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DEPARTMENT OF THE ARMY TECHNICAL MANUAL

OPERATOR, ORGANIZATIONAL, DIRECT SUPPORT, AND
GENERAL SUPPORT MAINTENANCE MANUAL, INCLUDING
REPAIR PARTS AND SPECIAL TOOLS LIST
WELDING MACHINE, ARC: GENERAL AND INERT GAS
SHIELDED, TRANSFORMER-RECTIFIER TYPE, AC AND DC;
300 AMPERE RATING AT 60% DUTY CYCLE
(HARNISCHFEGER MODEL DAR-300HFSG)
FSN 3431-984-3401 (HARNISCHFEGER MODEL
2100H2007) FSN 3431-926-3746

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HEADQUARTERS
DEPARTMENT OF THE ARMY
WASHINGTON, D. C., 19 December 1969

OPERATOR, ORGANIZATIONAL, DIRECT SUPPORT, AND GENERAL SUPPORT
MAINTENANCE MANUAL, INCLUDING REPAIR PARTS
AND SPECIAL TOOLS LIST

WELDING MACHINE, ARC: GENERAL AND INERT GAS SHIELDED,
TRANSFORMER-RECTIFIER TYPE, AC AND DC; 300 AMPERE
RATING AT 60% DUTY CYCLE (HARNISCHFEGER MODEL DAR-300HFSG)
FSN 3431-984-3401 (HARNISCHFEGER MODEL 2100H2007)
FSN 3431-926-3746

Current as of 10 April 1969

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CHAPTER 1

INTRODUCTION

Section I. GENERAL

1-1. Scope

a. These instructions are published for the use of the personnel to whom the Harnischfeger Model DAR-300HFSG and Model 2100H2007 Welding Machine is issued. Chapters 1 through 4 provide information on the operation, preventive maintenance services, and organizational maintenance of the equipment, accessories, components, and attachments. Chapter 5 provides information for direct and general support maintenance. Also included are descriptions of main units and their functions in relation to other components.

b. Numbers in parentheses on illustrations indicate quantity.

1-2. Forms and Records

a. DA Forms and records used for equipment maintenance will be only those prescribed by TM 38-750.

b. The direct reporting of errors, omissions, and recommendations for improving this equipment publication by the individual user is authorized and encouraged. DA Form 2028 (Recommended Changes to Publications) will be used for reporting these improvements. This form may be completed using pencil, pen, or typewriter. DA Form 2028 will be completed by the individual using the manual and forwarded direct to Commanding General, U.S. Army Mobility Equipment Command, ATTN: AMSME-MPP, 4300 Goodfellow Boulevard, St. Louis, Mo, 63120.

Section II. DESCRIPTION AND DATA

1-3. Description

a. The Harnischfeger Model DAR-300HFSG, rectifier type AC/DC arc welding machine (fig. 1-1 and 1-3) is operated from an external power source of 208, 230, or 460 volt alternating current, and by 50 or 60 cycle single phase connections. This welder provides an electrical controlled current output for use in either shielded inert gas welding or metallic arc welding. The entire control section is located in a panel at the front of the welding machine. The welding machine can be operated by means of a remote off-on foot switch and remote output control rheostat. A range switch permits the selection of one of four desired current ranges. A soft switch permits feathering-in when the arc is started. The welding machine is equipped with a timer for spot welding and a post-purge timer for inert gas welding. The control panel includes an ac ammeter and a dc ammeter for measuring current output and an ac voltmeter and a dc voltmeter for measuring arc voltage.

b. The Model 2100H2007 (fig. 1-2) welding machine is furnished with a combination foot switch and output control, A pre-purge timer is furnished for inert gas welding.

1-4 Identification and Tabulated Data

a. *Identification.* The welding machine has two major identification plates. The information contained on these plates is listed below.

(1) Corps of Engineers plate.

Nomenclature ----- Welding Machine:
Arc 300 AMP
Make ----- Harnischfeger
Model No. ----- DAR-300HFSG
Height ----- 41¾ in. (inches)
Width ----- 28 in.
Length ----- 36 in.
Weight ----- 790 lbs.
Contract No. ----- DA-11-184-AMC-256 (T)

(2) Manufacturer's Identification and Data Plate, Model DAR-300HFSG.

Input:
Primary volts ----- 208/230/460



Figure 1-1 . Arc welding machine right-front, three-quarter view with shipping dimensions, Model DAR-300HFGS.