

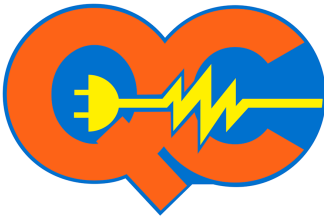
## **JdeMO Supplementary Instructions 2012-2014 Toyota RAV4 EV Cabin Heater Removal**

These procedures are intended for Toyota “Electric Vehicle” (EV) certified technicians with experience and training in high voltage electricity specifically for Toyota EVs and hybrid vehicles. Please follow all pertinent Toyota safety procedures prior to beginning work. No attempt is made in these supplementary instructions to provide safety or training for handling high voltage electricity. Any Toyota safety instructions that may differ in any way from these instructions will always take priority in the safe handling of the vehicle during repairs.

### **DANGER: Serious Injury or DEATH can result from improper handling of the Toyota RAV4 EV, or any appliance or equipment connected to its deadly high voltage**

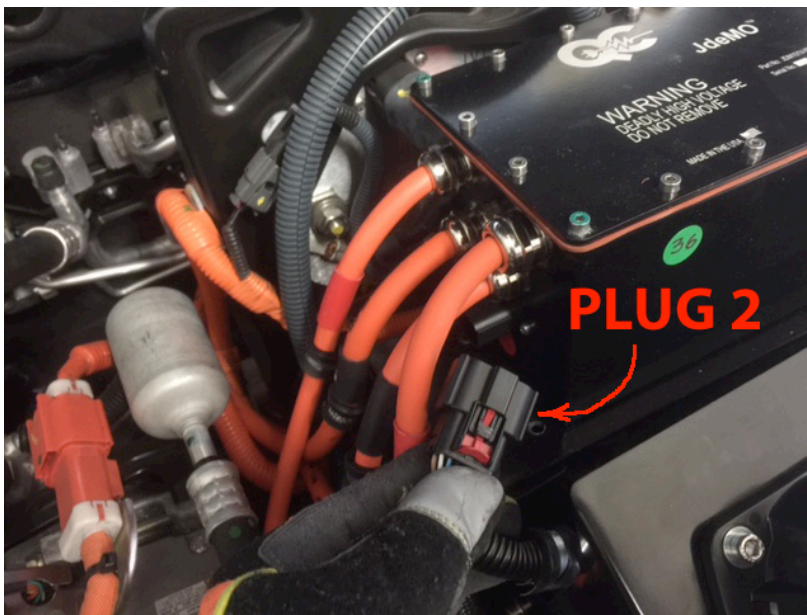
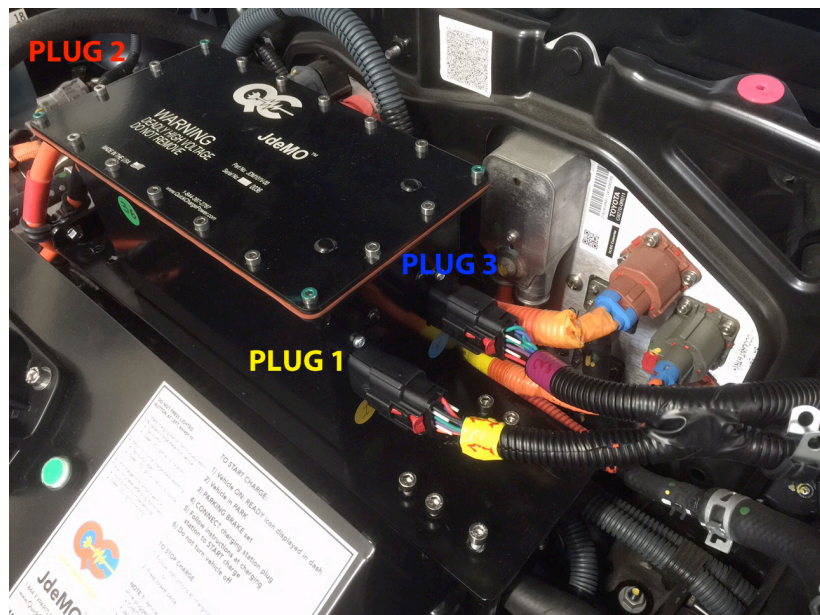
In order to properly remove the Denso 6kW resistance cabin heater from the 2012-2014 Toyota RAV4 EV that is equipped with JdeMO, the following procedures may be helpful:

