

DIY GUIDE: SPARK PLUG CHANGE F/ LEXUS IS250

Disclaimer: Do it at your own risk. I am not responsible for any damage. If you are not sure, go to Lexus dealer or find a good mechanic.

This is not a detailed guide. I might skip one or two steps in the guide. Do whatever you feel necessary / safe. Also, I would like to give credits to mIStASC for his guidelines.

Tools and parts required:

1. (6) Denso Iridium Spark Plugs (FK20HBR11)
2. Spark Plug socket
3. Extension
4. 5mm Allen key
5. 12mm socket
6. 10mm socket
7. Anti-seize grease
8. Torque wrench
9. Any tools you feel necessary along the way.

First of all, always wear safety gloves. I am not talking about those latex or nitrile gloves. I am talking about a pair of good mechanic or polyurethane gloves.



Also a pair of safety goggles.



YOUR SAFETY COMES FIRST!

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Now, we can start the work.

1. Disconnect the battery's negative terminal.
2. Remove the engine plastic covers.
3. If you are not confident enough with your memorization skill, take a bunch of pictures of your engine and connections so you do not forget where they go. Observe it very carefully.

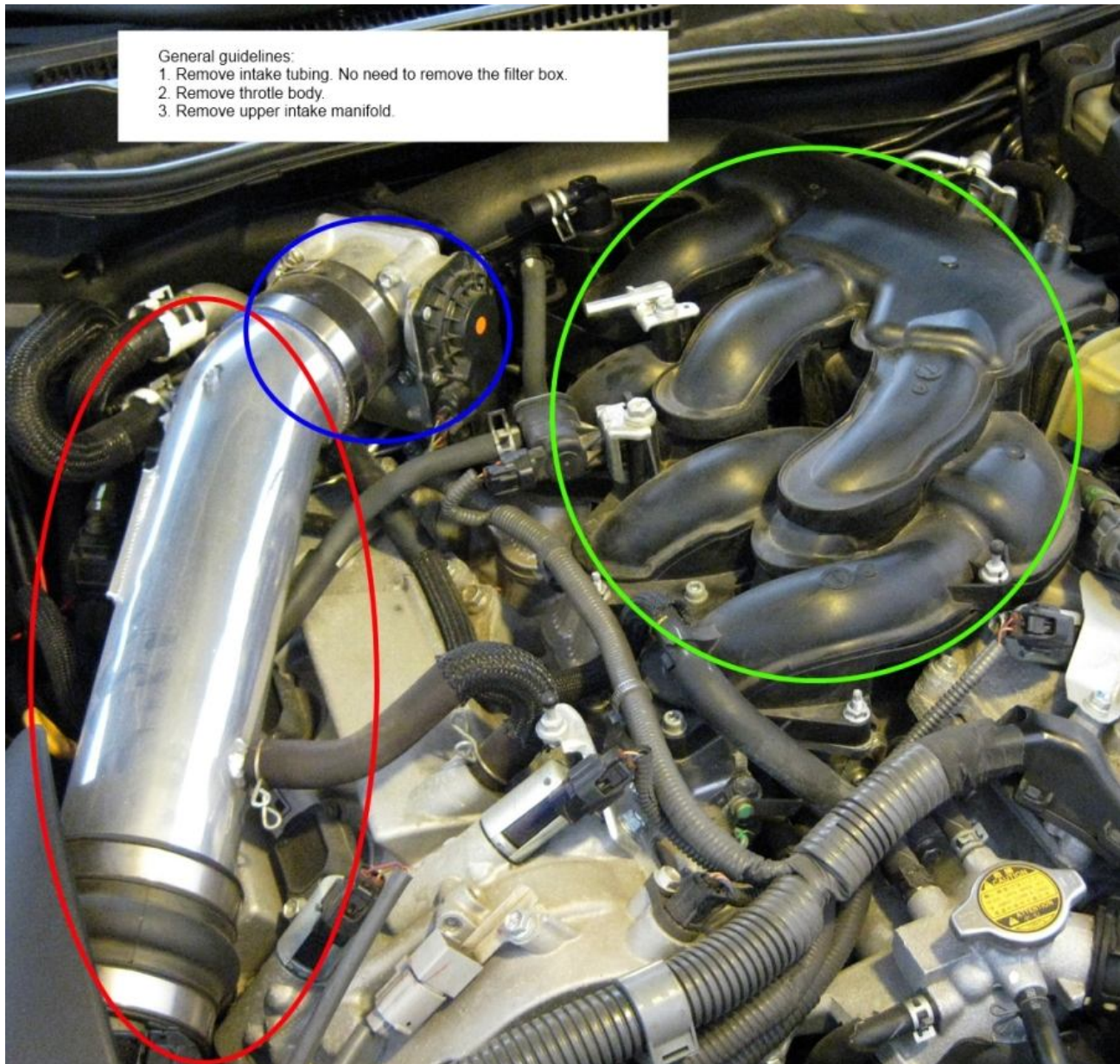


Figure 1 - General tasks that must be done in order to change the spark plugs.

4. Remove the intake tubing by removing the vacuum hose on the side. The stock intake tubing may look different but it has the same connection.

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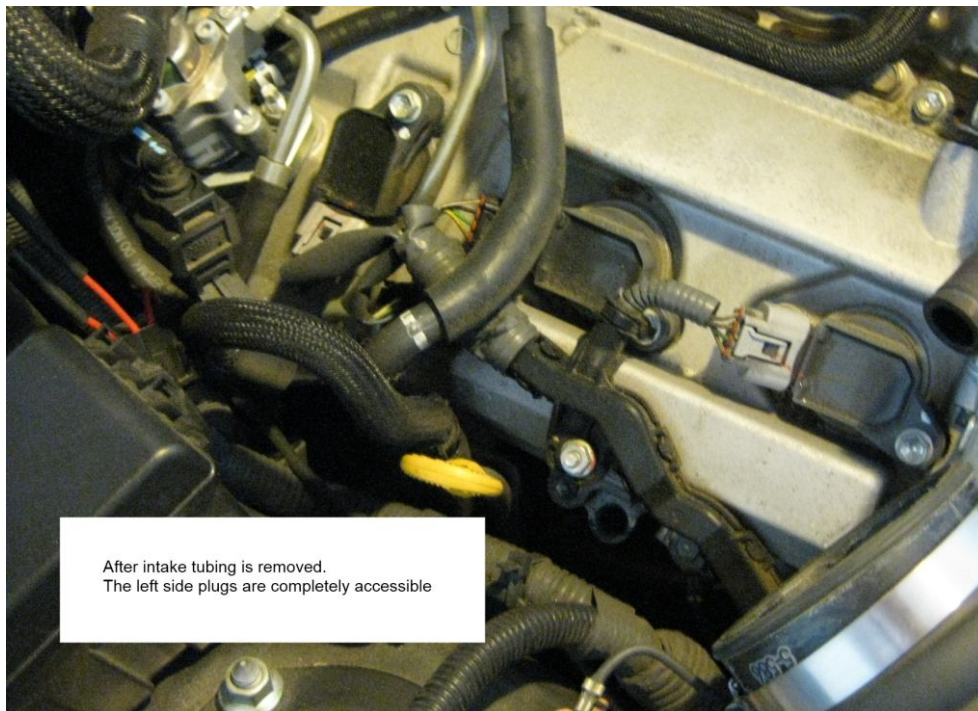


Figure 2 - The spark plugs on the left side are accessible after intake tubing is removed.

