



RESISTANCE WELDING EQUIPMENT & SUPPLY CO. FFA # 4

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HOW TO IMPROVE SPOT WELDING

Thank you for your inquiry on How To Improve Quality and Production in Resistance Spot Welding Processes. The four variables requiring adjustments in setting up any resistance welding job, are force, time, and heat expressed as weld current. All four are important and require instruments to measure and determine precise settings for each different production run.

The first variable, force requires a pressure force gauge that directly measures force at the electrodes. They are simple to use and are available in various ranges. The most popular one in use today is the 0 – 2000 lbs range. This is our model 8020 and comes complete with carrying case. Other ranges are available with extensions to measure in difficult locations and also are calibrated in kilograms. Remember, always put the resistance welding machine into “NO Weld” before measuring force.

The other two variables, time, and weld current are adjusted by the weld controller and require verification of measurement by a portable weld checker. This instrument is invaluable in setting up a machine and in trouble shooting, because it verifies both time cycle and weld current at the electrodes and allows an on going check of the weld controller itself.

The most versatile and least expensive is the Dengensha hand held tester which has its own pick up (Toroidal) coil. This coil when placed around the welder arms or cable jumpers will verify weld current in thousands of AMPS (KA) and also weld cycle time. This checker can also measure a conduction degree, which allows the operator to adjust the percent heat on the weld controller to the proper setting, and also measure delayed cycles and pulsation.

These two instruments, the weld force gauge and the checker will allow the operator to repeat a set-up for a particular job. But only if he is sure to mark down the settings and refer to particular production run. It is important not to rely on memory from this, so be sure and emphasize the recording of these variables. Welding charts and tables in most manuals or electrodes catalogs for different thickness and type of materials are available upon request.

A demonstration of all of the above measuring instruments can be arranged with sufficient lead-time. We stock weld force gauges and portable weld checkers and can make one-week shipments on other models.

These instruments are mandatory to meet today’s quality and productivity demands and more sophisticated checkers will be needed in the future. Remember not using force gauges and weld checkers is like flying an airplane without instruments. It’s also required if you are going to satisfy the spirit of ISO 900 and other quality programs!

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