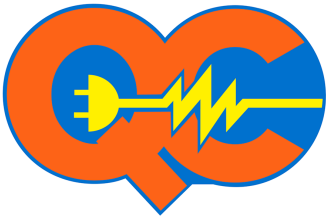
1. Disconnect the 12 volt negative lead from the 12 volt battery. The negative lead is equipped with one M8 wing nut and one M8 fender washer to allow for convenient disconnection. Ensure that the leads cannot accidentally become reconnected, as this may cause a “CHECK EV SYSTEM” fault in the vehicle.
2. Disconnect the high voltage traction battery fused link, located under the right front passenger seat. We suggest moving the right front passenger seat fully forward, and accessing the under seat area from the right rear doorway. The under seat cover has been modified with four M6 wing nuts and four M6 flat washers to allow for convenient removal.
3. Remove the orange high voltage traction battery fused link and place in a secure location, in accordance with Toyota procedures, to prevent accidental reinstallation by a “helpful” coworker.
4. The vehicle is now safe from electrical shock, except for the internals of the traction battery itself.
5. The technician must always disconnect the 12 volt battery first, prior to disconnecting the orange high voltage fused link, and connect the 12 volt last upon reassembly. Failure to do so may result in a “CHECK EV SYSTEM” fault in the vehicle.
6. Remove the five screws (use 10mm hex head socket) that hold the large plastic “engine” cover that has “TOYOTA” molded into it. It is helpful to remove the three top screws first, to allow the plastic cover to be slightly pushed to the rear to allow access to the two lower screws. We suggest use of a magnetic socket insert in a 10mm hex head socket to retain the two lower screws, with a 6 inch extension.



## JdeMO Supplementary Instructions 2012-2014 Toyota RAV4 EV Cabin Heater Removal

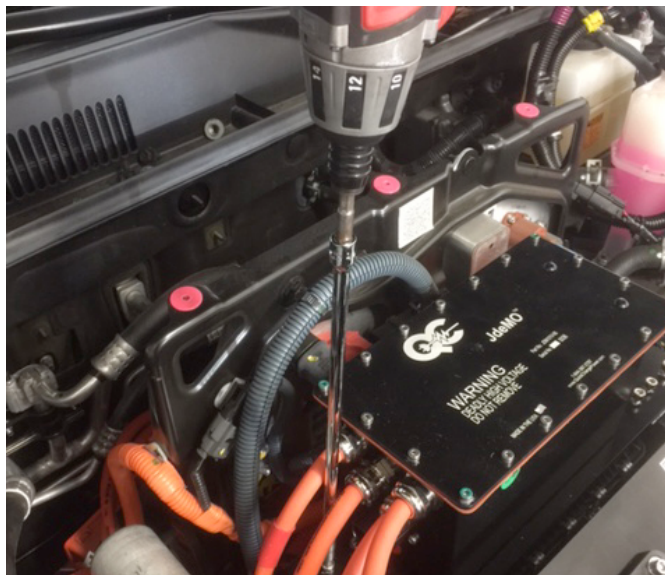
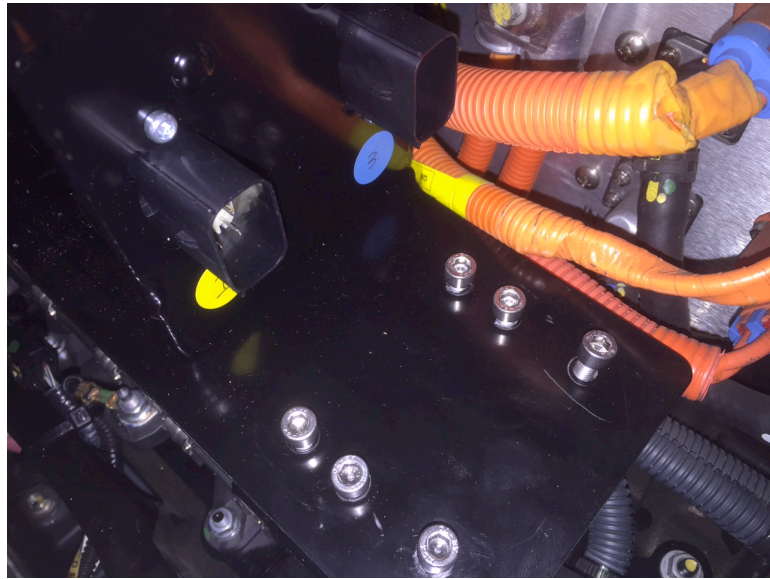
7. Remove the three low voltage communication plugs from the main JdeMO relay box assembly, labeled “Plug 1”, “Plug 2” and “Plug 3”. These plugs contain both of the vehicle’s high voltage interconnect circuits, therefore failure to follow these procedures in order may cause a “CHECK EV SYSTEM” fault in the vehicle. If you need instructions on the proper removal of these plugs, it can be found on the Molex website for an MX150 plug with locks.

