

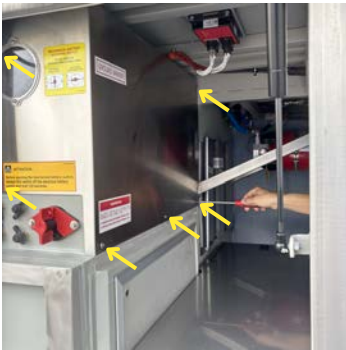
COACH MODEL.....Any
 DATE.....08/21/2026
 SUBJECT.....Battery Relay Diagnostic Check

A. WORK SETUP

A-1. Ensure the coach (system) is turned off. **Access** the curbside battery compartment area.



A-2. Remove the (6) screws from the front panel of the EKB compartment and **remove** the front panel. **Gently move** the panel away from the work area.



A-3. Remove the coach batteries' cover. **Gently move** the cover away from the work area.



B. VISUAL INSPECTION

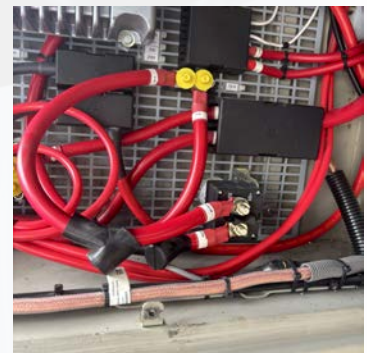
B-1. Set the battery shut-off switch to the "off" (horizontal) position.



B-2. Inspect the existing relay, contactor, and surrounding wiring for:

- Burned or melted housing(s);
- Loose mounting hardware;
- Damaged connector pins;
- Frayed or damaged wiring;
- Evidence of overheating;
- Water Intrusion; and/or
- Proper torque for all connections.

If any of the above infractions are present, **repair** or **replace** the damaged components as needed.



Battery Relay Replacement!

Check out our online ABC Parts Store to order a replacement battery relay for your coach! Click the link below:

<https://store.abc-companies.com>

ABC
 COMPANIES
 PARTS SOURCE



Relay, Main Battery
 p/n: 11409325

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C. BATTERY VOLTAGE VERIFICATION

C-1. Set the battery shut-off switch to the “on” (vertical) position and **prepare** your multimeter.



C-2. With the **system turned off**, **measure** voltage from the relay input (bottom) terminal and the chassis ground. **Repeat** this step with the **system turned on**. Voltage should read as follows:

- **System off:** 24.0–25.5 VDC
- **System on:** 27.0–28.5 VDC

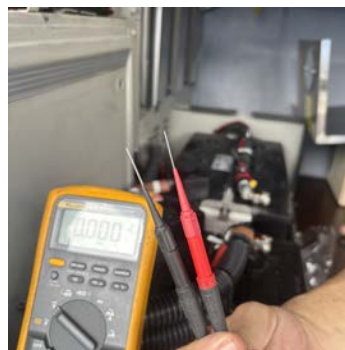


C-3. If **voltage is low**: **inspect** the batteries and **check** all connections, and **verify** the system is properly charging the batteries.



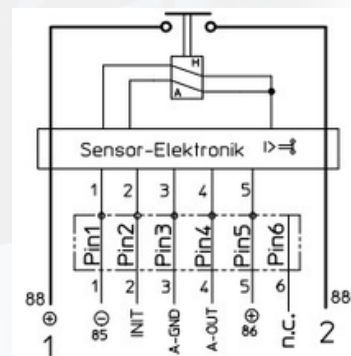
D. CONNECTOR VOLTAGE VERIFICATION

D-1. With the **system turned on**, **prepare** your multimeter to measure voltage at the contactor control connector (plug).



D-2. Insert the NEGATIVE lead into ‘pin 1’, and the POSITIVE lead into ‘pin 5’, of the battery-side plug. **Repeat** this step with the **system turned off**. Voltage should read as follows:

- **System on:** 22.0–28.0 VDC
- **System off:** 0 VDC



D-3. If **voltage is lower than expected** while the system is on, possible causes may include: high resistance connection, weak batteries, corroded terminals, and/or damaged wiring.

