Spot Weld, Inc. 2290 Wycliff Street St. Paul, MN 55114

Toll Free: 800-582-5229 Ph: 651-646-1393 Fax: 651-646-3616 www.spotweldinc.com



# SPOTWELD Incorporated Excellence in Resistance Welding

### excellence in Resistance Welding

## Preventive Maintenance Program

#### **ABOUT US**

With 35 years of service and experience, we have the best trained and most knowledgeable resistance welding technicians available anywhere, period. Contact our friendly staff with your welding problem, and we will work efficiently and quickly to solve nearly all of the most complicated resistance welding applications.

#### **BUILT TO YOUR NEEDS**

Spot Weld, Incorporated can take your application specifications and build standard or special application spot welders to suit your needs. Just tell us the material you are welding, the metal thickness, and provide us with any special prints or sketches that communicate your welding needs. We'll take it from there!

#### INTRODUCTION

Spot Weld Inc. offers an onsite Preventive Maintenance Program to ensure your resistance welding machines are routinely maintained and adjusted properly to keep machine up-time and continuous quality.



#### **QUALITY CONTROL / REPEATABILITY**

Machine repeatability is an important part Quality Control. Being able to count on the machine to continue to perform the same, day in and day out, with different operators, is the center point of a robust process.

As parts and fixturing begin to wear out or fail, the quality of the end product also begins to suffer or fail. Unfortunately, it is usually detected long after many bad parts have been produced. To avoid this pit fall, steps must be taken to predict when the machine is going to fail and schedule a repair off production time. This is not a difficult task as it sounds, if the right steps are taken and procedures and documentation are followed.



#### MACHINE TYPES WE SERVICE INCLUDE:

- Rocker Arm
- Press / Projection
- Heavy Duty Rocker Arm & Press Projection
- Press / Spot
- Combination Press Projection
- Butt Welders
- Seam Welders
- Bench Style Welders
- Handheld / Gun Style
- Micro Welders

### SERVICES AVAILABLE:

- Engineering & Design
- Custom Tooling & Fixtures
- Custom Machining
- Complete Machine Refurbishing
- Transformer Repair
- Installation and Setup
- Field Service & Maintenance
- Education / Training
- Technical Support

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#### **ADAPTABILITY**

Experience being the best teacher, we have learned how to best align machinery with your needs. We take into account your production rate, your operators needs, electricity prerequisites, and of course your budget.

Confused by all the options available to you? Let us help you select from a long list of resistance welding styles:

- Single-Phase A/C
- Three- Phase A/C
- Medium Frequency Direct Current (MFDC) Inverter
- Seam Welding
- · Rapid-Fire Welding
- · Capacitive Discharge

#### **ONE STOP SHOPPING**

Our in-house capabilities include 3D solid modeling (CAD), Finite Element (stress) Analysis, CNC prototyping, MIG & TIG (GMAW & GTAW) welding, plasma cutting, Horizontal and vertical milling, lathe work, and engineering skills make all this work for you.

#### **PROCEDURES - WHERE TO START**

The first thing you must do is establish a base line. This is done by doing a capability on the machines as they are today. In the resistance welding industry, the things that need monitoring are:

- Air Pressures
- Current
- Resistance
- · Weld Schedule Settings
- · Tip Dressing

Once we have determined that these all within an acceptable range the machine is capable. When does the machine now become incapable? Part failure and machine wear are the two biggest issues. As machines wear the quality of their end product begins to deteriorate. To make this part of the program repeatable you need to document each part replaced and the date. As the logbook gets more mature, you will begin to notice trends and consistencies. You may then schedule to replace the part of shift. The ideal situation is to install a counter on the machine that measures the number of cycles that the machine makes. Then when a part is replaced or fails, the number on the counter is recorded along with the part replaced and what it was that signaled the part was faulty. You can now replace the part prior to a bad product or machine downtime.

#### PROCESS EVALUATION

Spot Weld, Inc. has been in the business of resistance welding for over 30 years. In this time we have designed and built for a variety of resistance welding applications. In our past experiences we have learned that when a resistance weld application does not meet the customer's expectations it is seldom through the inadequacies of the resistance welder.

There is however, a direct link of failure to the following concerns:

- Wrong Resistance Welder per Application
- Insufficient Operator Training of Operation and Theories
- Variations in Part Fit-Up
- · Inconsistencies in Up-Stream Process
- · Varying Incoming Materials
- · Variations in Electrode or Wheel Dressings
- Constant Changes in Weld Schedules Running Same Parts
- Lack of Preventative and Regular Maintenance

#### PROCESS ANALYSIS (Optional Program)

In an effort to reduce customer dissatisfaction, downtime and defective product, Spot Weld, Inc has begun a Process Analysis Program. We like to implement this program prior to selling you a machine or increase the reliability of your existing equipment. Since beginning this program we have achieved tremendous results.

If you are currently being plagued with excessive downtime, defective product, and inconsistent settings due to operator interface, this program will reduce or eliminate all of the above.

The concerns we have endured in the past are mainly the processes are not robust enough to handle the stacking tolerances and variation in operator interface. Resistance welding is a very reliable and robust science when all inputs remain constant there will be no variation in the output. Most of the time we find the Operator is making changes to the robust resistance welding operation to handle inconsistencies that are being incurred upstream in the process.

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#### **PROFESSIONALS**

You get the individual attention you deserve at Spot Weld, Inc. You can rely on our courteous service. We know what we're talking about. If we don't have an answer, we'll say so, and then do our best to get it for you.

Call us with your questions about electrode tips, studs, holders or any kind of resistance spot weld equipment.

- Competitive Prices
- Large Stock
- High Quality
- Fast Delivery
- No Minimum Order

#### **GAURANTEE**

All our machines carry a likenew one-year parts and labor guarantee.

If you're not satisfied, we take it back!



#### PROCESS ANALYSIS (Optional Program) - Cont.

What this means for you is once you have created one good resistance weld and document and control all of your inputs and maintain your equipment, your end result will remain as good as your first resistance weld.

Resistance welding has long been either taken for granted or perceived as magic. In reality, it is simply a science using the natural laws of physics to join two pieces of metal.

What to be expected upon completion of this program?

- Reduction or Elimination of Defective Products
- Reduction of Equipment Downtime
- Elimination of Variation due to changing of Operators
- Standardization Weld Schedules
- Equipment Reliability and Reproducibility
- Inspection Reduction through us of CP and CPK
   Machine Analysis
- Increased Through Put
- Proactive vs. Reactive Maintenance
- Profound Knowledge of Resistance Welding for Operators, Maintenance, Quality and Management

#### **OBJECTIVE**

To eliminate all defects and downtime that is not created by special causes.

#### **OVERVIEW**

- Process and Objective must be clearly understood by all involved.
- Train all employees in theories and applications (optional training available).
- All variables non-inherent to the process must be removed
- Inherent variables need to be analyzed and accounted for.
- Machine adjustments need to be minimized and documented.
- · Incoming materials must remain constant.
- Preventive Maintenance needs to be implemented.
- Root cause analysis on all non-conformances product and process.

#### **RESISTANCE WELDING TRAINING AVAILABLE**

Spot Weld Inc. also offers resistance welding training available onsite (at your facility) or at our shop location in St. Paul, MN. Please contact us for more information or visit www.spotweldinc.com

Contact us today to set-up an appointment to evaluate your resistance welding equipment and start a routine <u>Preventive Maintenance Program!</u>

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