

THINK:

2002 Th!nk Neighbor

ISSUE

Some THINK Neighbor electric vehicles may display a low range, no start or a no charging condition. This may be due to the on-board battery charger either overcharging, undercharging or not charging at all. These conditions may cause associated damage to the battery pack, resulting in battery pack replacement.

ACTION

The following is an optional service procedure to supplement the Workshop Manual procedure to properly diagnose the function of the on-board battery charger.

SERVICE PROCEDURE**WARNING**

THIS VEHICLE CONTAINS HIGH-VOLTAGE COMPONENTS AND WIRING. THE BATTERY PACK ASSEMBLY CAN DELIVER IN EXCESS OF 72 VOLTS OF DC POWER. HIGH-VOLTAGE INSULATED SAFETY GLOVES AND FACE SHIELD MUST BE WORN WHEN PERFORMING THIS TSB. FAILURE TO FOLLOW THIS WARNING, OR IMPROPER HANDLING OF THE BATTERY PACK MAY RESULT IN SEVERE PERSONAL INJURY OR DEATH. ONLY AUTHORIZED PERSONNEL TRAINED TO WORK WITH HIGH-VOLTAGE AND BATTERY PACK COMPONENTS ARE PERMITTED TO HANDLE THE BATTERIES.

CAUTION

BEFORE WORKING ON THE BATTERY PACK, THE SERVICE DISCONNECT SWITCH (SDS) MUST BE TURNED OFF. THE SDS SHOULD REMAIN OFF FOR THE DURATION OF THIS PROCEDURE.

NOTE

FORD MOTOR COMPANY MAY REQUEST THE RETURN OF THE CAUSAL COMPONENT(S) LEADING TO BATTERY PACK REPLACEMENT. WHEN BATTERIES ARE REPLACED UNDER WARRANTY, ALL RELATED CAUSAL COMPONENTS MUST BE HELD FOR 30 DAYS FROM THE CLAIM SUBMISSION DATE. BE SURE TO INCLUDE BATTERY PACK AND INDIVIDUAL BATTERY VOLTAGES, ALONG WITH BATTERY CHARGER OUTPUT VOLTAGE, IN COMMENTS AREA OF THE REPAIR ORDER.

1. Remove the front seat stanchion and check battery pack voltage by placing a DVOM positive (+) probe onto the positive terminal of battery #6, and the DVOM negative (-) probe onto the negative terminal of battery #1 (Figure 1).
 - a. If the voltage reading is above 20V, proceed to Step 7.
 - b. If voltage is below 20V, proceed to Step 2.

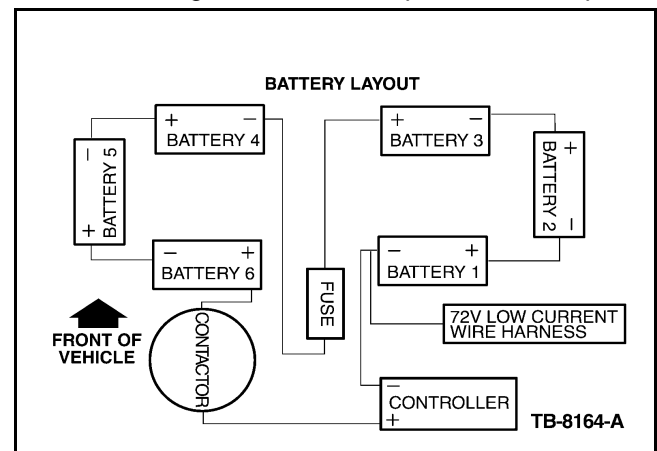


Figure 1 - Article 05-4-12

NOTE: The information in Technical Service Bulletins is intended for use by trained, professional technicians with the knowledge, tools, and equipment to do the job properly and safely. It informs these technicians of conditions that may occur on some vehicles, or provides information that could assist in proper vehicle service. The procedures should not be performed by "do-it-yourselfers". Do not assume that a condition described affects your car or truck. Contact a Ford, Lincoln, or Mercury dealership to determine whether the Bulletin applies to your vehicle. Warranty Policy and Extended Service Plan documentation determine Warranty and/or Extended Service Plan coverage unless stated otherwise in the TSB article. The information in this Technical Service Bulletin (TSB) was current at the time of printing. Ford Motor Company reserves the right to supersede this information with updates. The most recent information is available through Ford Motor Company's on-line technical resources.

