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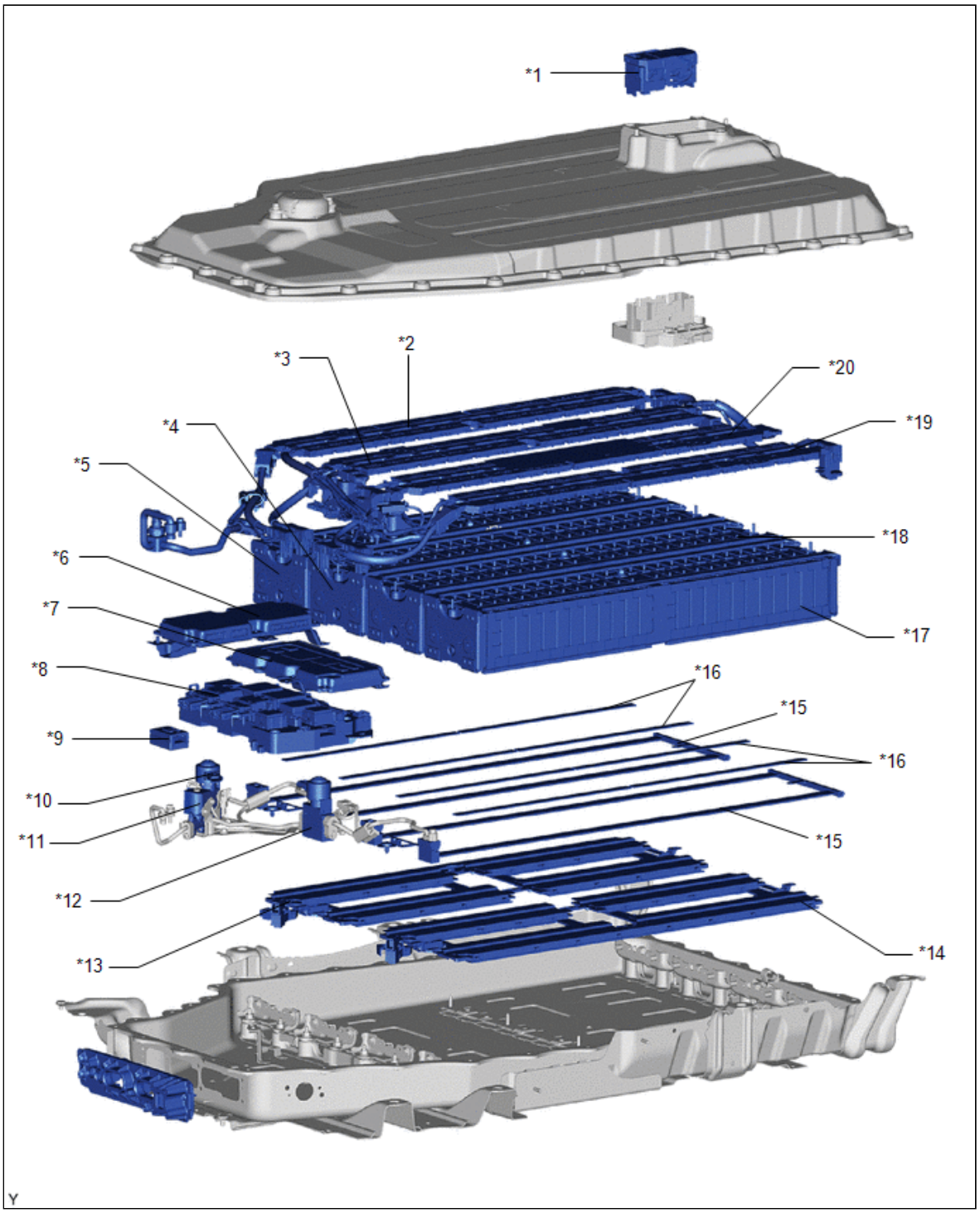
Model Year Start: 2021	**Model:** RAV4 Prime	**Prod Date Range:** [06/2020 -]
Title: HYBRID / BATTERY CONTROL: HYBRID BATTERY SYSTEM: HV BATTERY; 2021 MY RAV4 Prime [06/2020 -]		

