Follow instructions below to install **A2-381 Regulator**:

1. Before installing, turn regulator over and set to same setting as regulator being replaced or make sure setting is appropriate for type of battery used. See Figure 1 and Table 1 for voltage set point options.

2. Mount regulator on alternator and torque four M6x1x20mm mounting screws (supplied) to 8.5 Nm/75 lb. in.

3. Plug alternator-to-regulator into receptacle on regulator. See Figure 2 for receptacle location.

4. Connect regulator terminals as required by vehicle:
   - **Regulator IGN terminal (required)** must receive voltage from vehicle DC ignition source or multiplex in order to energize regulator. Torque terminal hardware to 4.5 Nm/40 lb. in. See Figure 2 for terminal identification.

   **NOTICE** Voltage should be present at regulator IGN terminal when ignition is on or engine is running. No voltage should be present when ignition is off or engine is not running.

   - **Regulator D+ terminal (if required)** provides DC system battery voltage to vehicle (5A maximum) for charge indicator lamp, relay, or multiplex while alternator is producing output. Torque terminal hardware to 4.5 Nm/40 lb. in. See Figure 2.

   - **Regulator P/AC terminal (if required)** taps AC voltage from alternator, typically half the charge voltage (3A maximum). P/AC terminal provides alternator RPM frequency at 7.5:1 ratio for use with tachometer. Torque terminal hardware to 4.5 Nm/40 lb. in. See Figure 2.

   **NOTICE** If using relay for R/P/AC circuit, coil must be diode-protected and properly rated.

5. If using a J1939/temperature-voltage sense harness or, plug J1939 harness into J1939 receptacle on regulator. See Figure 2 for receptacle location. Harness sold separately¹.

6. If using a multiple alternators in a parallel-operation setup, plug J1939 communication harness into J1939 receptacle connecting each regulator. See Figure 2 for receptacle location. Harness sold separately².

---

**Table 1: Regulator Voltage Switch Settings**

<table>
<thead>
<tr>
<th>Position</th>
<th>Remote Sensing Not Connected</th>
<th>Remote Sensing Connected¹</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>27.5 V</td>
<td>Maintenance (8D)</td>
</tr>
<tr>
<td>2</td>
<td>28.0 V</td>
<td>Maintenance-free (G 31)</td>
</tr>
<tr>
<td>3</td>
<td>28.5 V</td>
<td>AGM</td>
</tr>
<tr>
<td>4</td>
<td>29.0 V</td>
<td>Flat</td>
</tr>
</tbody>
</table>

---

¹. Contact CEN for battery sensor/harness options

². Contact CEN for parallel operation harness options