



# A QUICK GUIDE TO PREVENTING — AND FIXING — COMMON ROBOTIC WELDING SYSTEM FAILURES

Failures in robotic welding systems can lead to lost productivity and poor weld quality. Keep this reference handy to prevent problems.

**1**

## BURNBACK AND CONTACT TIP WEAR

- Trim the gun liner according to the manufacturer's recommendations.
- Use high-quality welding wire that feeds straight.
- Set the drive roll tension properly to prevent wire cast issues.
- Always use the proper welding parameters for the application.

**2**

## BROKEN REAMER CUTTER BLADES

- Be certain the nozzle is concentric to the cutter blade during reaming and the insertion depth on the nozzle goes past the gas holes on the diffuser.
- Apply anti-spatter liquid and/or increase reaming frequency to prevent excessive spatter buildup in the nozzle (which can break cutter blades).
- Securely connect ground cables. Poor grounding can lead to excessive spatter in the nozzle.

### 3

## LOSS OF TOOL CENTER POINT (TCP)

- Avoid cross-threading the contact tip, as this will cause it to be at an angle.
  - Tighten consumables to the manufacturer's torque specifications. The general rule is one quarter turn past finger tight.
  - Inspect the clutch for movement and replace if it's worn.
  - Use an inspection fixture to adjust the tolerance of the neck to the TCP after an impact.
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### 4

## BROKEN DISCS ON ROBOTIC GUN

- Set the robot path correctly to avoid collisions.
  - Follow the manufacturer's torque specifications to ensure the disc screws are tightened in the correct order and to the proper tension.
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### 5

## INCORRECT TOOL PATH

- Program the robot so the arm, robotic MIG gun and cable are clear of tooling and the weld cell wall – this prevents worn cables, disc breakage and bent necks.