HV BATTERY

CONSTRUCTION

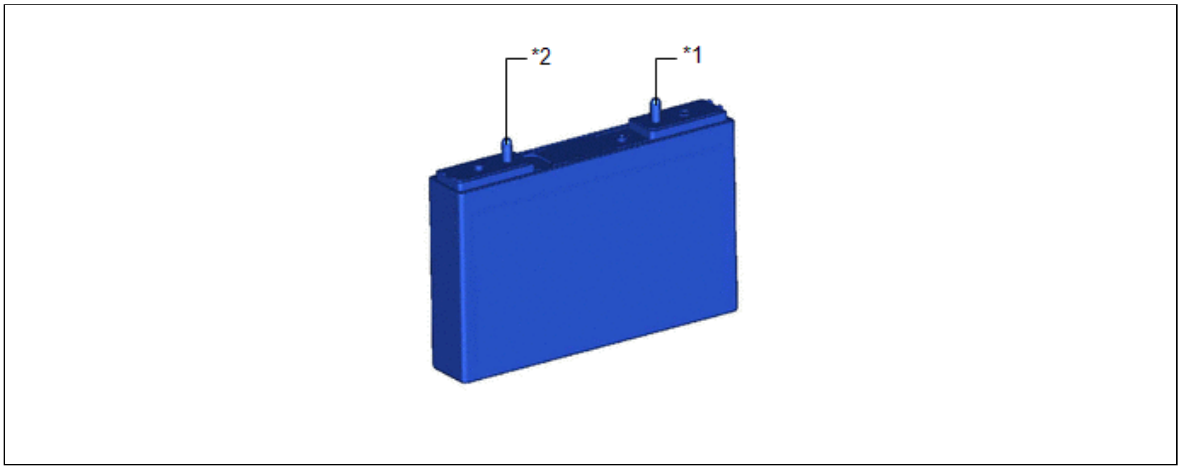
(a) The HV battery assembly mainly consists of the 4 HV battery stacks, No. 1 to No. 4 HV battery voltage detection wires, No. 2 traction battery device box assembly, No. 1 traction battery cooler conductor, No. 1 to No. 3 magnet valve assemblies, No. 1 to No. 2 traction battery heaters, battery ECU assembly, battery voltage sensor, and service plug grip.



*1	Service Plug Grip	*2	No. 4 HV Battery Voltage Detection Wire

			• HV Battery Temperature Sensor
*3	No. 2 HV Battery Voltage Detection Wire • HV Battery Temperature Sensor	*4	HV Battery Stack (No. 2 Battery stack)
*5	HV Battery Stack (No. 4 Battery stack)	*6	Battery ECU Assembly
*7	Battery Voltage Sensor	*8	No. 2 Traction Battery Device Box Assembly • Battery Current Sensor • SMRB • SMRP • SMRG • Precharge Resistor
*9	No. 1 Traction Battery Heater Relay	*10	No. 1 Magnet Valve Assembly
*11	No. 2 Magnet Valve Assembly	*12	No. 3 Magnet Valve Assembly
*13	No. 2 Traction Battery Heater • Traction Battery Heater Temperature Sensor	*14	No. 1 Traction Battery Heater • Traction Battery Heater Temperature Sensor
*15	No. 1 Traction Battery Cooler Conductor	*16	No. 1 Traction Battery Cooler Sheet
*17	HV Battery Stack (No. 1 Battery stack)	*18	HV Battery Stack (No. 3 Battery stack)
*19	No. 1 HV Battery Voltage Detection Wire • HV Battery Temperature Sensor	*20	No. 3 HV Battery Voltage Detection Wire • HV Battery Temperature Sensor