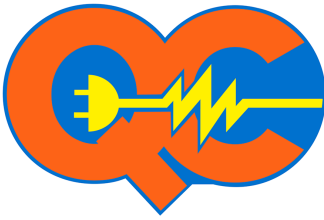




## JdeMO Supplementary Instructions 2012-2014 Toyota RAV4 EV Cabin Heater Removal

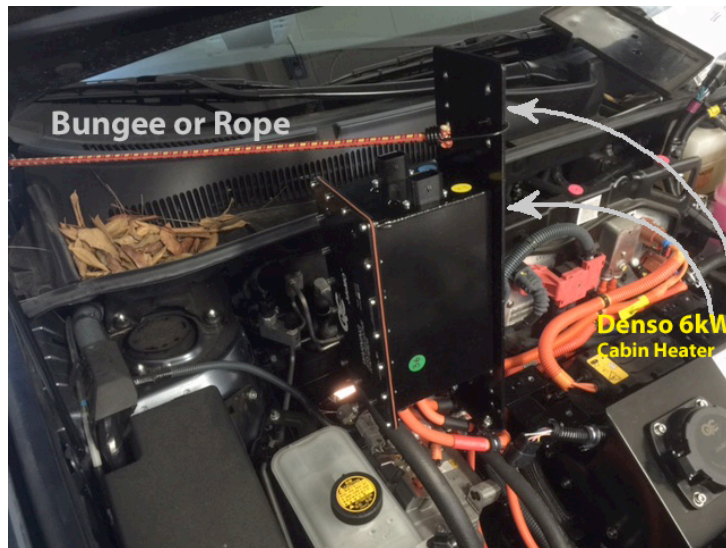
8. Remove the twelve stainless steel socket head M6 x 1.0 x 16mm bolts, six on each side, from the JdeMO top plate assembly. This will require a 5mm “Allen” style wrench. It may require a flex drive or “u-joint” drive to access the two bolts closest to the relay box on the left side.



