

☐ Probable Cause ☐ Remote Possibility

ELECTRODES

CAUSE AREA	Expulsion at Interface	Surface Expulsion / Sticking	Electrode Mushrooming	Low Weld Strength	Excessive Indentation	Internal Crack in Nugget	Cracks in Parent Material	Blackened Weld Nugget
Electrode face too small								
Electrode face too large								
Misaligned electrodes								
Insufficient cooling								
Excessive weld time								

PARTS WELDED

CAUSE AREA	Expulsion at Interface	Surface Expulsion / Sticking	Electrode Mushrooming	Low Weld Strength	Excessive Indentation	Internal Crack in Nugget	Cracks in Parent Material	Blackened Weld Nugget
Dirty / scaled material								
Poor part fit-up								
Insufficient edge distance								
Welds too close together								
Material metallurgy								
Poor head follow-up								

WELDING CONDITIONS

CAUSE AREA	Expulsion at Interface	Surface Expulsion / Sticking	Electrode Mushrooming	Low Weld Strength	Excessive Indentation	Internal Crack in Nugget	Cracks in Parent Material	Blackened Weld Nugget
Squeeze Time - Too short								
Weld Time - Too short								
Weld Time - Too long								
Hold Time - Too short								
Weld Force - Too low								
Weld Force - Too high								
Weld Current - Too low								
Weld Current - Too high								