5. Now, start with the removal of the first set of spark plugs.

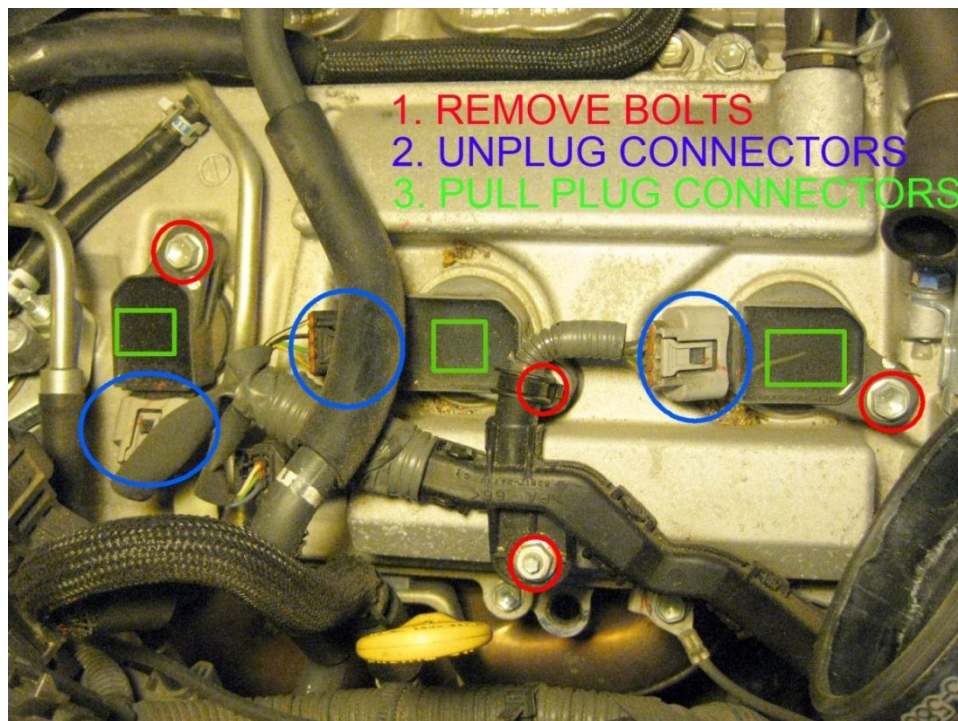


Figure 3 - General steps in removing the plugs.

I will suggest to do it **one plug at a time**. Also, remember the order of wiring connectors. This is **very important**.

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6. You will see a spark plug in a well. Use your wrench + extension + spark plug socket and start removing the plug. Pull the old plug using your spark plug socket. A spark plug socket usually has a rubber insert inside to bite the plug. At least on my craftsman socket has one.

7. Observe the old plug. Make sure there is no catastrophic damage, such as broken plug, etc. If you have this issue, stop the work. Changing the plugs is the least of your concern.



Figure 4 - An example of bad plug. Further diagnosis is needed if you encounter this. Taken from http://www.aa1car.com/library/fouled_sparkplug.jpg

If it looks good, then grab a new plug and apply thin layer of Anti-seize grease on the plug thread. DO NOT apply the grease excessively. I know this is very subjective. But you are an adult so be logical.

Put the new plug into the socket first with the extension for easier handling. Put the plug into the well and start engaging the thread. Do this **delicately** as spark plug thread is very fine. If you mess up the thread then you are done. Use a regular wrench until the plug bottoms out. Switch to torque wrench and apply **18 ft-lbf** for final step.

Plug back the connector back and replace the next spark plug.

8. Do the same step as the above for the rest of the spark plugs.

9. Now, here comes the hardest part of the whole process, removing the upper intake assembly and throttle body. Let's start off with removing the throttle body.

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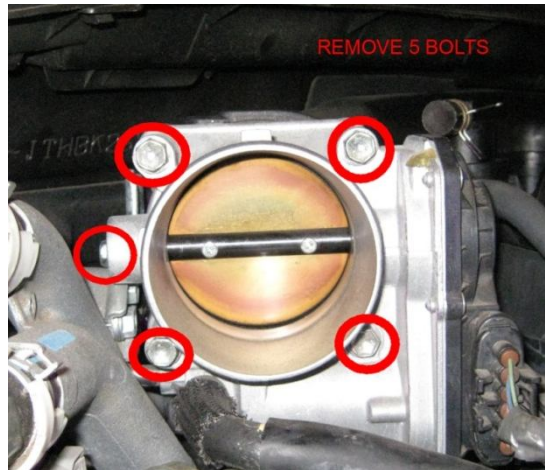


Figure 5 - The front view of the throttle body. There are 5 bolts total. You do not need to remove the connector and hoses. Just put the throttle body aside.

After that, follow the step below.



Figure 6 - Remove the vacuum hose and a wiring harness.

10. Start undoing the bolts below.

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Figure 7 - The location of the Allen bolts and nuts. Use 10mm socket and 5mm Allen key.

