

Troubleshooting Guide for Fine Pitch Applications and Bonding Problems Related to Capillary Wire Bonding		
Symptom	Possible Cause	Possible Remedy
Broken wire above ball	Insufficient wire for loop height	Increase loop parameters in order to increase loop length
	Ball security height too low	Increase ball security height, kink height, or reverse motion
Sagging Loops	Too much wire in loops causing loops to sag downward	Decrease loop factor
		Increase reverse length
		Check/clean wire tensioner
	Wedge bond placement too close to the tip of the lead	"Reteach" wedge position to increase the surface level of the wedge bond
	Bond height incorrectly set	"Reteach" bond height
Non-sticking ball	Poor or contaminated pad materials may have caused bond to fail after non-stick detector sampling	Check if the non-stick detector timing and current signals are correct
	Bond force too low	Increase bond force
	Ultrasonic power too low	Increase ultrasonic power
	Free air ball size too small	Increase EFO time or current
No ball size	EFO solenoid malfunction	Replace EFO solenoid
	Free air ball size too small	Increase EFO time or current
Non-sticking wedge	Finger not clamped	Adjust work holder clamp and improve set-up
	Leadframe contaminated or poor plating on leadframe	Change bond parameters Inspect material and check quality of incoming leadframe
Wire open	Wire feed problem	Adjust wire feed sensor
	Dirty wire clamp	Clean wire clamp jaws
	Excessive force on wedge	Reduce force on wedge
	Excessive power on wedge	Reduce ultrasonic power on wedge
Wire short	Tail too long	Carry out wire clamp force check and adjustment
	Electrode to wire distance is too small	Carry out EFO height check and adjustment
Malformed ball	Excessive ultrasonic power	Reduce ultrasonic power
	Inconsistent FAB	Check floating lead
	Excessive power/force with poor set-up	Reduce bond lead
Golf club bond	Gold wire contacts the torch electrode	Reduce the torch level or the tail length
	Torch electrode is dirty	Clean electrode with alcohol
	Torch electrode wiring is broken	Repair or replace with new torch electrode