHNICAL MANUAL

OPERATOR, ORGANIZATIONAL
FIELD, AND DEPOT
MAINTENANCE MANUAL

WELDING SET, ARC, INERT GAS
SHIELDED: PLASTIC OR METAL
LINED GUN; FOR 3/64 IN. WIRE;
DC, 115V (WESTINGHOUSE
MODEL SA-135) FSN 3431-879-9709

This reprint includes all changes in effect at the time of publication - Changes 1 and 5.
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29 AUGUST 1962

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CHAPTER 1

INTRODUCTION

Section I. GENERAL

1. Scope

a. These instructions are published for the use of the personnel to whom the Welding Set, Westinghouse Model SA-135, is issued. Chapters 1 through 5 provide information on the operation, daily preventive maintenance service, and organizational maintenance of the equipment, accessories, components, and attachments. Chapter 6 provides information for field and depot maintenance (3d, 4th, and 5th echelons). This manual also provides descriptions of the main units and their functions in relationship to other components.

b. Appendix I contains a list of publications applicable to this manual. Appendix II contains the Maintenance Allocation Chart. Appendix III contains the list of basic issue items authorized the operator of this equipment. The Organizational, Field, and Depot Maintenance Repair Parts and Special Tool Lists are listed in TM 5-3431-200-25P.

c. Numbers in parentheses on illustrations indicate quantity.

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 Engineer Maintenance Center, ATTN: EMCDM-S, P. O. Box 119, Columbus 16, Ohio. Direct communication is authorized.

e. Report unsatisfactory equipment performance and suggestions for equipment improvement as specified in AR 750-5.

2. Record and Report Forms

For record and report forms applicable to the operator and organizational maintenance, refer to TM 5-505.

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

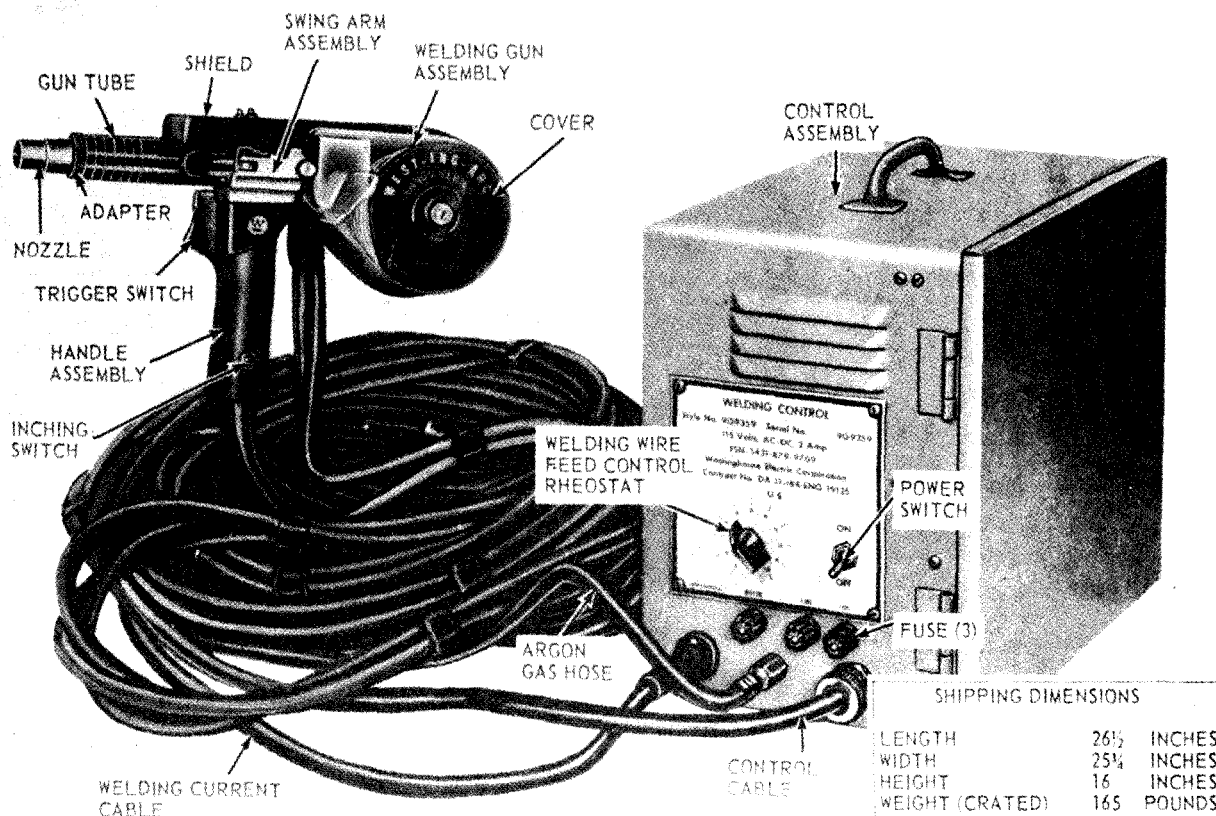
3. Description

a. *General.* The Westinghouse Welding Set, Model DA-135, (figs. 1 and 2) is designed for continuous duty, semiautomatic welding of aluminum, using a consumable aluminum wire electrode shielded by inert argon gas. The set is air cooled, rated at 200 amperes, and consists of a welding handgun, a control assembly with a built-in contactor, and an adjustable-pressure, constant flow argon gas regulator.

b. *Control Assembly.* The control assembly is a light weight, insulated metal box, containing gas pipe and electrical leads, gas solenoid

valve, contactor, rheostat, terminal strip, and the various relays, resistors, and capacitors necessary to assure proper welding operation. A toggle type power switch, line and motor fuses, and rheostat knob are located on the front of the control assembly. The control assembly also includes an argon gas hose and connection, a ground cable, a power supply cable, and a welding current cable. Connections for the welding gun cables are also located on the front of the control assembly.

c. *Welding Gun Assembly.* The welding gun assembly consists of the welding gun itself,



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Figure 1. Welding set, right front view, with shipping dimensions.

welding current cable, argon gas hose, and a control cable. The welding gun consists of the following: a handle assembly housing the welding wire drive motor, welding switch, inching switch, motor capacitor, and control cable connections; an electrically insulated aluminum shield with transparent plastic cover; a gun tube; an adapter and nozzle; and a mounting bracket and fitting assembly. The welding current cable and argon gas hose are connected to the mounting bracket.

4. Identification and Tabulated Data

a. Identification. The welding set has three identification plates.

- (1) *Corps of Engineers identification plate.* Located on the back of the control assembly. Specifies nomenclature, stock, and serial number, manu-

facturer, model and contract numbers, dimensions, and weight.

- (2) *Manufacturer's data plate.* Located on the front of the control assembly. Specifies nomenclature, style, serial, electrical ratings, Federal stock number, and contract number.
- (3) *Flowmeter manufacturer's data plate.* Located on the flowmeter body and specifies the manufacturer, model, capacity, and rate of flow range.

b. Tabulated Data.

- (1) *Corps of Engineers identification plate.*

Nomenclature - - - - - Welding set, arc, insert
gas shielded.
Stock No. - - - - - 3431-879-9709
Serial No. - - - - -
Manufacturer - - - - - Westinghouse Electric
Corp.