If **voltage is NOT present** while the system is on, possible causes may include a(n): blown fuse, failed relay, open circuit, wiring fault, and/or controller fault.

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E. AUDITORY INSPECTION

E-1. Turn the **system on** and **listen** for a mechanical “click” sound within battery compartment area.
Repeat this step when turning the **system off**.



E-2. If the “click” sound is **PRESENT AND STRONG**, then the **system is in normal working order**.

If the “click” sound is **PRESENT BUT WEAK**, then the **system is NOT working properly**. Possible Causes may include:

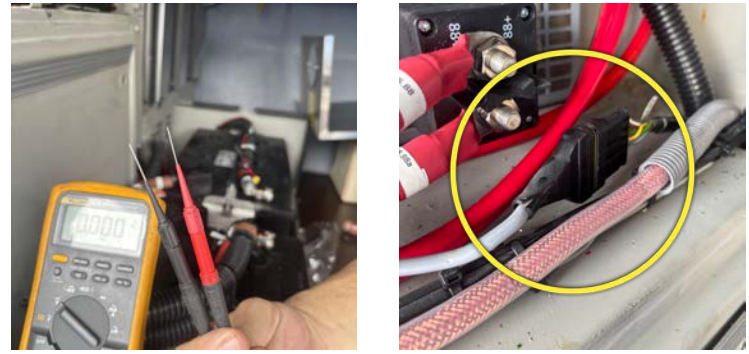
- Coil failure;
- Low voltage supply; and/or
- High resistance connection.

If the “click” sound is **NOT PRESENT**, then the **system is NOT working properly**. Possible causes may include:

- Coil failure;
- Internal failure;
- Open wiring; and/or
- Nonexistent control voltage.

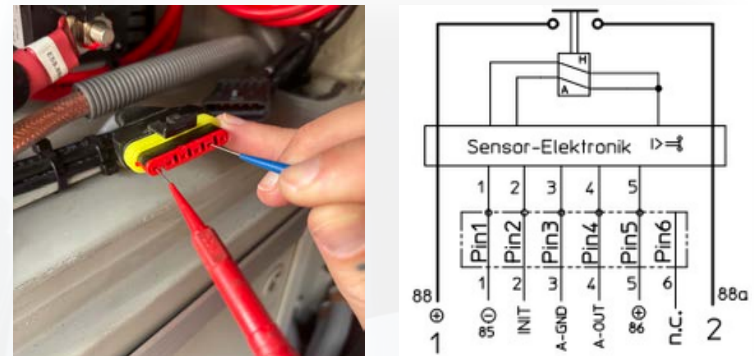
F. COIL RESISTANCE VERIFICATION

F-1. With the **system turned off**, **prepare** your multimeter to measure voltage at the contactor control connector (plug).



F-2. **Disconnect** the plug. **Insert** the POSITIVE lead into ‘pin 1’, and the NEGATIVE lead into ‘pin 5’, of the relay-side plug. Resistance should read as follows:

- **Resistance:** *Finite value (number value)*



F-3. If **resistance is extremely low**, possible causes may include a(n): internal short or faulty contactor.

If **resistance is yielding an OL (open circuit) reading**, possible causes may include a(n): coil winding failure or faulty contactor.

F-4. **Reconnect** the plug.

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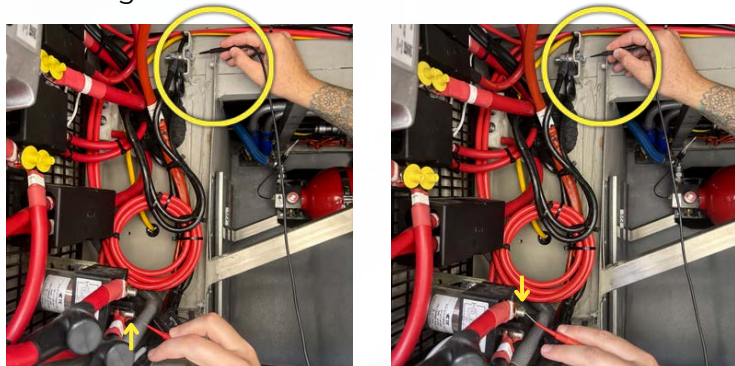
G. TERMINAL VOLTAGE VERIFICATION

G-1. Prepare your multimeter to measure voltage at both relay terminals.



