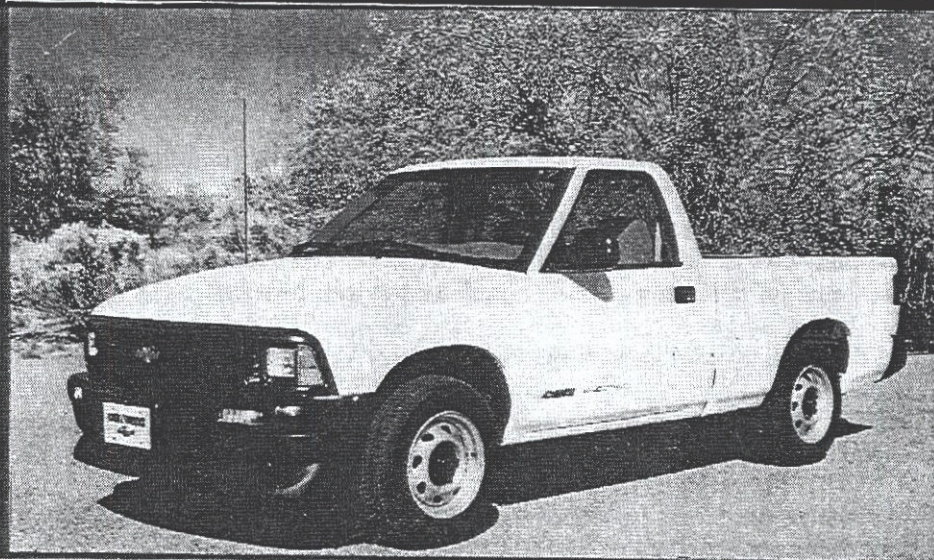




1997 Chevrolet S-10 Electric VEHICLE SPECIFICATIONS

PURPOSE-BUILT VEHICLE

Base Vehicle: 1997 Chevrolet S-10
VIN: 1GCDE14H4V80003EX
Seatbelt Positions: Three

Standard Features:

Air Conditioning (Heat Pump)
Heating (Diesel Fuel Fired)
Cruise Control
Tilt Steering Wheel
Front Wheel Drive
Power Steering
Power Brakes
Anti-Lock Brakes
Front Disk Brakes
Regenerative Braking
Drivers Side Air Bag
AM/FM Stereo Radio
Half-Bed Tonneau Cover

BATTERY

Manufacturer: Delphi Energy
Type: Valve Regulated Lead Acid
Number of Modules: 26
Weight of Modules: 19 kg
Weight of Pack(s): 575 kg
Pack(s) Location: Underbody
Nominal Module Voltage: 12 V
Nominal System Voltage: 312 V
Nominal Capacity (C/2): 45Ah

WEIGHTS

Design Curb Weight: 4300
Delivered Curb Weight: 4199 lbs
Distribution F/R: 48/52 %
GVWR: 5150 lbs
GAWR F/R: 2700/2900 lbs
Payload: 951 lbs
Performance Goal: 600 lbs

DIMENSIONS

Wheelbase: 108.3 inches
Track F/R: 57.2/54.9 inches
Length: 188.9 inches (including spare)
Width: 67.8 inches
Height: 62.4 inches
Ground Clearance: 5.0 inches at GVWR
Performance Goal: 5.0 inches at GVWR

CHARGER

Location: Off-board
Type: Delco Electronics Inductive 6.6 kW
Input Voltages: 156 to 260 VAC

TIRES

Tire Mfg: Uniroyal
Tire Model: Tigerpaw AWP Radial
Tire Size: P205/75R15
Tire Pressure F/R: 51/51 psi
Spare Installed: NO

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% SOC¹

At 1/4 Mile: 67.6 mph
In 1 Mile: 69.3 mph
Performance Goal: 70 mph in one mile

CONSTANT SPEED RANGE @ 45 mph

Range: 60.4 miles
Energy Used: 12.99 kWh
Average Power: 9.70 kW
Efficiency: 215 Wh/mile
Specific Energy: 25.2 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
Performance Goal: 60 miles

BRAKING 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 sec²
Performance Goal: 15 min from 50% SOC

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: 16.89 Amps
Max AC Charge Current: 19.41 Amps
Pwr Factor @ Max Current: 0.97
THD(I) @ Max Current: 7.70 %
Peak Demand: 6.59 kW
Time to Recharge: 5 hrs 15 min
Performance Goal: 8 hours

TEST NOTES:

- Vehicle maximum speed is software limited. Chevrolet will be issuing a software modification subsequent to completion of the EV America Test Program.
- Vehicle completed 21 minutes 3 seconds from 100% SOC.
- On two occasions the cruise control failed to engage. Vehicle had to be restarted for successful operation.
- The battery pack data collection voltage signal was reduced 100:1 through a voltage divider installed by Chevrolet. This was for personnel protection.

This vehicle meets all EV America Minimum Requirements listed on back.

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

This vehicle meets the following EV America Minimum Requirements:

- (1) Vehicles 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 at least two (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 vehicles 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's 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 the requirements of SAE J1718, and are so labeled.
- (12) The vehicle manufacturer has certified that 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 hours.
- (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 the requirements of SAE J1773.
- (15) The charger has a true power factor of .95 or greater and a harmonic distortion rated at $\leq 20\%$ (current at rated load).
- (16) The charger is fully automatic, determining when "end of charge" conditions are met and transitioning into a mode that maintains the main propulsion battery at a full state of charge while not overcharging it, if continuously left on charge.
- (17) Vehicle does not contain exposed conductors, terminals, contact blocks or devices of any type that create the potential for personnel to be exposed to 50 volts or greater.
- (18) The vehicle is accompanied by non-proprietary manuals for parts, service, operation and maintenance, interconnection wiring diagrams and schematics.
- (19) The vehicle has a state of charge indicator for the main propulsion batteries.
- (20) Propulsion power is isolated from the vehicle chassis such that battery leakage current is less than 1 mA under static conditions.
- (21) Charging circuits are isolated from the vehicle chassis such that ground current from the grounded chassis any time the vehicle connected to a charger does not exceed 0.5 MIU.
- (22) Replacement tires are commercially available to the end user.
- (23) The vehicle is interlocked such that:
 - The controller does not energize to move the vehicle with the gear selector in any position other than "Park" or "Neutral".
 - The start key is removable only when the " ignition key" is in the "Off" position, with the drive selector in "Park"
 - The controller will not initially energize or excite with a pre-existing accelerator input, such that the vehicle can be moved under its own power from this condition.
- (24) The vehicle manufacturer has certified that this vehicle complies with the 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) This vehicle is equipped with an automatic disconnect and a manual service disconnect which are clearly labeled.
- (27) The charging system is compatible with circuit breaker type GFCI systems.
- (28) Material Safety Data Sheets (MSDS) have been supplied for all on-board batteries.
- (29) The level of charge below which the batteries should not be discharged and how the controller automatically limits battery discharge below this level have been identified by the manufacturer.
- (30) Supplier has verified that the method(s) of charging the propulsion batteries and the charging algorithm have been reviewed and approved by the battery manufacturer.
- (31) The charger is UL Certified.
- (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).