1. DESCRIPTION
This vehicle is equipped with 12-volt deep-cycle heavy-duty maintenance free Absorbed Glass Mat (AGM) batteries. The batteries have sealed pressure valves to allow gases to escape and should never be opened. Electrolyte is absorbed in the glass mat and cannot be added to these batteries. Batteries are equipped with threaded positive and negative terminals.

Note:
Opening the vent caps will void the battery warranty.

2. BATTERIES SPECIFICATIONS

<table>
<thead>
<tr>
<th>Manufacturer</th>
<th>Trojan Battery Company</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model</td>
<td>OverDrive Bus &amp; Coach</td>
</tr>
<tr>
<td>P/N</td>
<td>902418</td>
</tr>
<tr>
<td>Voltage</td>
<td>12.0 Volts</td>
</tr>
<tr>
<td>Cold Cranking Amperes @ 0°F</td>
<td>730 CCA</td>
</tr>
<tr>
<td>Reserve Capacity</td>
<td>180 minutes</td>
</tr>
<tr>
<td>Required Regulator Setting</td>
<td>28.0 – 28.5*</td>
</tr>
</tbody>
</table>

* Measured at the battery terminal

3. REMOVAL
1. Set the Battery Disconnect switches to the OFF position.
2. Remove the wing nut and washers and pivot the battery tray retainer bracket downward. Slide the battery tray out to the fully extended position.
3. Note the positive and negative terminals on the batteries and tag the cables before removing. Refer to Battery Hookup decal on the inside of the fuse box door.
4. Disconnect the cables from the negative terminals of the battery.
5. Disconnect the cables from the positive terminals of the battery, including the jumper cable.
6. Remove the three nuts from the battery hold down retainer. Remove the cable hanger with cables and tie out of the way. Remove the battery hold down retainer.
7. Carefully lift and remove the batteries from the tray.

4. INSTALLATION
1. Install the batteries into the tray with the positive and negative terminals arranged as originally removed.
2. Secure the batteries in place using the hold down retainer and nuts. Position the battery cable hanger and bracket in place and secure.

4. INSTALLATION (cont'd)
3. Connect the positive cables and jumper cable to their respective terminals as marked on removal.
4. Connect the negative cables to the battery negative terminal.
5. Ensure exposed battery terminals are protected with a coating of dielectric grease. Ensure protective rubber boots are installed over the positive terminal connectors.
6. Slide the battery tray into the fully retracted position.
7. Pivot the battery tray retainer bracket upwards to engage the stud on the battery tray. Install flat washer, lock washer, and wing nut.
8. Set the Battery Disconnect switch to the ON position.

5. BATTERY CHARGING - OFF-BOARD CHARGING

<table>
<thead>
<tr>
<th>State of Charge as a Measure of Specific Gravity and Open-Circuit Voltage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Percentage Charge</td>
</tr>
<tr>
<td>--------------------</td>
</tr>
<tr>
<td>100</td>
</tr>
<tr>
<td>90</td>
</tr>
<tr>
<td>80</td>
</tr>
<tr>
<td>70</td>
</tr>
<tr>
<td>60</td>
</tr>
<tr>
<td>50</td>
</tr>
<tr>
<td>40</td>
</tr>
<tr>
<td>30</td>
</tr>
<tr>
<td>20</td>
</tr>
<tr>
<td>10</td>
</tr>
</tbody>
</table>

For accurate open circuit voltage readings, batteries must have been off charge for a minimum of 6 hours, preferably 24 hours.

Note:
The true open circuit voltage of a battery can only be determined after the battery has been removed from the load (charge or discharge) for a minimum of 6 hours. Observe the following when charging the batteries:
- An adapter kit should be used in charging threaded-terminal batteries when they are out of the vehicle.
- When the threaded-terminal battery is in the vehicle, connect the charger’s leads to the studs or nuts at the battery’s terminals.
- Use a 40A rated battery charger with a charging profile that provides a constant current during the bulk charging stage, followed by two stages of constant voltage charge. See 'Fig. 1.1 Battery Charging Profile.'
The test equipment listed below is authorized to be used for testing TransPower Bus & Coach batteries:
Midtronics 7000 Monroe Street, Willowbrook, IL 60527
630-323-2800, or visit www.midtronics.com/exp1000.aspx
Tester: Medtronics EXP-1000

Recommended Trojan AGM Charging Profile

<table>
<thead>
<tr>
<th>Voltage (per cell)</th>
<th>Current (Amps)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.35V to 2.45V (at 25°C, 77°F)</td>
<td>20% C20</td>
</tr>
</tbody>
</table>

Charge Voltage
State of Charge (%)

20% Will increase with age
80%
100%

Charger Voltage Settings for OverDrive Bus & Coach

<table>
<thead>
<tr>
<th>System Voltage</th>
<th>12 Volt</th>
</tr>
</thead>
<tbody>
<tr>
<td>Daily Charge</td>
<td>14.1 - 14.7</td>
</tr>
<tr>
<td>Float Charge</td>
<td>13.5 - 13.8</td>
</tr>
</tbody>
</table>

6. FUNCTIONAL TEST

6.1. VISUAL INSPECTION
1. Check outside of battery for a broken or cracked case.
2. If damage is evident, the battery should be replaced.
3. Check for loose battery terminals, cable connections, and evidence of corrosion.
4. Correct as required before proceeding with test.
5. Check that peak temperature indicator on top of battery. If indicator is black, stop and contact 800-423-6569 ext 3045.

6.2. LOAD TEST

Warning: Wear safety goggles when working with batteries. Immediately flush any areas of skin, which have been in contact with battery acid. When disconnecting battery cables, ALWAYS disconnect the negative cable first.

1. Set the Battery Disconnect switch to the OFF position.
2. Disconnect the cables from the battery.
3. Assemble adapters, if available, onto battery leads. Adapters are available from battery manufacturer.
4. Connect voltmeter and battery load tester across battery terminals.
5. If adapters are not available, attach tester clamps to contact lead pads. Tighten hex nuts to hold clamps against lead pads.
6. NEVER test batteries at the threaded studs. Recharge battery if open circuit voltage is below 50%. Refer to 5. “Battery Charging” in this section for procedure.

7. TROUBLESHOOTING
Check for the following conditions if the batteries pass the functional test; yet do not perform well in service:
1. Vehicle accessories left on for long periods of time.
2. Faulty vehicle charging system.
3. High wiring resistance.
4. Vehicle loads exceeding alternator capacity.
5. Shorted wiring.
6. Extended slow speed driving with high electrical loads.
7. Loose or corroded battery connections.
8. Improper battery charging.
9. High resistance connections or defects in cranking system.
10. Lengthy vehicle storage with batteries not disconnected. Batteries connected to stored vehicles can discharge in a six to eight week period, due to small current drains.
11. Discharged batteries can freeze and be difficult to recharge.

For more information, call 800.423.6569 or + 1.562.236.3000 or visit www.trojanbattery.com