11. Go towards the back of the upper intake manifold. You will see a silver fuel line. Unbolt that line. Please put away all possible heat sources from the area just for safety reason.

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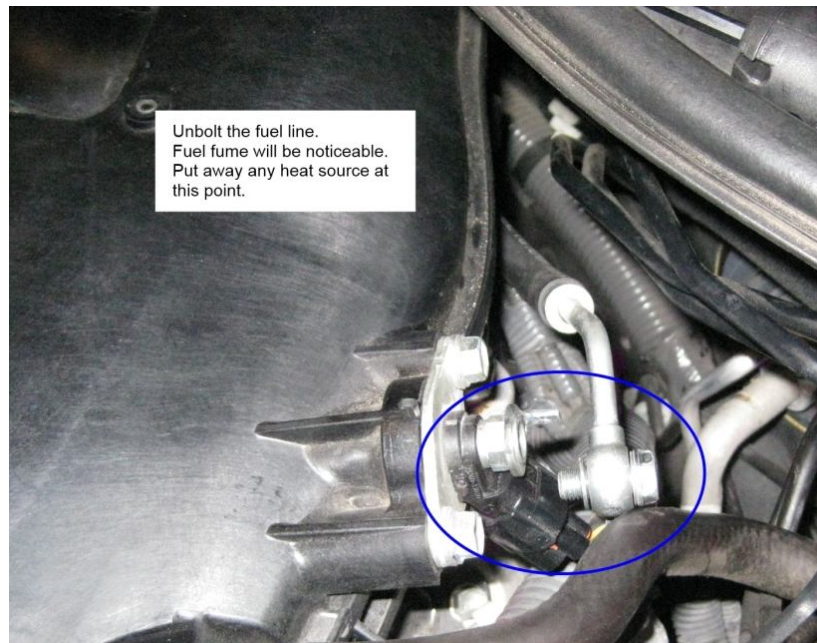


Figure 8 - Fuel line location.

12. If you look carefully, there is a nut hiding behind the intake manifold.

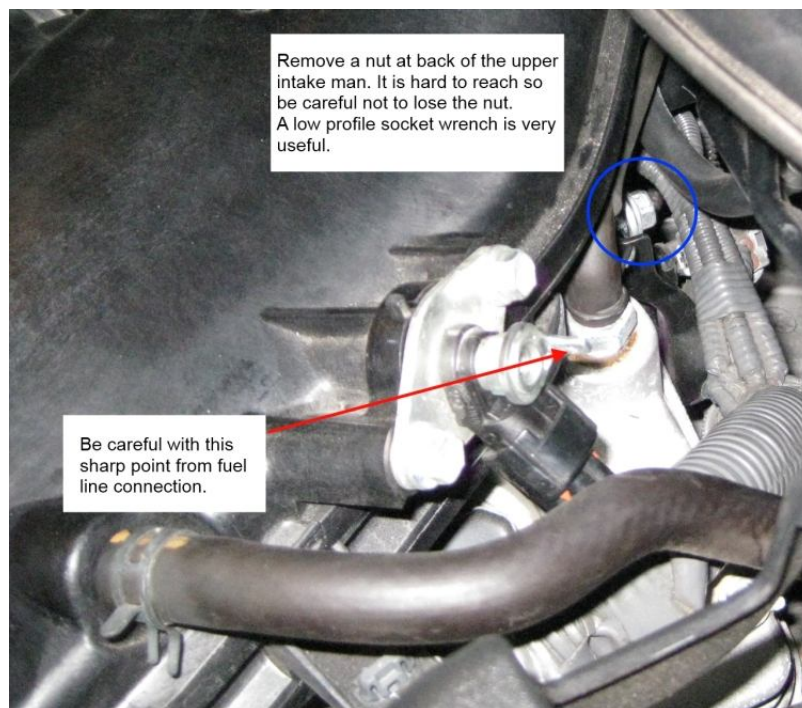


Figure 9 - A nut hiding behind the intake manifold assembly.