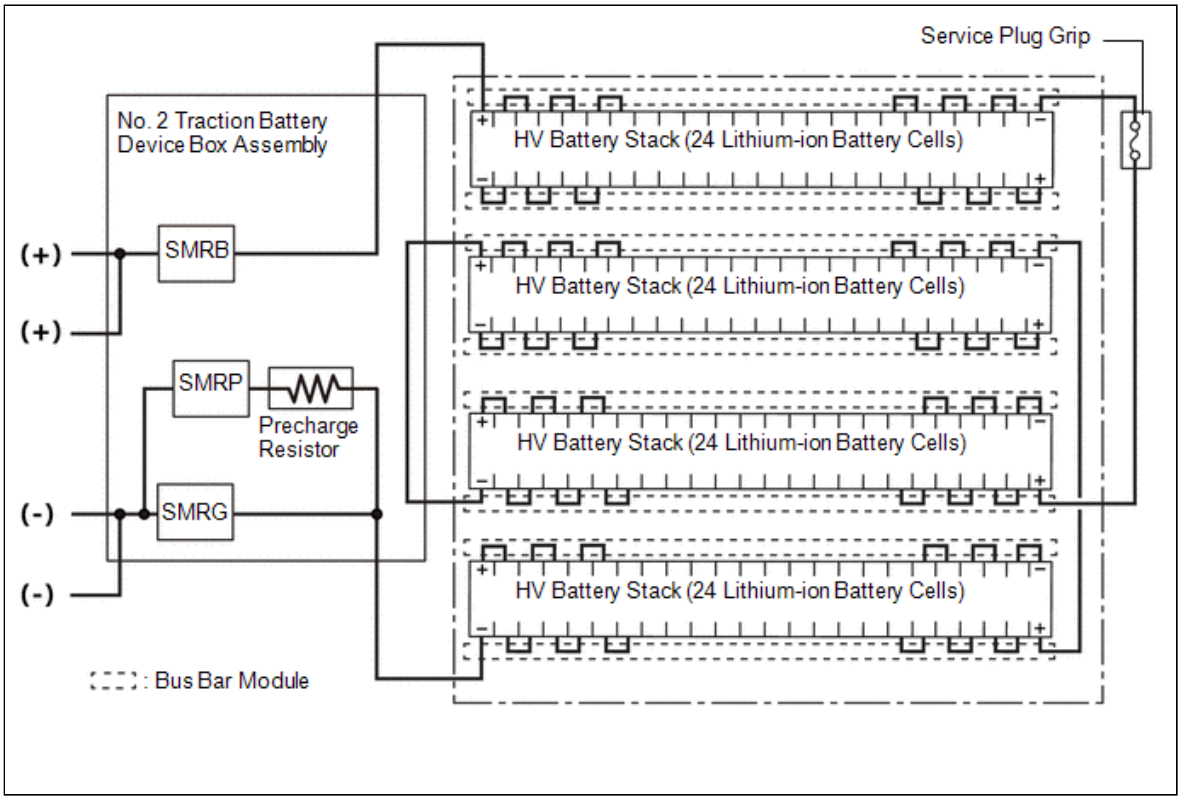
(b) The battery uses the lithium-ion battery cells with high capacity and power.



*1	Positive Terminal	*2	Negative Terminal

(c) The 24 lithium-ion battery cells provided for each HV battery stack are connected in series in a bus bar module.