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2. Obtain two (2) known good batteries (Part # 10655). Check the batteries to be sure they produce at least 11V each or 22V combined. These batteries will be referred to as batteries A and B for the remainder of this TSB.
3. **CRITICAL, USING HIGH VOLTAGE GLOVES**, disconnect the following battery cables: battery #3 (+), and battery #4 (-).
4. Connect the (+) terminal of battery A to the (-) terminal of battery B, (an extra THINK Neighbor battery cable or a jumper cable may be used to make the connection).
5. Connect the (+) terminal of battery B to the (-) terminal of the battery pack #4 battery (Figure 2). Connect the (-) terminal of battery A to the (+) terminal of the battery pack #3 battery.

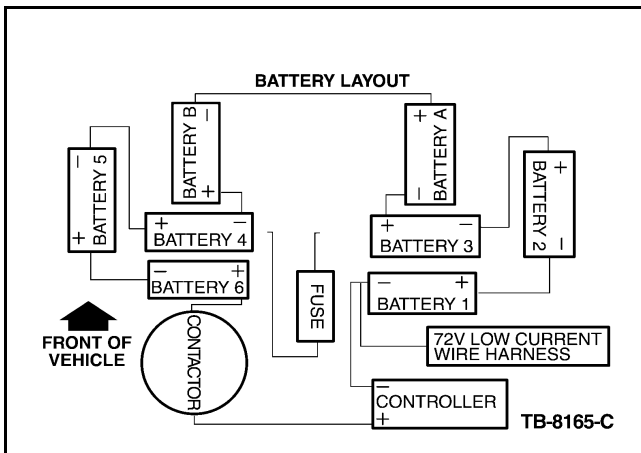


Figure 2 - Article 05-4-12

6. Place the DVOM (+) probe onto the (+) terminal of battery #6 and the (-) probe onto the (-) terminal of battery #1.
7. Using the customer's GFCI cord:
 - a. Plug the cord into the 110V wall outlet.
 - b. Turn-off the GFCI cord breaker by pressing the (TEST) button on the GFCI block.
 - c. Plug in the GFCI receptacle end into the vehicle charge inlet.

- d. Turn-on power to the charger by pressing the (RESET) button on the GFCI cord breaker.
8. Within 3 minutes of plugging the charger in, the voltage reading on the DVOM should start to rise.
 - a. If the voltage rises, this means that the charger is working. However, continue to monitor the DVOM until the voltage hits its highest point (peaks).
 - (1) If the voltage rises above 90V, the charger is overcharging and should be replaced.
 - (2) If the voltage rises but never reaches 75V or above, the charger is under charging and should be replaced.
 - b. If the voltage does not rise after 5 minutes, the charging system is not charging.
 - (1) Check the function of charging system components such as the GFCI cord, the charger, 30-amp fuse and the charge circuit. Make repairs as necessary and retest. If no faults are found with the system components, replace the charger.
 9. After completing the charger diagnostics, shut-off the power through the GFCI charge cord by pressing the (TEST) button on the GFCI breaker on the GFCI cord, and remove the cord from the vehicle plug inlet.
 10. **CRITICAL, USING HIGH VOLTAGE GLOVES**, disconnect battery cables from the A and B jumper batteries to the vehicle batteries at battery #3 (+), and battery #4 (-). Reconnect the vehicle pack battery cables.

WARRANTY STATUS: Information Only

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