

SAP Simulator Installation

Disclaimer

The SAP Simulator is for off-road use only, not intended for highway vehicles.

This modification is not a factory approved modification, and engine damage may occur. Any and all work completed must be in accordance with the manufacturers repair manual and all best practices adhered to. This modification may also violate federal, state, and, or local laws. You, the consumer, accept all liability for these modifications.

Required Tools

Ratchet
10mm socket
8mm socket and/or wrench
Small flat-blade screwdriver
Wire cutters/strippers/ crimpers

Disassembly

1. Carefully remove the two fuel rail cover bolt caps by inserting a small flat-blade screwdriver in the slot on either side and prying them up. They break easily, if you happen to need replacements the part number is 11121726089.
2. Remove the two fuel rail cover bolts with 10mm socket.
3. Remove the fuel rail cover by pulling it up and towards the front of the car.

Mounting

1. Remove the rear screw from the under-hood positive battery terminal bracket using an 8mm socket or wrench.
2. Mount the SAP Simulator using the screw from the under-hood positive battery terminal bracket.



Wire routing

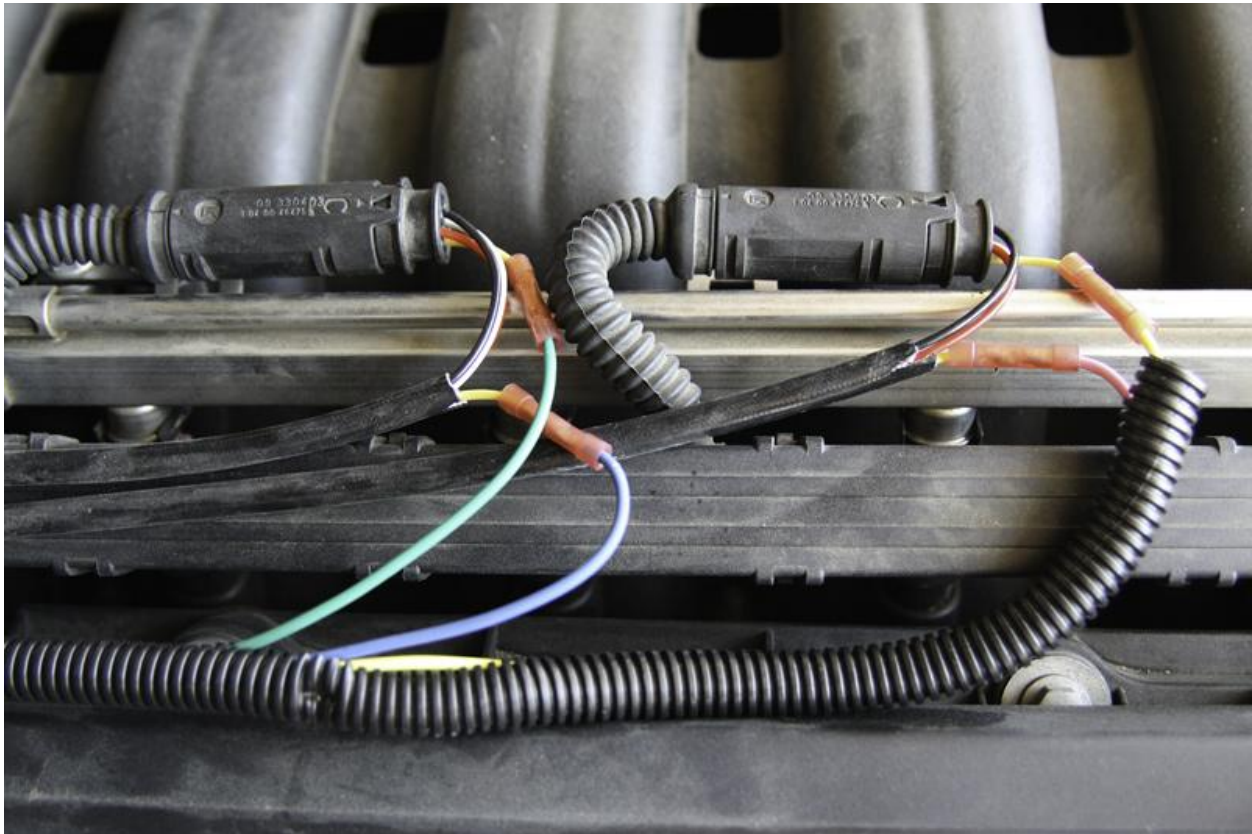
1. Run the SAP Simulator wire loom alongside of the existing engine harness wiring under the cowl vent towards the fuel rail.
2. Secure SAP Simulator wire loom to existing engine harness with the provided wire ties.



Wire connections

1. Locate the two pre-cat oxygen sensor connectors alongside the fuel rail. The side of the connector that has the larger diameter corrugated rubber boot is part of the engine harness. The other side of the connector with the smaller smooth black sleeve is the part that runs to the oxygen sensor.
2. Pull back on the small black sleeve of the first oxygen sensor leads to expose the wires and cut the yellow wire about 1.5 inches back from the plug. It may be helpful to cut a slit in the black sleeve so that it can be pulled back from the wires.
3. Use one of the supplied butt connectors to connect the yellow SAP Simulator wire to the yellow wire that leads towards the oxygen sensor plug & engine harness.
4. Use one of the supplied butt connectors to connect the pink SAP Simulator wire to the yellow wire that leads towards the oxygen sensor.
5. Pull back on the small black sleeve of the second oxygen sensor leads to expose the wires and cut the yellow wire about 1.5 inches back from the plug. It may be helpful to cut a slit in the black sleeve so that it can be pulled back from the wires.

6. Use one of the supplied butt connectors to connect the green SAP Simulator wire to the yellow wire that leads towards the oxygen sensor plug & engine harness.
7. Use one of the supplied butt connectors to connect the blue SAP Simulator wire to the yellow wire that leads towards the oxygen sensor.
8. Secure the SAP Simulator harness to the fuel rail using the supplied wire ties
9. Cut off the secondary air pump power connector wires about an inch back from the connector.
10. Use one of the supplied butt connectors to connect the red SAP Simulator wire to the red w/yellow stripe secondary air pump power wire.
11. Use one of the supplied butt connectors to connect the black SAP Simulator wire to the brown secondary air pump power wire.





SAP Sim V1.0 instructions, last updated 7/13/2012

Assembly

1. Replace the fuel rail cover making sure the wiring underneath is not pinched.
2. Tighten the two fuel rail cover bolts with 10mm socket.
3. Carefully replace the two fuel rail cover bolt caps. Remember... they break easily.

Wiring Quick-Reference

Yellow – first oxygen sensor yellow wire towards engine harness/DME

Pink – first oxygen sensor yellow wire towards sensor

Green – second oxygen sensor yellow wire towards engine harness/DME

Blue – second oxygen sensor yellow wire towards sensor

Red – secondary air pump power red w/yellow stripe wire

Brown – secondary air pump power red w/yellow stripe wire