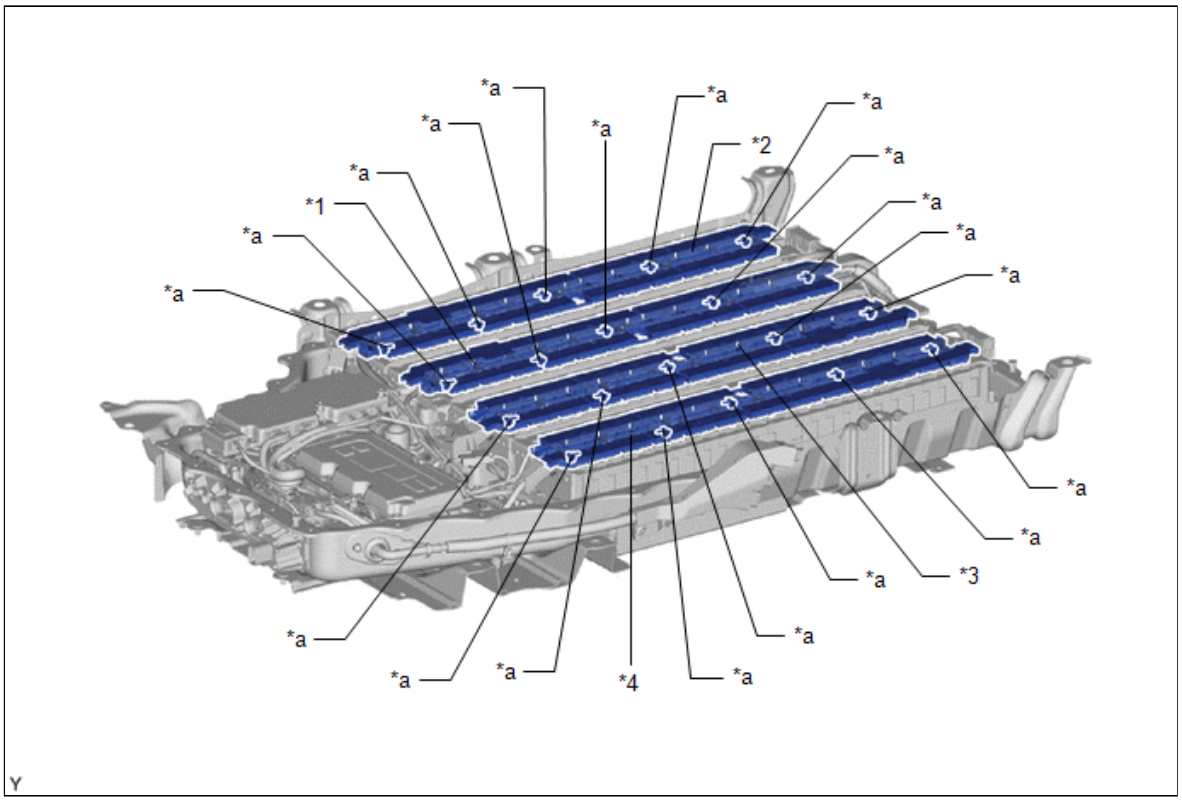
(d) The HV battery consists of 4 HV battery stacks. They are connected to each other in series through bus bar modules and wiring harness.



1. No. 1 HV Battery Voltage Detection Wire to No. 4 HV Battery Voltage Detection Wire

   a. 5 thermistor type battery temperature sensors are provided in each of the HV battery detection wires.

   b. The battery ECU assembly optimally controls the refrigerant cooling system so that the HV battery temperature can be kept within a specified range according to the temperature information.