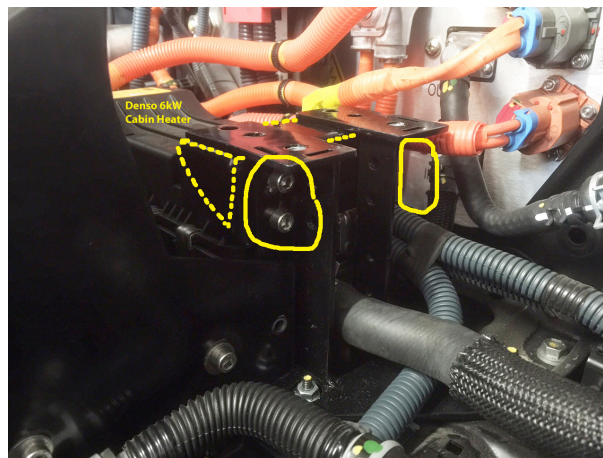


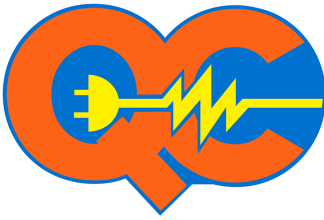
## JdeMO Supplementary Instructions 2012-2014 Toyota RAV4 EV Cabin Heater Removal

9. Rotate the entire JdeMO relay box and top plate assembly to the left as pictured. The assembly should sit up at a 90 degree angle from its original location. We suggest using a bungee or rope to hold it in position.



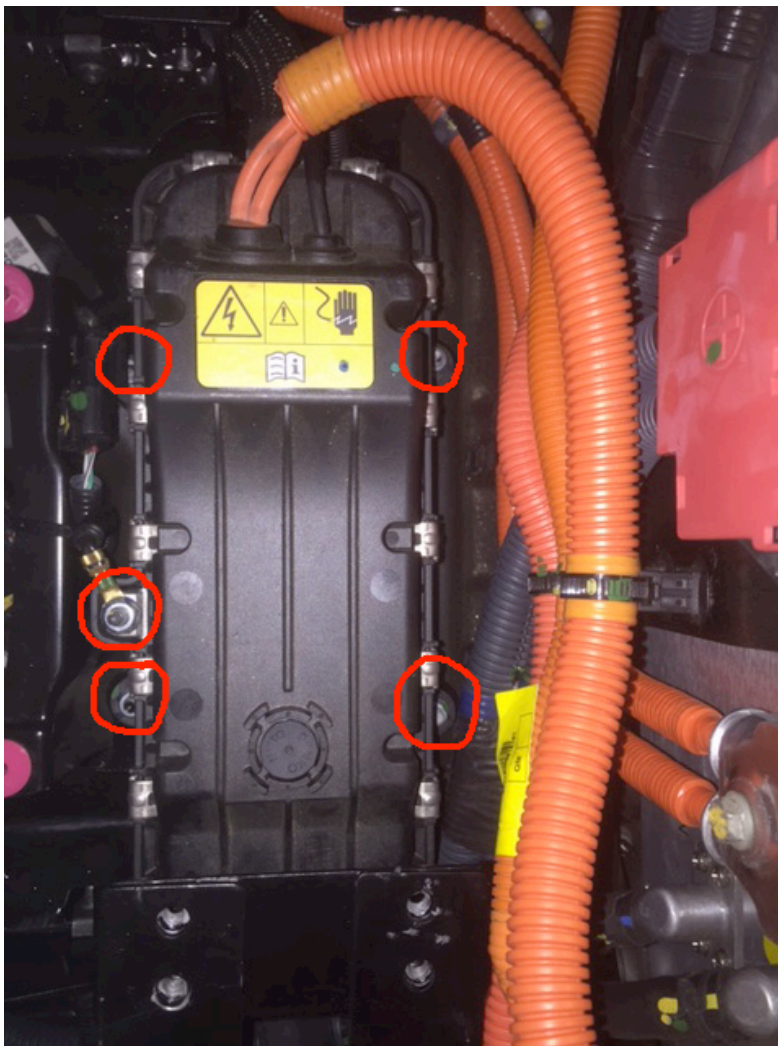
10. Remove the eight stainless steel socket head M6 x 1.0 x 16mm bolts, four on each side, from the JdeMO base plate assembly. This will require a 5mm “Allen” style wrench. Remove the two angle support brackets.

