

AWS J1.2M/J1.2:2016
An American National Standard

Guide to Installation and Maintenance of Resistance Welding Machines



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An American National Standard**

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Guide to Installation and Maintenance of Resistance Welding Machines

1st Edition

Prepared by:
American Welding Society (AWS) J1 Committee on Resistance Welding Equipment

Under the Direction of
AWS Technical Activities Committee

Approved by
AWS Board of Directors

Abstract

This guide provides general instructions for the installation, operation, and maintenance of common types of resistance welding equipment. Generic preventative maintenance schedules and equipment troubleshooting recommendations are provided as an overview of common weld qualification techniques and corrective actions to common weld conditions.



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This standard is subject to revision at any time by the AWS J1 Committee on Resistance Welding Equipment. It must be reviewed every five years, and if not revised, it must be either reaffirmed or withdrawn. Comments (recommendations, additions, or deletions) and any pertinent data that may be of use in improving this standard are requested and should be addressed to AWS Headquarters. Such comments will receive careful consideration by the AWS J1 Committee on Resistance Welding Equipment and the author of the comments will be informed of the Committee's response to the comments. Guests are invited to attend all meetings of the AWS J1 Committee on Resistance Welding Equipment to express their comments verbally. Procedures for appeal of an adverse decision concerning all such comments are provided in the Rules of Operation of the Technical Activities Committee. A copy of these Rules can be obtained from the American Welding Society, 8669 NW 36 St, # 130, Miami, FL 33166.

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Foreword

This foreword is not a part of this standard, but is included for informational purposes only.

The J1 Committee on Resistance Welding Equipment was formed by the American Welding Society in 2005 to establish standards related to the design, construction, calibration, safe operation, and maintenance of resistance welding equipment. This publication is the major product of work done by a Task Group in support of that purpose.

This document is intended to supersede the Resistance Welder Manufacturer's Association (RWMA) *Bulletin 14—Maintenance Manual for Resistance Welding Machines* published in 1995. RWMA Bulletin 14 was created to address a need for basic machine maintenance instruction and was intended to help users get the most from their resistance welding equipment. This first edition of this AWS publication, J1.2M/J1.2:201X, *Guide to Installation and Maintenance of Resistance Welding Machines*, builds on the efforts of the past and reflects input from resistance welding machine manufacturer's installation and startup experience, updates to various national electrical and fluid power standards, and an understanding of the latest resistance welding machine accessories.

Comments and suggestions for the improvement of this standard are welcome. They should be sent to the Secretary, AWS J1 Committee, American Welding Society, 8669 NW 36th St #130, Miami, FL 33166.

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Guide to Installation and Maintenance of Resistance Welding Machines

1. General Requirements

1.1 Scope. While resistance welding machines vary considerably in size and complexity, there are basic principles applicable to the installation, operation, maintenance, and troubleshooting. This document is intended to provide basic information to the users of the resistance welding equipment to supplement the instructions and recommendations of the equipment manufacturer. Where there is conflict, the equipment manufacturers' document shall take precedence. Although this guide is not written with mandatory requirements, mandatory language, such as the use of "shall," will be found in those portions of the document where failure to follow the instructions or procedures could produce inferior, misleading, or unsafe results.

It is the responsibility of the resistance welding equipment user to ensure the equipment conforms to relevant electrical, mechanical, and operating safety standards.

Further assistance relating to interpretation or applicability of any of the suggestions outlined in this guide shall be obtained from the original machine manufacturer, rebuilder, integrator, other organization or individual qualified to make such a determination.

1.2 Units of Measurement. This standard makes use of both the International System of Units (SI) and U.S. Customary units. The latter are shown within brackets [] or in appropriate columns in tables and figures. The measurements may not be exact equivalents; therefore, each system must be used independently.

1.3 Safety. Safety issues and concerns are addressed in this standard, although health issues and concerns are beyond the scope of this standard.

Safety and health information is available from the following sources:

American Welding Society:

- (1) ANSI Z49.1, *Safety in Welding, Cutting, and Allied Processes*
- (2) AWS Safety and Health Fact Sheets
- (3) Other safety and health information on the AWS website

Material or Equipment Manufacturers:

- (1) Safety Data Sheets supplied by materials manufacturers
- (2) Operating Manuals supplied by equipment manufacturers

Applicable Regulatory Agencies

Work performed in accordance with this standard may involve the use of materials that have been deemed hazardous, and may involve operations or equipment that may cause injury or death. This standard does not purport to address all safety and health risks that may be encountered. The user of this standard should establish an appropriate safety program to address such risks as well as to meet applicable regulatory requirements. ANSI Z49.1 should be considered when developing the safety program.