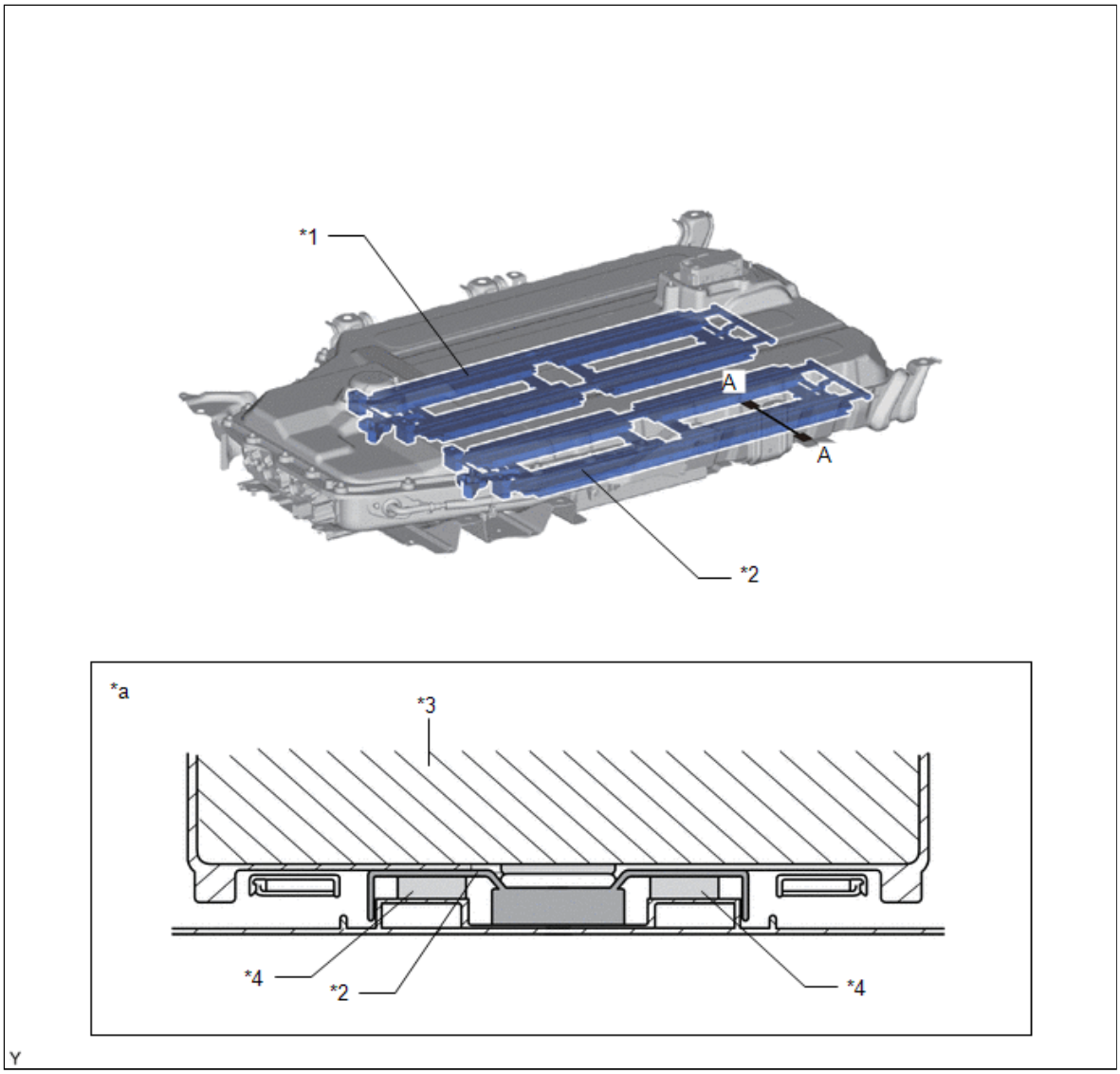
*1	No. 2 HV Battery Voltage Detection Wire	*2	No. 4 HV Battery Voltage Detection Wire
*3	No. 3 HV Battery Voltage Detection Wire	*4	No. 1 HV Battery Voltage Detection Wire
*a	HV Battery Temperature Sensor	-	-

2. Battery Heater

a. The heater, composed of heating wires sewn into non-woven fabric, is designed to be pushed against the HV battery stack by the heater pressing sponge. This improves the HV battery heating efficiency.

b. The power source circuit to the electric heater has been divided into 2 systems, and the heater temperatures of the 2 circuits are measured and compared by thermistors to detect malfunctions.

c. In order to ensure that all the electric cells are uniformly heated, the inside heaters and outside heaters are routed in a different pattern.



*1	No. 2 Traction Battery Heater	*2	No. 1 Traction Battery Heater
*3	HV Battery Stack	*4	Heater Pressing Sponge
*a	A - A Cross Section	-	-