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2001 CHEVROLET S-10 Crew Cab OEM Service and Repair Workshop Manual

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YOUR CURRENT VEHICLE

Battery Electrical Drain/Parasitic Load Test

Battery Electrical Drain/Parasitic Load Test

12 V Battery

The following procedure is for the 12 V battery only.

Diagnostic Instructions

- Perform the Diagnostic System Check - Vehicle prior to using this diagnostic procedure.
- Review Strategy Based Diagnosis for an overview of the diagnostic approach.
- Diagnostic Procedure Instructions provides an overview of each diagnostic category.

Circuit/System Description

Components most likely to cause a parasitic draw on the vehicles battery are switches, relays, and control modules. After the ignition is turned OFF the control modules will begin to go to sleep (shut OFF). All control modules do not go to sleep at the same time, some may take up to 30 minutes or longer after turning the ignition off before going to sleep e.g. RAP or IRAP. Other components such as EVAP, HVAC afterblow, EV Battery Heater/Coolers, OnStar and keyless entry control modules (approach detection in keyless access vehicles) etc. may periodically wake up then go back to sleep. These are all normal conditions, use of a DMM set to Min/Max may help identify the normal types of spikes in the parasitic draws

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Diagnostic Aids

Active Draws

- If the battery voltage is interrupted by removing fuses, relays, module or component connectors, or disconnecting the battery may cause the condition to clear or reset. To prevent a loss of power when disconnecting the battery install the EQPMSK6211 Battery Booster Pack or equivalent to the positive and negative battery cables prior disconnecting it to prevent a loss of voltage.

monitoring sensors and other vehicle Fobs in the vicinity, may cause the body control module to have a 100 mA spike. These spikes are normal and occur too briefly to have a significant effect on battery drain.

- If an excessive current draw is not present during initial testing, continue periodic testing over a 1–2 hour period to see if the current draw increases and stays above an unacceptable level.

- **NOTE**

  Note

  The battery specification listed below is a generic specification. Refer to the label on the original battery when testing the battery.

  The battery run down time will vary depending on the batteries reserve capacity. If the reserve capacity is higher, then the battery run down time may be longer. If the reserve capacity is lower, then the battery run down time may be shorter. The graph below indicates roughly how many days a 690 cold cranking amperage battery with a 110 min. reserve capacity starting at 80 percent state of charge will last with a constant current draw until it reaches 50 percent state of charge. Differences in battery reserve capacity and temperature will affect the results.

Current Drain	Days
25 mA	33
50 mA	16.5
75 mA	11
100 mA	8.25
250 mA	3.3
500 mA	1.65
750 mA	1
1 A	0.8
2 A	0.4

Intermittent Draws

- The Battery Draw Customer Verification Worksheet may be helpful isolating or duplicating the customers concern **CCVS - Battery Draw**

- When diagnosing an intermittent battery draw, if the battery voltage is interrupted by removing fuses, relays, module or component connectors, or disconnecting the battery may cause the condition to clear or reset. To

- An extremely low mA current level is consumed by the body control module for monitoring purposes, actual system wake up occurs when the fobs for the vehicle are activated or approach is detected on keyless access vehicles. Other devices that operate on the same remote keyless entry frequency, such as the tire pressure monitoring sensors and other vehicle Fobs in the vicinity, may cause the body control module to have a 100 mA spike. These spikes are normal and occur too briefly to have a significant effect on battery drain.
- If an excessive current draw is not present during initial testing, continue periodic testing over a 1–2 hour period to see if the current draw increases and stays above an unacceptable level.
- **NOTE**

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  The battery specification listed below is a generic specification. Refer to the label on the original battery when testing the battery.

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Reference Information

- Key out of the ignition switch – when not equipped with keyless access and start. Transmitter (Key FOB) away from vehicle for keyless access equipped vehicles.
- Retained Accessory Power OFF – open and close the driver door after ignition OFF
- Scan tool not communicating with a vehicle control module – in some cases it may need to be disconnected from the DLC
- All doors, hood, trunk/liftgate, glove compartments, and console switches, latches and ajar switches are closed.
- Head lamps OFF – auto head lamps disabled.
- Any delay lighting OFF.
- If equipped with an underhood lamp disable it. On vehicles will disable the underhood lamp when the hood latch is closed
- If equipped with HVAC Afterblow, after shutting the vehicle off afterblow may cycle on after 30 min for approximately 10 minutes. Starting with some 2021 Model Vehicles afterblow is enabled at the factory and cannot be disabled.
- Any accessory that can work with ignition OFF inactive or OFF. On some vehicles the Auxilary Power Ports can be enabled to be on at all times by relocating the fuse in the fuseblock.
- Wait 15 min or longer, after all other listed conditions are met

Using an Inductive Amp Clamp (Preferred Method)

1. Verify meter operating correctly, refer to the tools owner manual for tool being used,
2. Road test the vehicle in the same manner as the customer does, based on information obtained from the customer verification sheet.
3. Activate all the accessories the vehicle is equipped with, such as the radio, rear seat entertainment, rear defogger, windows, sunroof, front and rear HVAC etc. (operate components through a full cycle) confirm everything is operating correctly and note any components that are not operating correctly.
4. **NOTE**

   Note

   Zero the meter before connecting the amp clamp and verify the current sensor clamp in the correct orientation (arrow towards the negative battery post).

   Connect a 50 Amp inductive amp clamp to the negative battery cable that can read down to 1 mA.
5. Ignition OFF.