1997 Chevrolet S-10 Electric

VEHICLE SPECIFICATIONS

PURPOSE-BUILT VEHICLE
Base Vehicle: 1997 Chevrolet S-10
VIN: 1GCDE14H4V80003EX
Seatbelt Positions: Three
Standard Features:
- Heat Pump Climate Control System
- Auxiliary Diesel Fuel Fired Heater (Only operates Below 40 F)
- Cruise Control
- Tilt Steering Wheel
- Front Wheel Drive
- Power Steering
- Power Brakes
- Anti-Lock Brakes
- Front Disk Brakes
- Regenerative Braking
- Drivers Side Air Bags
- AM/FM Stereo Radio
- Half-Bed Tonneau Cover

BATTERY
Manufacturer: Delphi Energy
Type: Valve Regulated Lead Acid
Number of Modules: 26
Weight of Module: 19 kg
Weight of Pack(s): 575 kg
Pack Locations: Underbody
Nominal Module Voltage: 12 V
Nominal System Voltage: 312 V
Nominal Capacity (C/2): 48 Ah

TEST NOTES:
1. Vehicle maximum speed is software limited. Chevrolet will be issuing a software modification to allow a maximum speed greater than 70 mph subsequent to completion of EV America Testing.
2. ICE Vehicle tested was a 1992 rear wheel drive with a 4.3 liter V-6 engine.
3. Vehicle completed 21 minutes 3 seconds from 100% SOC.
4. Cruise control failed to engage on two occasions. Vehicle required restart before cruise control could be engaged.
5. The battery pack data collection voltage signal was reduced 100:1 through a voltage divider installed by Chevrolet. This was for personnel protection.

ACCELERATION 0-50 mph
At 100% SOC: 9.75 sec
At 50% SOC: 10.35 sec
Max. Power: 104.3 kW
Performance Goal: 13.5 sec at 50% SOC

MAXIMUM SPEED @ 50% SOC
At 1/4 Mile: 67.6 mph
At 1 Mile: 69.3 mph
Performance Goal: 70 mph in one mile

CONSTANT SPEED RANGE @ 45 mph
Range: 60-44 miles
Energy Used: 12.99 kWh
Average Power: 9.70 kW
Efficiency: 215 Wh/mile
Specific Energy: 22.2 Wh/kg

CONSTANT SPEED RANGE @ 60 mph
Range: 38.8 miles
Energy Used: 11.93 kWh
Average Power: 18.30 kW
Efficiency: 307 Wh/mile
Specific Energy: 20.7 Wh/kg

DRIVING CYCLE RANGE
Range per SAE J1634: 43.8 miles
Energy Used: 12.81 kWh
Average Power: 6.98 kW
Efficiency: 292 Wh/mile
Specific Energy: 22.3 Wh/kg

BRACING FROM 60 mph
Controlled Dry: 182.2 feet
Controlled Wet: 216.3 feet
Panic Wet: 192.1 feet
Course Deviation: 0.0 feet

HANDLING
Avg Time @ 90% SOC: 56.2 sec
Avg Time @ 50% SOC: 55.8 sec
Avg Time @ 20% SOC: 55.5 sec
Avg S-10 ICE Time: 58.3 sec

GRADEABILITY (Calculated)
Maximum Speed @ 3%: 68.0 mph
Maximum Speed @ 6%: 66.5 mph
Maximum Grade: 36.4%
Time on 3% Grade: 10 min 3 sec

CHARGING EFFICIENCY
Efficiency: 470 Wh/AC/mile
Energy Cost @ 10 ¢/kWh: 4.70 ¢/mile

CHARGER
Max Charger Ground Current: <0.01 mA
Max Battery Leakage Current: <0.01 mA
Max DC Charge Current: 16.9 Amps
Max AC Charge Current: 19.4 Amps
Pwr Factor (at Max Current): 0.97
THD(I) (at Max Current): 7.70 %
Peak Demand: 6.59 kW
Time to Recharge: 5 Hrs 15 min
Performance Goal: 8 hours

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This vehicle meets the following EV America Minimum Requirements:

1. The vehicle has a payload of at least 400 pounds.
2. The OEM GVWR has not been increased.
3. The OEM GAWRs have not been increased.
4. Seating capacity is a minimum of (2) occupants.
5. A battery recycling plan has been submitted.
6. The OEM passenger space has not been intruded upon by the electrical conversion materials.
7. The vehicle has a parking mechanism or parking brake as required by 49 CFR 571.105.
8. The vehicle has a minimum range between charges of at least 50 miles when loaded with two 166-pound occupants and operated at a constant 45 mph.
9. The vehicle manufacturer has certified that this vehicle complies with the Federal Motor Vehicle Safety Standards (FMVSS) applicable on the date of manufacture.
10. The vehicle manufacturer's proposal states that batteries and/or battery enclosures will not intrude into the passenger compartment during or following a frontal barrier, rear barrier and side impact collision and roll-over.
11. Batteries comply with requirements of SAE J1718, and are so labeled.
12. The vehicle manufacturer has certified concentrations of explosive gases in the battery box do not exceed 25% of the Lower Explosive Limit (LEL) during and following normal or abnormal charging and operation of the vehicle.
13. The battery charger shall be capable of recharging the main propulsion battery to a state of full charge from any possible state of discharge in less than 12.
14. The vehicle manufacturer has certified the charger is capable of accepting input voltages of 208V and 240V single phase 60 Hertz alternating current service, with a tolerance of -13% +6% of rated voltage. Charger input current is compatible with 40 ampere circuit breakers, and complies with requirements of SAE J1772.
15. The charger has a true power factor of .95 or greater and a harmonic distortion rated at <= 20% (current at rated load).
16. The vehicle is equipped with an automatic disconnect and a manual service disconnect which are clearly labeled.
17. The vehicle complies with the requirements of 49 CFR 571.301 for fuel fired heaters.
18. The vehicle is equipped with a parking mechanism or parking brake as required by 49 CFR 571.105.
20. Propulsion power is isolated from the vehicle chassis and battery leakage current is less than 0.5 MIU under static conditions.
21. Charging circuits are isolated from the ground chassis such that ground current from the grounded chassis any time the vehicle connected to a charger does not exceed 5 mA.
22. Recharge power is isolated from the vehicle chassis and battery leakage current is less than 0.5 MIU under static conditions.
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24. The vehicle complies with FCC requirements for unintentional emitted electromagnetic radiation, as identified in 47 CFR 15, Subpart B, "Unintentional Radiators."
25. The vehicle manufacturer has certified failure of a battery or battery pack has deemed to have occurred if the actual battery capacity is not at least 80% of the nominal ampere hour capacity.
26. The vehicle is equipped with a charging system which is compatible with Personnel Protection Systems per SAE J1773.
27. Material Safety Data Sheets (MSDS) have been supplied for all on-board batteries.
28. The vehicle complies with the requirements of 49 CFR 571.301 for fuel fired heaters.
29. The vehicle complies with the requirements of 49 CFR 571.301 for fuel fired heaters.
30. The vehicle manufacturer has verified that the methods(s) of charging the propulsion batteries and the charging algorithm have been reviewed and approved by the battery manufacturer.
31. The charger is capable of meeting the requirements of Section 625 of the National Electric Code(NEC).
32. The vehicle complies with the requirements of 49 CFR 571.301 for fuel fired heaters.
33. The vehicle has an on-board Battery Energy Management System(BMS).