

The **Servo Spot Weld Gun Application Set Up and Operation** course is designed for personnel responsible for Kawasaki D and C series controller servo spot weld gun system set up, operation, and maintenance. The course provides information and procedures for hardware and software set up, force calibration, tip wear measurement, deflection compensation, related troubleshooting and manual / automatic operation.

The course consists of approximately 50% classroom presentation and 50% hands-on lab exercises.

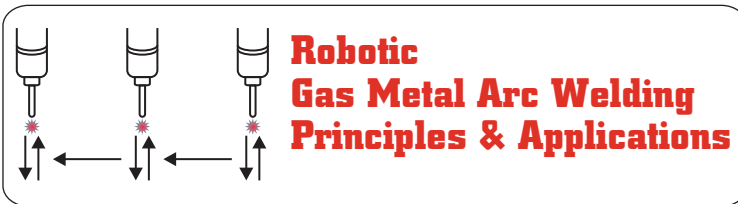
Course Goal: Upon successful completion of the Servo Spot Weld Gun Set Up and Operation course, the student should be able to perform the following:

- Install the servo spot weld gun
- Make all cable connections
- Configure hardware
- Set software parameters
- Perform a software disconnect/connect
- Zero the gun
- Calibrate and check clamping force
- Set deflection parameters
- Create a tip wear measurement program
- Perform manual and automatic operations
- Create a basic spot welding program
- Servo gun troubleshooting

Audience: Kawasaki servo spot weld gun system operators and maintenance personnel

Prerequisites: Operation and programming course

Course Length: 4 days (28 clock hours)



The **Robotic Gas Metal Arc Welding Principles and Applications** course is designed to instruct the student in robotic Gas Metal Arc Welding (GMAW) fundamentals, operating principles, weld process control and optimization strategies. The course addresses key principles, variables and applications universal to the robotic GMAW process.

Lecture, demonstration and hands-on exercises are proportioned to effectively introduce and enforce all course material. Course content does not address specific vendor equipment, allowing the student to focus and maximize their understanding of key GMAW principles and applications.

Course Goal: Upon successful completion of the Robotic Gas Metal Arc Welding Principles and Applications course, the student should be able to understand and utilize the following:

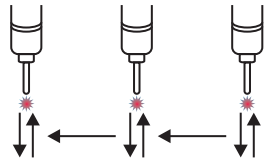
- Fundamentals, benefits, limitations of robotic GMAW
- GMAW transfer modes and selection criteria
- Shielding gas influence and selection criteria
- Welding parameter selection, optimization, and process control
- Variables affecting weld quality and robot downtime
- Principles for optimizing weld quality and productivity
- Weld process troubleshooting
- General welding system maintenance

Audience: Personnel responsible for, or affiliated with, the operation of an existing or future robotic welding system, and other candidates who wish to investigate, explore or extend their knowledge base in robotic GMAW welding operations.

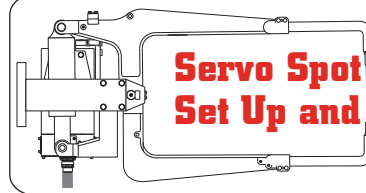
Prerequisites: None

Course Length: 5 days (35 clock hours)

Contact Us: call (248)446-4298 –or–
email kri-training@kri-us.com



Robotic Gas Metal Arc Welding Principles & Applications



Servo Spot Weld Gun Application Set Up and Operation

Course Outline

Day 1

Introduction
Course Overview
Robotic Welding System Overview
Robotic and GMAW Welding Safety
Robotic Welding Benefits and General Limitations
GMAW Fundamentals

Day 2

GMAW System Components and Controls
Introduction to GMAW Transfer Modes
Short Circuit Transfer Welding Fundamentals
Short Circuit Transfer Applications
Process Control Variables, Considerations and Development
Optimization Principles for Robotic Short Circuit Transfer Processes

Day 3

Spray Transfer Welding Fundamentals
Spray Transfer Applications on Thin Gauge Material
Spray Transfer Applications on Thick Gauge Material
Process Control Variables, Considerations, and Development
Optimization Principles for Robotic Spray Transfer Processes

Day 4

Pulse Spray Transfer Welding Fundamentals
Pulse Spray Transfer Applications on Thin Gauge Material
Pulse Spray Transfer Applications on Thick Gauge Material
Process Control Variables, Considerations, and Development
Optimization Principles for Robotic Pulse Spray Transfer Processes

Day 5

Principles for Optimizing Robotic Weld Quality and Productivity
Managing Welding Variables Affecting Robot Downtime
Weld Process Troubleshooting
General Welding System Maintenance

Course Outline

Day 1

Introduction
Course Overview
Safety
Servo Spot Gun System Overview
Servo Gun Installation

Day 2

Software Parameters
Auxiliary Data Settings
Software Connect/Disconnect Procedures
Servo Gun Tool Dimensioning
Resolution/Exponent Adjustment Procedures
Servo Gun Zeroing Procedures

Day 3

Force/Ampere Calibration Procedures
Deflection Adjustment
Teach Mode Gun Operation Efficiencies
Create Tip Wear Monitoring Programs (Measure 1, 2, 3)
Operation and Monitoring of Tip Wear Programs

Day 4

Angularity, Gun Positioning, and Programming Techniques for
Welding and Tip Dress Programs
Create and Edit a Spot Welding Program
Related Troubleshooting and Maintenance

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