

2009 Steeda Charge Motion Delete Plugs

Installation Instructions for 555-3148

Parts List

Qty.	Description
4	End plugs
6	Middle plugs

Installation Instructions

I Vehicle Prep

1. It is important that the engine be at room temperature before beginning this procedure. Fuel may be spilled when removing the fuel line and could lead to a fire. Failure to follow this procedure could result in serious injury and property damage.
2. Disconnect the positive battery terminal from the battery. Using compressed air blow out any dirt or debris that may fall in the engine once the intake manifold is removed.

II Removing the intake manifold

3. Remove vacuum lines from the front of the intake next to the throttle body. The upper vacuum line for the fuel system (with the white clip) should be removed by holding the connector and pulling the hose off. **Figure 1 & 2**



4. Remove all wiring harnesses connected to the intake manifold by pressing the release and pulling the wire from the connection. There are two connectors on the throttlebody, one on the right side for the fuel injection harnesses and one connection behind the intake manifold, next to the fire wall for the actuator motor. **Figure 3**
5. Unscrew the clamp and remove the flexible intake-to-filter box intake tube from the throttle body. (flat blade screwdriver or 8mm socket) **Figure 4**



6. Remove the wiring harness from the drivers side fuel rail by pressing the red release and pulling the wire away.
7. Next remove the wiring harnesses from all 8 fuel injectors pressing the gray release button and carefully pulling each connector away.
8. Place a shop towel or absorbent cloth beneath the main fuel line connector. Using a spring-lok release tool, disconnect the main fuel line from the drivers side fuel rail. **Figure 5**
9. Remove the wiring looms from the intake manifold.
10. Remove the four stud bolts that attach the fuel rails. Disconnect the rubber hose above the drivers side fuel rail.
11. When the fuel rail studs are removed, carefully remove the fuel rails with injectors as a unit. (both sides) **Figure 6**



12. Remove the 10 intake manifold bolts. Two of the bolts are between the intake runners as shown below. **Figure 7**



13. Once the bolts are removed, carefully lift the intake manifold from the engine and place upside-down on a workbench away from the engine. It is a good practice to cover the intake ports with shop towels until you are ready to reinstall the intake. This will help prevent debris from falling into the engine.

III Installing the Charge Motion Delete Plugs

14. Remove the factory charge motion plate control actuation arms from the actuator drive motor at the rear of the intake manifold by removing the four (4) C-clips. The Actuator should remain attached to the manifold and should be reconnected to the wiring harness unless your computer upgrade has been calibrated for the removal. **Figure 8 & 9**



15. Carefully remove the intake manifold gasket from the channel on each runner bank. **Figure 10**

16. Remove the two T## screws and shaft end support piece from the rear of each runner bank. **Figure 11**



17. Slide the butterfly actuation shaft rearward and remove it from each runner. **Figure 12**
18. Remove three T## screws from the bottom of each runner bank. **Figure 13**



19. Working from front to rear a little at a time, pull the butterfly assembly out of each runner bank. **Figure 14**
20. Once the butterfly base is free, turn it over and place onto the workbench. Lift the butterflies out of the base and slide the rubber bearing blocks off of each butterfly (16 total). Note that one end of the bearing block is rounded while the other end is flat. **Figure 15 and 16**



21. Slide an end plug into one of the bearing blocks and re-insert the bearing block into one of the bearing block receptacles at the ends of the butterfly bases. Repeat for the other 3 end positions. **Figure 17 and 18**
22. Slide a bearing block onto each end of one of the middle plugs. Insert the assembly into a mid-runner position. Repeat for the other 5 mid-runner positions. **Figure 18**

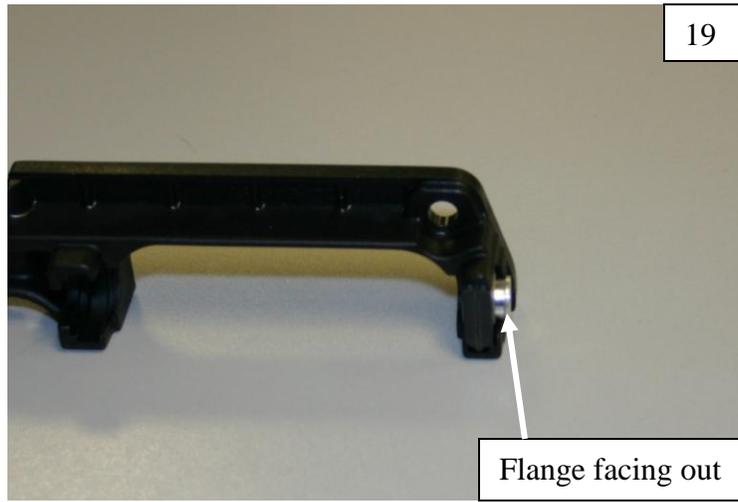


23. Carefully re-install the butterfly bases into the manifold and secure with the three screws removed from each side in Step 18.
24. Press the intake manifold gasket into the gasket channel.
25. Re-install the intake by working backwards from Steps 13 thru 2.
26. Once the installation is complete carefully recheck all connections, particularly the fuel line. Start the engine and check the fuel line coupler for leaks. If there is a leak turn the engine off immediately and service the connection.

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!!!!Important Note!!!!

- Be sure to orient the all of the smaller end plugs so that the flange is outside from the intake port as seen in figure 19. If you do not orient the plug correctly the plug could get sucked into the engine and cause severe damage.



- The larger end plug should have a dab of RTV silicone placed on it's smaller diameter prior to installing it in the intake to prevent any possible vacuum leaks. See figure 20.

