EV AMERICA

USDOE

PERFORMANCE STATISTICS

1995 SOLECTRIA E10

VEHICLE SPECIFICATIONS

CONVERTED VEHICLE
Base Vehicle: 1995 Chevrolet S-10 Pickup
VIN:1GCCS144XSK175700
Seatbelt Positions: Two
Standard Features:

- Power Steering
- Power Brakes
- Front Disk Brakes
- Rear Anti-Lock Brakes
- Driver Side Air Bags
- AM/FM Stereo Radio w/Cassette
- Electric Heater

Options as Tested:

- None

BATTERY
Manufacturer: Hawker
Type: G12V38Ah10C Sealed Lead Acid
Number of Modules: 36
Weight of Module: 16 kg
Weight of Pack(s): 573 kg
Pack Locations: Underhood/Underbed
Nominal Module Voltage: 12 V
Nominal System Voltage: 144 V
Nominal Capacity (1C): 30 Ah

WEIGHTS
Design Curb Weight: 3790 lbs
Delivered Curb Weight: 3959 lbs
Distribution F/R: 48/52 %
GVWR: 4600 lbs
GAWR F/R: 2500/2700 lbs
Payload: 641 lbs
Performance Goal: 632 lbs

DIMENSIONS
Wheelbase: 110.0 inches
Track F/R: 54.6/54.6 inches
Length: 188.7 inches
Width: 68.0 inches
Height: 61.8 inches
Ground Clearance: 4.7 inches

CHARGER
Location: Underhood
Type: Solectria 3 kW Conductive
Input Voltages: 208-240 VAC

TIRES
Tire Mfg: Goodyear
Tire Model: Invicta GS Radial
Tire Size: P215/70R15
Tire Pressure F/R: 44/44 psi
Spare Installed: No

TEST NOTES:

1. The charge algorithm was modified twice during the Test Program.
2. The amp-hour meter showed continuous discharge, even when vehicle was charging.
3. During the "55 mph at 3% Grade Test," the vehicle stopped with no apparent cause.
4. Full charge may not occur when charging at ambient temperatures of >100°F.
5. To charge in less than 12 hours, charging should occur in ambient temperatures <100°F.
6. Vehicle was removed from the Test Program for repair for three 24-hour periods.
7. The Charger TEst was completed with ambient temperatures of 82°F < temp < 90°F.
8. The vehicle charger tripped the GFI feeder breaker routinely during the Test Program.

Values in red indicate the Performance Goal was not met.
All Power and Energy values are DC unless otherwise specified.
Vehicle meets all EV America Minimum Requirements listed on back.

ACCELERATION 0-50 mph
At 100% SOC: 14.8 sec
At 50% SOC: 17.4 sec
Max. Power: 71.6 kW
Performance Goal: 13.5 sec at 50% SOC

MAXIMUM SPEED @ 50% SOC
At 1/4 Mile: 55.4 mph
At 1 Mile: 67.9 mph
Performance Goal: 70 mph in one mile

CONSTANT SPEED RANGE @ 45 mph
Range: 80.8 miles
Energy Used: 18.49 kWh
Average Power: 9.99 kW
Efficiency: 229 Wh/mile
Specific Energy: 32.3 Wh/kg

CONSTANT SPEED RANGE @ 60 mph
Range: 49.9 miles
Energy Used: 15.59 kWh
Average Power: 17.85 kW
Efficiency: 312 Wh/mile
Specific Energy: 27.2 Wh/kg

DRIVING CYCLE RANGE
Range per SAE J1634: 55.1 miles
Energy Used: 15.59 kWh
Average Power: 6.87 kW
Efficiency: 283 Wh/mile
Specific Energy: 27.3 Wh/kg
Performance Goal: 60 miles

BRAKING FROM 60 mph
Controlled Dry: 184.2 feet
Controlled Wet: 259.4 feet
Panic Wet: 316.0 feet
Course Deviation: 1.0 feet

HANDLING
Avg Time @ 90% SOC: 56.1 sec
Avg Time @ 50% SOC: 56.8 sec
Avg Time @ 20% SOC: 58.7 sec
Avg ICE S-10 Time: 58.3 sec

GRADEABILITY (Calculated)
Maximum Speed @ 3%: 59.4 mph
Maximum Speed @ 6%: 48.5 mph
Maximum Grade: 28.2%
Time on 3% Grade: 12 min 47 sec
Performance Goal: 15 Min

CHARGING EFFICIENCY
Efficiency: 317 Wh-AC/mile
Energy Cost @ 10 ¢/kWh: 3.17 ¢/mile

CHARGER
Max Charger Ground Current: &lt0.01 mA
Max Battery Leakage Current: &lt0.01 mA
Max DC Charge Current: 21.0 Amps
Max AC Charge Current: 14.5 Amps
Pwr Factor @ Max Current: 0.99
THD(V)/(I) @ Max Current: 4.23/4.05 %
Peak Demand: 2.92 kW
Time to Recharge: 11 Hrs 11 min
Performance Goal: 8 hours

This vehicle meets the following EV America Minimum Requirements:

1. The vehicle has a payload of-at least 400 pounds.
2. The vehicle does not have a GVWR greater than the OEM GVWR.
3. The OEM GAWRs have not been increased.
4. Seating capacity is a minimum of 2 passengers.
5. A battery recycling plan has been provided.
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 do not intrude into the passenger compartment during or following a frontal barrier, rear barrier and side impact collision and roll-over.
11. Batteries are lead-acid using a hermetically sealed or valve regulated design.
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 is capable of recharging the main propulsion battery in less than 12 hours when recharging at 208V single phase 40A maximum.
14. The vehicle manufacturer has certified the charger is capable of accepting input voltages of 208VAC and 240VAC single phase 60 Hertz, with a tolerance of -13% +6% of rated voltage. On-board personnel protection systems are compatible with utility service GFCI protected circuits.
15. The charger has a true power factor of .95 or greater and a harmonic distortion of less than 5% (voltage and 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 when continuously left on charge.
17. Vehicles do 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. Vehicles are accompanied with 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. The vehicle has a battery system voltage indicator.
21. The vehicle has a power or current indicator.
22. Under static conditions, leakage current from propulsion system to vehicle chassis is less than 1 mA.
23. Ground currents from a grounded chassis during charging does not exceed 5 mA.
24. Replacement tires are commercially available to the end user.
25. The vehicle has the following interlocks:
    a). The controller does not energize in any drive selector position other than Park" or "Neutral"
    b). The start key is removable only in the "Off' position, with the drive selector in "Park"
    c). The controller does not initially energize or excite with a preexisting accelerator input.
26. The vehicle manufacturer has certified this vehicle complies with FCC requirements for unintentional emitted electromagnetic radiation, as identified in 47 CFR 15, Subpart B, "Unintentional Radiators."
27. The vehicle manufacturer has certified failure of a battery or battery pack is deemed to have occurred if the actual battery capacity is not at least 80% of the nominal ampere hour capacity.
28. The vehicle is equipped with an automatic disconnect and a manual service disconnect for the main propulsion batteries which are clearly labeled.
29. The charging system is compatible with circuit breaker type GFCI systems.
30. Material Safety Data Sheets (MSDS) for all on-board batteries have been supplied.
31. 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.

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