

## TROUBLE SHOOTING THE 12 VOLT ELECTRICAL SYSTEM

Sectionalizing the trailer's 12 volt electrical system into three separate trouble-shooting categories can drastically reduce repair time locating shorts or opens within the circuit.

These three categories consist of the following:

### 1. 12 Volt Main Wire Harness (4, 6, or 7 pin connectors)

By disengaging the main wiring harness from the rear body panel wiring harness at the plastic connector plug located inside the rear body panel, shorts or opens are effectively confined to within the trailer frame.

**NOTE:** Some appliances, such as refrigerators or gas leak detectors, may be connected to the auxiliary 12 volt hot line from the battery. Batteries should be disconnected if the trailer is to be stored any length of time or periodically recharged.

### 2. Trailer Main Body

All 12 volt wiring for exterior/interior lights is located directly behind the exterior body panels and can be accessed by removing the screws along the bottom of the panels. Front and rear body panels can be accessed by removing the screws or rivets along the top of the panels. Disengage the exterior tenting wire harnesses (12 volt plug), located atop the body rails. At the base of the tent enclosure, typically there are one or two 12 volt plastic plug connectors. Disconnect both. This confines shorts or opens to the trailer main body wire harness or the main frame wiring harness. Follow 12 volt main wire harness procedure to determine which contains the short or open circuit.

**NOTE:** Storage box units have the 12 volt wire harness run inside along the top of the storage box. The metal cover plates inside the storage box must be removed to expose the wiring. Glide-out and tip-out models will have tent wire harness plugs on the roadside and curbside body rails of the trailer.

### 3. Top Assembly

All shorts or opens can be isolated to the top assembly by disengaging the 12 volt plug(s) located along the curbside and/or roadside body rails at the base of the tent enclosure. This confines the problem to within the top assembly or plug connector providing no new fuses are blown with the 12 volt plug(s) disengaged.

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### EXTERIOR 12 VOLT ELECTRICAL SYSTEM TROUBLE SHOOTING CHART

Symptom      Single exterior marker light/taillight does not operate

- Repair
- a.    Replace bulb
  - b.    Replace socket base/contact pin
  - c.    Replace loose wires to socket base
  - d.    Replace bad wire, connector/crimp
  - e.    Loose wire, rear panel connector plug
  - f.    Bad ground or 12 volt input line

Symptom      Single exterior marker light/taillight blinks on/off periodically

- Repair
- a.    Check bulb tightness
  - b.    Check loose contact pins
  - c.    Loose wire socket base
  - d.    Loose wire connector/crimp
  - e.    Loose wire in rear panel connector plug
  - f.    Loose ground or 12 volt input line
  - g.    Bad filament in bulb

Symptom      All exterior marker lights/taillights blink on/off periodically

- Repair
- a.    Improper engagement of trailer 12 volt wire harness (tow vehicle to trailer)
  - b.    Loose ground connections or 12 volt input line
  - c.    Improper engagement of trailer's 12 volt main wire harness and rear body panel wire harness plastic connector plug
  - d.    Check continuity of trailer's 12 volt main wire harness for possible breaks in insulation of wires
  - e.    For storage box units, make sure storage lid is completely closed and cargo light switch is fully depressed.

Symptom      One rear taillight assembly burns brighter

- Repair
- a.    Bad ground connection, taillight assembly
  - b.    Wrong bulb installed (must use double filament)

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Symptom No exterior lights

- Repair
- a. Improper engagement of trailer 12 volt main wire harness (tow vehicle to trailer)
  - b. Fuse blown - tow vehicle
  - c. Bad trailer 12 volt wire harness/pigtail (continuity test)
  - d. Bad ground connection, rear frame channel
  - e. Broken wire, main wire harness
  - f. Main plug connector inside rear body panel disengaged

Symptom No 12 volt to electric brakes

- Repair
- a. Improper engagement of trailer's 12 volt main wire harness (tow vehicle to trailer)
  - b. Bad ground connector
  - c. Bad wire connector/crimp at magnets
  - d. Bad pin, trailer wire harness pigtail
  - e. Blown fuse or bad circuit breaker in tow vehicle
  - f. Bad brake controller

## INTERIOR 12 VOLT ELECTRICAL SYSTEM TROUBLE SHOOTING CHART

Symptom No top lights

- Repair
- a. Blown fuse, converter
  - b. Loose plug connection roadside and/or curbside, body rail and tent assembly
  - c. Loose ground wire, base of light assembly
  - d. Loose wire connector/crimp, converter
  - e. Short in wiring, continuity test
  - f. Upper galley not depressing kill switch on lower galley top
  - g. Hot wire to kill switch disconnected
  - h. Switch on dome lights turned "off"
  - i. Broken wire harness in top assembly (Check installation of any accessories).

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Symptom No step light/porch light

- Repair
- a. Replace on/off switch
  - b. Blown fuse, converter
  - c. Replace bulb
  - d. Check/replace broken wire
  - e. Wire off back of switch/converter
  - f. Replace loose/broken ground wire
  - g. Bent contact pin, socket base
  - h. Shorted/pinched wire; continuity test
  - i. Bad quick connector

Symptom Fuse blows constantly on one circuit

- Repair
- a. Sectionalize problem to suspect area by disengaging 12 volt plug connectors (see beginning paragraph)

Symptom Heater constantly blows fuse

- Repair
- a. Sectionalize problem by disengaging all other circuits
  - b. Check converter plug for reversed wiring
  - c. Check for pinched or exposed wiring
  - d. Check installation of heater wiring for proper connections
  - e. Bad heater
  - f. Bad thermostat
  - g. Bad relay

Symptom Heater does not work

- Repair
- a. Bad thermostat/setting
  - b. Bad crimp at heater/thermostat
  - c. Improper engagement of 12 volt plug connector in bench assembly
  - d. Bad relay on heater
  - e. Bad wire connector/crimp at converter
  - f. Blown fuse, converter
  - g. Bad sail switch
  - h. Refer to operator's manual for additional trouble-shooting.

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Symptom Refrigerator does not operate

- Repair
- a. Blown fuse, trailer and converter
  - b. Bad refrigerator converter (dealer-installed)
  - c. Blown fuse, refrigerator converter
  - d. Check for loose wire connections at all terminals
  - e. Bad thermostat
  - f. Bad refrigerator
  - g. Replace wire connector/crimp, converter
  - h. Refer to operator's manual for additional trouble-shooting.

Symptom Electric water pump does not function

- Repair
- a. Blown fuse, pump (converter)
  - b. Blown fuse, pump (in-line)
  - c. Replace pump switch
  - d. Replace wire connector/crimp, converter
  - e. Wire off pump
  - f. Replace pump
  - g. Pinched water line
  - h. Clogged filter