

March 20, 2010

Re Gilbert and whiskers - nothing has yet been found to link tin whiskers to the incidents.

The facts:

- 1) there is an electronics board in the pedal assy with traces and leads close to each other and another in the throttle control module
- 2) Gilbert has demonstrated that a low resistance between a pair of wires from the APP board to the TCM (throttle control module) causes the sudden acceleration
- 3) we know whiskers will eventually grow in leadfree solder boards with pure tin plated components
- 4) conformal coatings don't stop whiskers
- 5) whisker bridges can have some resistance
- 6) the input to the TCM from the APP is analog (likely a 1-10M impedance because the voltage representing the pedal position is converted to a digital value
- 7) 8+ million Toyota vehicles on the road since RoHS provides plenty of opportunity for whiskers to sprout

QED: the situation is primed for whiskers to cause trouble in a small percentage of the cases

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