13. If you think that is all. Think again.

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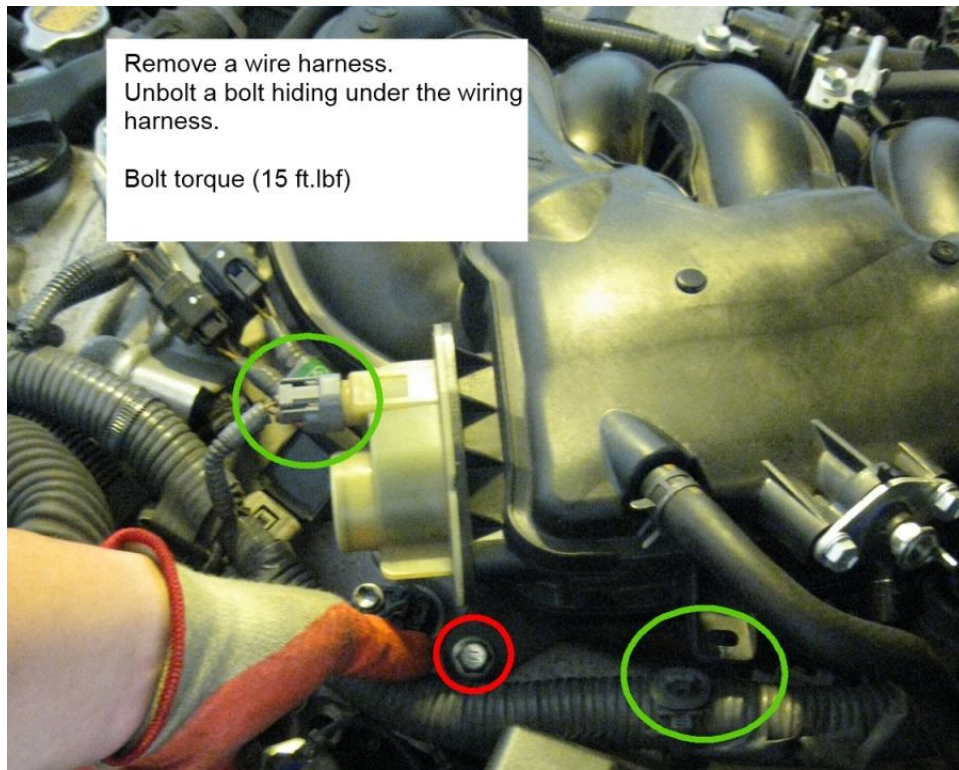


Figure 10 - Remove the hideous bolt.

14. You are now clear to remove the upper intake manifold. However, there is a hose connected to the back of the upper intake manifold so unplug it and you are good to go.

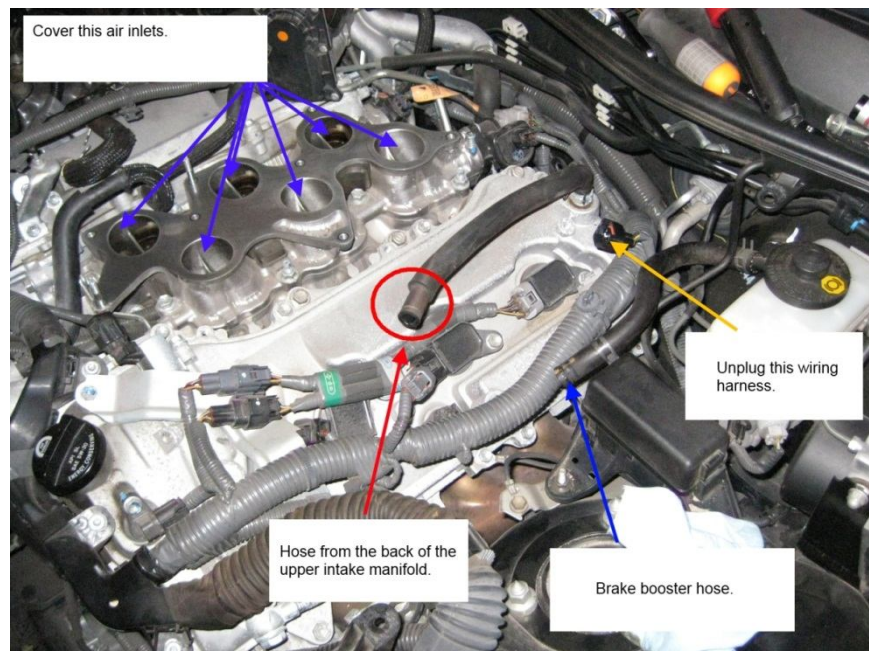


Figure 11 - After the upper intake manifold is removed.

