



## TOYOTA RAV4 EV

### VEHICLE SPECIFICATIONS

#### CONVERTED VEHICLE

Base Vehicle: 1996 Toyota RAV4  
VIN: 32710220000000000  
Seatbelt Positions: Four  
Standard Features:

- Air Conditioning (Heat Pump)
- Heating (Heat Pump)
- Front Wheel Drive
- Power Steering
- Power Brakes
- Front Disk Brakes
- Regenerative Braking
- Drivers Side Air Bag
- AM/FM Stereo Radio

#### BATTERY

Manufacturer: Matsushita Battery  
Type: Valve Regulated Lead Acid  
Number of Modules: 24  
Weight of Module: 21 kg  
Weight of Pack(s): 550 kg  
Pack Locations: Underbody  
Nominal Module Voltage: 12 V  
Nominal System Voltage: 288 V  
Nominal Capacity (1C): 55 A/H

#### WEIGHTS

Design Curb Weight: 3329 lbs  
Delivered Curb Weight: 3364 lbs  
Distribution F/R: 48/52 %  
GVWR: 3990 lbs  
GAWR F/R: 1929/2061 lbs  
Payload: 626 lbs  
Performance Goal: 600 lbs

#### DIMENSIONS

Wheelbase: 86.4 inches  
Track F/R: 57.6/56.7 inches  
Length: 146.6 inches  
Width: 67.2 inches  
Height: 62.5 inches  
Ground Clearance: **4.1 inches at GVWR**  
Performance Goal: 5.0 inches at GVWR

#### CHARGER

Location: On-board  
Type: High Frequency Resonant Converter  
Input Voltages: 90-264 VAC

#### TIRES

Tire Mfg: Yokohama  
Tire Model: AVS E100 Radial  
Tire Size: 195/80R16  
Tire Pressure F/R: 44/44 psi  
Spare Installed: Yes

#### TEST NOTES:

1. The Battery Leakage Current measured during the 8 inch standing water test exceeded the Maximum Allowable under EV America Technical Specifications (1.24 mA vs 1.0 mA required).
2. Contrary to the requirements of EV America Technical Specification 8.1, the charger does not cycle to maintain the battery in a fully charged condition.
3. Contrary to the requirements of EV America Technical Specification 8.1, The battery charger will not initiate a full algorithm charge unless the battery SOC is  $\leq 90\%$ .
4. The vehicle provided to EV America was a Prototype. Some information was not provided and/or not available from Toyota. The specifics are noted in the Manufacturer's Proposal Review Checklist in the Test Report.
5. Specific Energy calculations were completed using the aggregate weight of the battery modules only.
6. The auxiliary battery was replaced due to an apparent internal fault.
7. This vehicle did not have FMVSS Certification at the time of testing.

Values in **red** indicate the Performance Goal was not met.  
All Power and Energy values are DC unless otherwise specified.

#### ACCELERATION 0-50 mph

At 100% SOC: 13.15 sec  
At 50% SOC: 13.3 sec  
Max. Power: 58.6 kW  
Performance Goal: 13.5 sec at 50% SOC

#### MAXIMUM SPEED @ 50% SOC

At 1/4 Mile: 64.6 mph  
At 1 Mile: 77.9 mph  
Performance Goal: 70 mph in one mile

#### CONSTANT SPEED RANGE @ 45 mph

Range: 81.7 miles  
Energy Used: 16.21 kWh  
Average Power: 9.01 kW  
Efficiency: 198 Wh/mile  
Specific Energy: 32.2 Wh/kg

#### CONSTANT SPEED RANGE @ 60 mph

Range: 54.7 miles  
Energy Used: 15.82 kWh  
Average Power: 17.16 kW  
Efficiency: 289 Wh/mile  
Specific Energy: 31.4 Wh/kg

#### DRIVING CYCLE RANGE

Range per SAE J1634: 68.2 miles  
Energy Used: 16.05 kWh  
Average Power: 6.44 kW  
Efficiency: 235 Wh/mile  
Specific Energy: 31.8 Wh/kg  
Performance Goal: 60 miles

#### BRAKING FROM 60 mph

Controlled Dry: 140.1 feet  
Controlled Wet: 196.3 feet  
Panic Wet: 260.1 feet  
Course Deviation: 3 feet

#### HANDLING

Avg Time @ 90% SOC: 56.67 sec  
Avg Time @ 50% SOC: 55.68 sec  
Avg Time @ 20% SOC: 55.08 sec  
Avg Dodge Neon Time: 54.62 sec

#### GRADEABILITY (Calculated)

Maximum Speed @ 3%: 75.6 mph  
Maximum Speed @ 6%: 69.3 mph  
Maximum Grade: 29.1%  
Time on 3% Grade: 28 min 24 sec  
Performance Goal: 15 Min

#### CHARGING EFFICIENCY

Efficiency: 412 Wh-AC/mile  
Energy Cost @ 10¢/kWh: 4.12 ¢/mile

#### CHARGER

Max Charger Ground Current:  $\leq 0.01$  mA  
Max Battery Leakage Current: **1.24 mA**  
Max DC Charge Current: 13.48 Amps  
Max AC Charge Current: 24.01 Amps  
Pwr Factor @ Max Current: 1.00  
THD(V)(1) @ Max Current: 4.51/4.73%  
Peak Demand: 4.15 kW  
Time to Recharge: **8 Hrs 29 min**  
Performance Goal: 8 hours