G-2. With the **system turned off**, **measure** voltage from the relay INPUT terminal (bottom) and the chassis ground. Then **measure** voltage from relay OUTPUT terminal (top) and chassis ground. Voltage should read as follows:

- **Input terminal:** 24.0–25.5 VDC
- **Output terminal:** within 0.2 VDC of the input voltage



G-3. Repeat the process described in Step G-2 with the **system turned on**. Voltage should read as follows:

- **Input terminal:** 27.0–28.5 VDC
- **Output terminal:** within 0.2 VDC of the input voltage

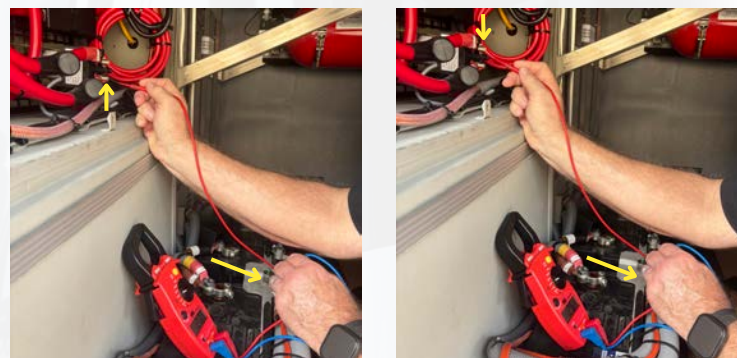
H. VOLTAGE DROP TEST

H-1. With the **system turned on** and load applied, **prepare** your multimeter to measure voltage across the relay and battery terminals.



H-2. Measure voltage from the relay INPUT terminal (bottom) and negative battery terminal. Then **measure** voltage from relay OUTPUT terminal (top) and negative battery terminal. Please note:

- **Acceptable voltage drop:** less than 0.30 VDC
- **Excessive voltage drop:** greater than 0.50 VDC

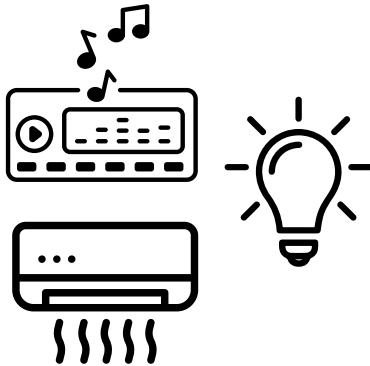


H-3. If the **drop in voltage is excessive (>0.50 VDC)**, possible causes may include: pitted contacts, burned contacts, internal wear, and/or loose connections.

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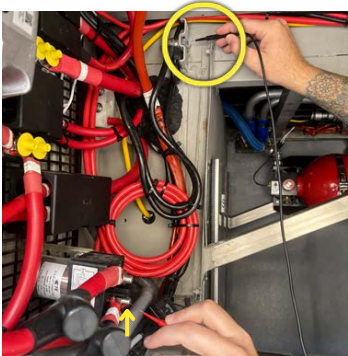
I. LOAD TEST

I-1. Turn the **system on** and apply normal load.



I-2. Monitor the following:

- Voltage stability
- Current draw
- System performance



I-3. The following symptoms may indicate a **system failure**:

- Inconsistent operation
- Voltage fluctuations
- Excessive heat
- System shutdown

J. THERMAL INSPECTION

J-1. With the **system turned on** and load applied, **prepare** your infrared thermometer to measure the temperature of the relay-related components. **Wait 15 minutes** before measuring.



J-2. **Measure** the temperature of the following components:

- Input terminal
- Output terminal
- Connector temperature
- Housing temperature

The **system is performing as expected** when all recorded temperatures are relatively equal.



If at least **one of the components is significantly hotter than the other components**, possible causes may include: high resistance connection, internal contact damage, and/or loose terminal hardware.

J-3. **Replace** the contactor if you have discovered: connector damage, overheating, internal failures, shorted coil windings, open coil windings, and/or burned or welded contacts.