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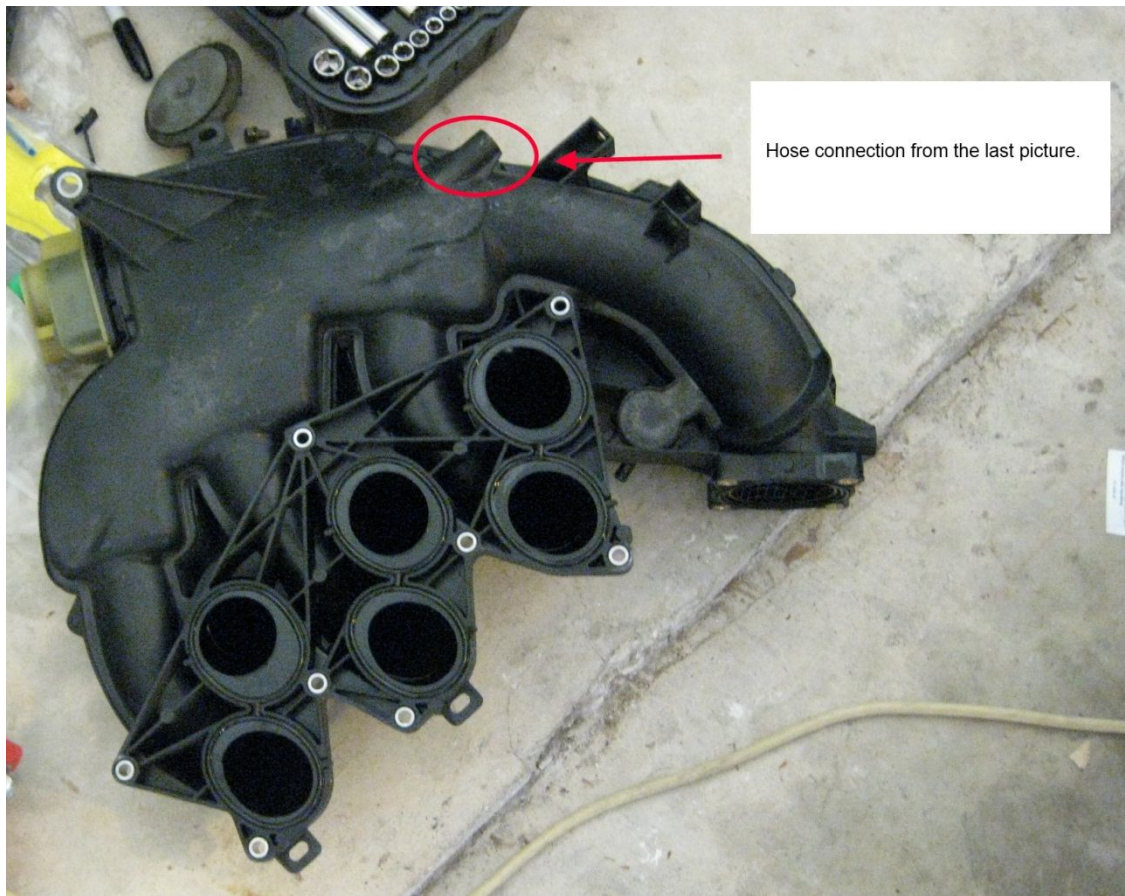


Figure 12 - The upper intake manifold view from below.

As you can see, I did not cover the air inlets, which was not a smart thing to do. I suggest you to cover this section with something to prevent parts from entering the intake.

NOTE: m1StaSC in his guide took this opportunity to replace the upper intake manifold gasket. That is a logical thing to do. I did not change them since I forgot to buy them. I just inspected and cleaned the gaskets.

15. You know the drill. The right side spark plugs are accessible.

16. No, I am not going to tell you how to re-assemble everything together. If you have done this far, you should be able to re-assemble the whole thing without any problem.

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Figure 13 - These are my old plugs. Is it worth it to change them in 60000 mile interval? You decide.

GOOD LUCK!