July 14, 2004

Fluctuating Fuel Gauge Readings on V-Rod

Subject: Fluctuating (inconsistent) fuel gauge readings on V-Rod motorcycles.

Cause: Loose rivets or broken solder connections on the fuel gauge sending unit rod, or contamination from fuel additives on the fuel sending unit rod.

Diagnosis: It is very rare that this symptom is caused by any issues with the instrument module. Primary diagnostic efforts should be focused on the sending unit. DO NOT replace a instrument module until you have contacted Technical Service first.

Repair:

1. Remove the fuel flange assembly. Refer to service bulletin M1141A or the appropriate service manual for proper flange removal instructions and heed all warnings and cautions noted there.
2. Be very careful to not allow the float to slam into the rivets that hold the spade terminals where the sending unit wires attach to the rod during inspection and handling of the fuel module assembly. (note solder connection)
3. If servicing requires you to remove these wires, be very careful to not loosen the rivet or break the solder connection holding the spade terminal to the float rod.
4. Clean the fuel sending unit rod with scotch-bright, wipe dry with a lint free cloth.
5. Connect a DVOM to pins 2 and 3 of connector 141A at the top of the fuel module flange.
6. Select Ohms on the DVOM, move the float to the bottom of the sending unit rod (empty position) and note the DVOM reading. (230-240 Ohms is normal)
7. Move the float to the top of the rod (full position) and note the DVOM reading. (50-60 Ohms is normal)
8. Disconnect the Red wire from the fuel pump motor at the bottom of the assembly before making the next test. This prevents the pump from running during the test.
9. Verify sending unit operation by connecting the wire harness on the motorcycle to connector 141A, turn on the ignition switch and observe the gauge needle movement.
10. The instrument module is programmed to prevent erratic needle movements when the fuel sloshes in the tank. This means that each time the float is moved during testing, the ignition switch must be cycled before the new position of the float will be reflected on the gauge. If the switch is NOT cycled, the gauge will appear to be malfunctioning and not following the sending unit.
11. If the gauge does not read correctly, replace the sending unit only, not the entire fuel flange. The fuel module assembly P/N 75123-01B is a protected part and requires authorization by technical service before it can be ordered. The sending unit P/N 75122-01 can be ordered without prior approval from Technical Service.
12. Re-connect the red fuel pump power wire, re-install the fuel flange assembly, and verify proper operation prior to returning the vehicle to service.