Intermittent Engine Cutout Problem Solving

By Don Eilenberger
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Things I would look at (in IMHO increasing order of probability):

1. Coils - look at them in the dark with the bike idling, just to make sure there isn't a crack in the towers that is causing arc-over. Doubtful due to the 2nd clue, but easy and cheap to do.
2. Ignition wires - worth checking the resistance on them. This would be the first place I'd look if we ONLY had clue #1, but #2 can't be accounted for with this. The wires should be 5k Ohms end to end - +/- 500 ohms (they are typically much closer).
3. Poor seating of the FI computer connector. More than one intermittent K bike problem like this has been fixed by reseating the connector on the FI computer. Easy to do, and no cost at all.
4. Ignition switch or kill switch partial failure. Some people have had problems with deposits on the ignition switch causing intermittent running problems, cleaning it is the cure. This is in the K bike FAQ.
5. Starter deposits - given that the bike probably gets quite a bit of use - there have been instances of intermittent problems caused by carbon deposits in the starter motor (BMW does some odd things with electrical paths - that include the starter when it isn't running :-). There is a FAQ on the website on removing and cleaning it. Cost is nil, not really hard to get out once you go at it.
6. Hall Effect sensor - this is where I think the problem is. It sounds like the intermittent failure of a Hall-effect sensor. Have seen and heard of this before here on the list (Jeff Dunkle - would you care to chime in??).

The test for this (Jeff's test) is done with a heat gun (or a really good hair-dryer). The hall-effect sensor assembly lives behind the T shaped cover on the right (facing forwards - starboard :-) side of the engine. The cover is easily removed with allen wrenches.

The test - let the engine idle - and direct the heat gun at the Hall-effect sensor. If it cuts out when it gets good and warm - this is a big clue. Then turn the heat gun to just blowing air and cool it, try restarting. If it restarts, this is the 2nd clue. You may want to do this test a number of times to make certain it's the fault.

This - to me - is the most likely cause - given the symptoms you describe. The hesitation at higher RPMS indicates a weak spark to me, caused by a partially failed HES. The complete cutout indicates complete ignition failure - again, pointing (when combined with the hesitation) to the HES.

This - unfortunately is the most expensive thing to fix, so it's worth going through the other ones first in the hopes that it will be a cheap fix.

Your mechanic is correct - intermittents are a bitch to track down since they never exhibit themselves when you're someplace you can really test things.

HTH,
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