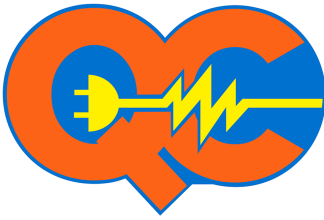




## JdeMO Supplementary Instructions 2012-2014 Toyota RAV4 EV Cabin Heater Removal

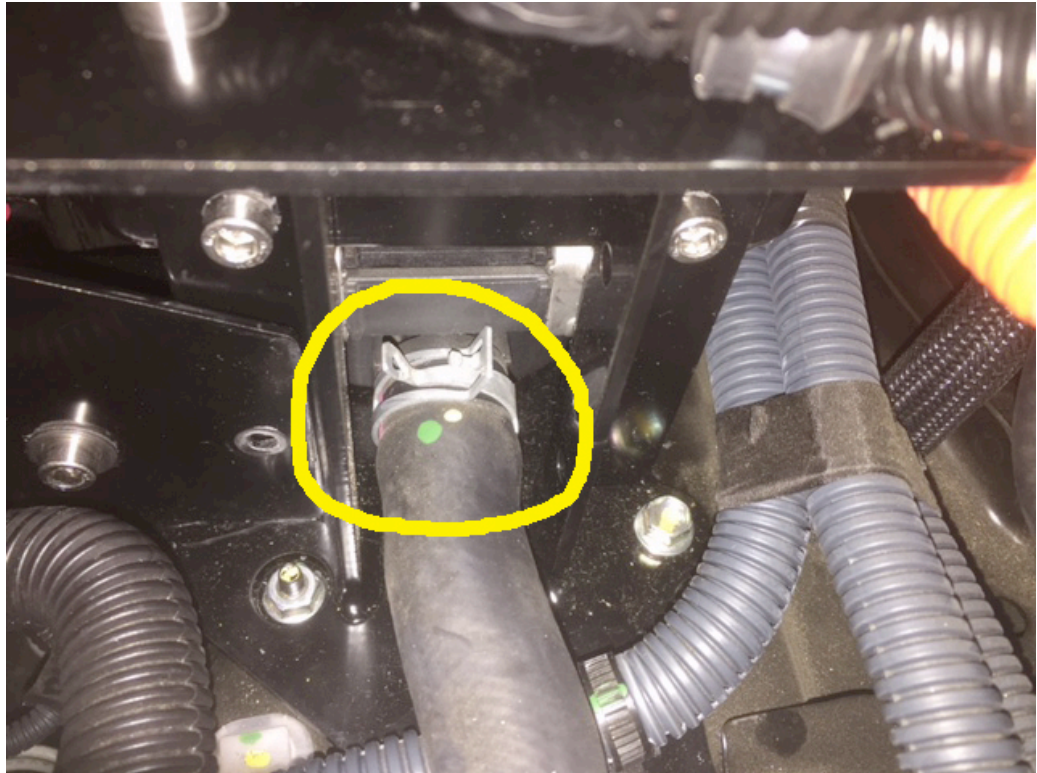
11. Remove the five M6 nuts (requires a 10mm hex head socket wrench), per Toyota service manual procedures and remove the Denso 6kW resistance cabin heater. It will be necessary to disconnect both the low and high voltage wiring harnesses, in addition to the heater hoses from either end of the unit (after draining the pink coolant per Toyota procedures). It will be helpful to slightly pull on the unit to the left during removal to clear the left legs of the JdeMO base plate assembly.





## JdeMO Supplementary Instructions 2012-2014 Toyota RAV4 EV Cabin Heater Removal

12. Upon reassembly with a new or remanufactured resistance cabin heater, ensure that the hose clamps face upward as pictured.



13. Liberal use of Anti-Seize product (Loctite, as well as other brands) is **REQUIRED** on all stainless steel bolts to prevent galling and failure. Do not over torque the bolts.