

Welding Issue and Cause Matrix

Relationships between issues and causes: S = Strong W = Weak	Issues														
	Missing Weld	Undersized Weld	Stuck Weld	Excessive Indentation	Expulsion/ Burn Thru	Cracks and Holes	Mislocated or Edge Welds	Sheet Metal Distortion	Extra Welds	Inconsistent Weld Quality	Brittle Weld	Non-Round Weld	Poor Class A Appearance	Sticking or Stuck Tips	Interfacial Separation
Weld Current Low	S	S	S									S			
Weld Current High				S	S	S							S	S	
Weld Force Low					W	S							W	S	
Weld Force High		S	S	S									S		
Weld Time Short	S	S	W									S			
Weld Time Long				S	W								W	W	
Squeeze Time Short					W	S							W		
Hold Time Short					W	S					W		S		S
Hold Time Long											S			S	W
Wrong Tips		S	S	W	W	W	S	W				S	W	S	
Inc. Tip Alignment		S			W	W	S	W				S	S		
Electrode Wear	W	S	S		W							S	W		
Electrode Skidding		S		W	W			W		S		S	W		
Inc. Tip Dressing	W	W	W	W	W	S				W	W	S	S	W	
Wrong Shank	W	W	W	W	W	W	W	W				W	W		
Insufficient Cooling		S	W			S				W				W	
Poor Mech. Connect		S	W		W	W				S			W		
Inc. Air/Hydraulics		S	W	W	W	S				W				W	
Incorrect Cylinder		S	W	W	W	W				W		W	S	W	
Incorrect Hoses					W	W		W					W	W	
Poor Elec. Connect	S	S	W							S		S			
Wrong Transformer	W	W	W	W	W	W				W		W	W	W	
Wrong Cables/Shunts	W	W	W				W	W		S		W	W	W	
Poor Weld Access		S	W				S	S					S		
Shunting Guns/Parts		S	W							S		S	S		
Incorrect Material		S	W		W	W				W		W	W	S	
Dirty Material		S	W		W	W				S		S	S		
Excessive Sealer	S	S	W	S	S	W				S		S		W	
Poor Part Fit-Up	W	S	W	S	S	W	S	S		S		S	S		
Damaged Part		S			W	W	W	S		W		W	S		
Weld Flange Small					S	W	S								
Welds Mislocated	S			W	W		S	S	S	S			S		
Tips Not Parallel		S		S	W			W				S	S	S	
Inc. Gun Equalization				W				S					S		
Incorrect Tests	W	S		W			W	W	W	W	S	S	W		S
Incorrect Workpiece	S	W	W	W	W	W	S	S	S	W	W	W	W	W	W
Poor Tip Follow-Up		W			S					S		W	S	W	