Glow Plug service per BlackLibertyCRD with notes from JS helping geordi do his - NOTE - per TSB 08-005-11 DEC 2010 ceramic glow plugs are no longer no longer available, replace with metalic and reprogram ECU - kit part # 68090434AA-**followed by Squeeto's writeup**

Glow Plug Service

The service manual instruction are as follows: REMOVAL CAUTION: If necessary, remove hindering components to ease access. Do not bend, knock, or drop the glow plugs while handling (any mechanical impact may damage the glow plug). First loosen the glow plug with a wrench then screw it out by hand or with assistance of a flexible tool (e.g. with a rubber hose). Compare the removed glow plug with a new one. If there are missing parts of the ceramic heating element, remove all fragments from the combustion chamber before you start the engine. CYLINDER HEAD WILL NEED TO BE REMOVED

1. Disconnect negative battery cable.
2. To access the glow plug for cylinder number one, no additional components need to be removed.
3. To remove the glow plug for cylinder number two, remove the rear alternator bracket.
4. To remove the glow plug for cylinder number three, remove intercooler to FCV hose remove the EGR pipe from the intake elbow and remove the intake elbow.
5. To remove the glow plug for cylinder number four, relocate the fuel filter assembly.
6. Disconnect glow plug electrical connectors.
7. Remove glow plugs from cylinder head.

It sounds easy but if you just go at them just one at a time, it will be more difficult than needed. What I did was get all obstruction out of the way before removing any glow plugs.

First disconnect battery cable. Afterward I laid a fender cover over the battery and left fender. I then put my magnetic tray on the radiator cross-member to keep bolts from getting lost. Remove oil cap, remove engine cover and put oil cap back on. Next is to remove obstruction so you can get to the glow plugs and wiring.

The alternator bracket is just behind the alternator and is triangle shape and connect to the intake Remove the rear alternator bracket using a 15 mm socket and extension near the rear of the alternator and 13 mm wrench on the two bolts on the intake. There is the glow plug harness there, Unplug it and move both ends out of the way.

Next step is to move the fuel filter assembly out of the way. I remove the two nuts (13 mm wrench) holding it, disconnected the lines and wiring. I put the filter assembly upright on the bench and move the hoses and wiring out of the way.

Now to tackle the intake elbow takes a little more work but is easier to get to with the first two items out of the way. You will need a gasket. Remove the vacuum hose from the pipe at the intake elbow for the brake booster and the bolt (8 mm) that hold the vacuum pipe. Loosen the EGR pipe clamp (underneath elbow 7 mm socket 1/4 drive deep) from the elbow and 2 flange bolts (10 mm socket 3/8 drive) EGR pipe to cooler. Best to get those two bolts from under Jeep just above the starter. Then the pipe should swing loose and still be connected to the intake elbow. Remove the hose from the FCV and disconnect the wire and move both out of the way as much as you can.

Remove the 4 intake elbow bolts as following: Right rear, use a 8 mm box; Right front use a 8 mm ¼ drive socket and extension working with hand from under the elbow and using the socket to guide the bolt down and under the elbow; Left front with dipstick tube and left rear bolt comes out easy with a 8 mm ¼ drive socket. Do these bolts last when taking off the elbow and first when putting is back together. That way there is less fuss with the two inner or right side bolts. The elbow should be loose except for an EGR cooler bracket that holds an EGR cooler line. The elbow will now be able to move down and out enough to get number 3 glow plug.

Now it time to use long pliers or fingers to disconnect the wiring from the glow plugs by pulling straight out. Remove the glow plugs with a 10 mm socket 3/8 drive deep with an extension. They all came out easy and the

threads were fairly clean as they should be. If fact they felt a little loose but was not leaking as far as I can see. Be sure not to over torque the new ones.

The service manual instruction are as follows: INSTALLATION CAUTION: Before a new glow plug is installed, make sure that the thread of glow plug and glow plug bore in the cylinder head is dry, clean, and oil/grease-free. Check the resistance of the glow plug with an appropriate multi-meter, resistance should be less than 0.8V **for the original ceramic glow plugs** (Note - may be value for the no longer available ceramic glow plugs; metalic glow plug value may be different). Tighten the glow plug by hand or means of a flexible tool (e.g. rubber hose) as far as possible and finish tightening with a correctly set torque wrench. Strictly observe the required tightening torque. Do not bend, knock, or drop the glow plug while installing. CAUTION: If a fragment of the ceramic heater (NA for metalic plugs) of the glow plug has fallen into the combustion chamber, the cylinder head MUST be removed.

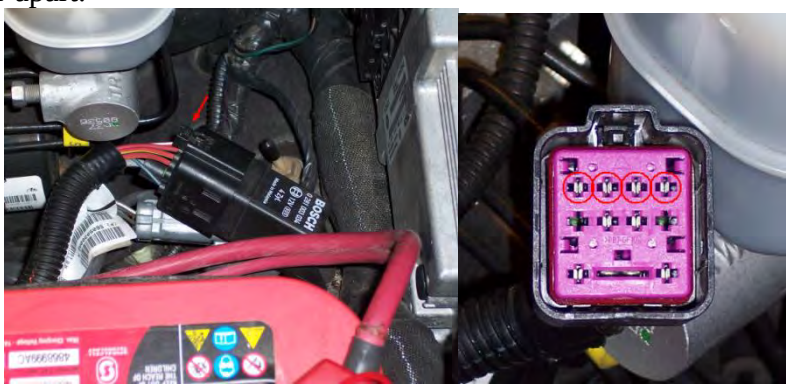
1. Install glow plugs all the way into cylinder head, hand tight, until the thread stops. CAUTION: Strictly observe the required tightening torque. If tightening torque was too high, remove and replace the glow plug.
2. Tighten glow plugs to 12.5 Nm (110 in. lbs.).
3. Connect glow plug electrical connectors.
4. Install any components that were removed for access.

I used a long vacuum hose to install each glow plug by hand so there wasn't any possibility of dropping a glow plug at over $30 apiece. Reverse the process to install all items removed to get to the glow plugs. Be sure to bleed the filter assembly before trying to start engine.

Glow Plug Inspection, Remove and Replace-per Squeeto

Inspection: Good OEM 7v ceramic glow plugs are .5 to 1.5 ohms measured cold. The truck will throw trouble codes P1260 to P1267 when the plugs go bad. Typically the bad plug will read in the hundreds of ohms. If you suspect a bad glow plug, measure its resistance:

This is the glow plug controller situated between the battery and the master cylinder. Push down on the tab and pull the connector apart.



Connect one lead of the ohm meter to the negative battery terminal and measure at the indicated terminals. Unless the wiring harness is on backwards (can happen), the glow plugs should be 4-3-2-1 (left to right).

Remove and Replace:
Warm up the truck so you have a hot engine. Remove engine cover. Remove the battery (10mm); you will need the room (you must, at least, remove the positive terminal to the battery).