



AOI
ADVANCED
OPTISURGICAL INC.



Understanding Your Phaco Handpiece Evaluation

| Failure ID: | Description: | Possible Causes: |
|------------------------------------|---|---|
| (1) Failed O/L | Failed "over-limit" test. A short (resistance below 2000Mohm) was measured across the handpiece positive and negative leads | Internal leak, front or rear o-ring failure, piezo-electric crystal failure, wiring short, arced connector, arced electrode |
| (2) Failed Ground | High resistance (poor connection) was detected between connector and handpiece ground(s) | Cut or broken wire, broken electrode, wire corrosion, connector corrosion |
| (3) Failed Frequency | Resonant frequency of the handpiece was not within upper or lower limits. Console driver not able to tune or operate the handpiece | Crystal failure, external damage, tip damage, foreign deposits |
| (4) Low Bandwidth | Crystal response below acceptable limits. Low bandwidth causes tuning failures and/or poor performance with applied power | Blunt force, thermal stress, natural degradation of crystal properties |
| (5) Out of Phase | Poor resonant properties of the handpiece core resulting in tuning failures and/or poor performance | Crystal failure, external damage, tip damage, deposits |
| (6) Invalid Connector Code | EEPROM data contained in the connector ID chip was unreadable or did not exhibit proper data sequence. Handpiece does not register on console | ID chip unresponsive, invalid data sequence |
| (7) Damaged Cable/Cable Insulation | Damage to cable, cable insulation, or strain reliefs was found | Mishandling, degradation of cable material due to normal sterilization and processing |
| (8) Crystal Stress | Low bandwidth or poor performance due to weakening of the crystal material. | Blunt force, thermal stress, natural degradation of crystal properties |
| (9) Internal Leak | Failed O/L test (see above). Found gross leak or moisture which caused a short at the crystal stack | Front or rear o-ring failure, internal leak at ultrasonic horn central bolt junction |
| (10) External Damage | See "Comments" section of the service evaluation for specific details regarding the external damage to your handpiece | Dropped, improper tools used during installation or removal of the tip; cross-threaded tip |
| (11) Performance | Handpiece met all preliminary testing criteria but failed to perform optimally when full power was applied (i.e. weak phaco, generates heat, fails to tune, stops working during use) | Crystal stress, external or internal damage to a component |