



**Battery Model:** D31A  
**Part Number:** 8051-160  
**Nominal Voltage:** 12 volts  
**NSN:** not available yet  
**Description:** High power, sealed, lead acid deep cycle battery.

**Physical Characteristics:**

**Plate Design:** Wound cell configuration utilizing proprietary  
*SPIRALCELL TECHNOLOGY.®*  
**Case:** Polypropylene  
**Color:** Case: Light Gray  
 Cover: "OPTIMA" Yellow  
**Group Size:** BCI: 31

	Standard	Metric
<b>Length:</b>	12 13/16"	325 mm
<b>Width:</b>	6 1/2"	165 mm
<b>Height:</b>	9 3/8"	238 mm (height at the top of the terminals)
<b>Minimum Weight:</b>	59.8 lb.	27.1 kg

Terminal Configuration: SAE/BCI automotive.

**Performance Data:**

**Internal Resistance (fully charged):** .0025 ohms  
**Capacity:** 75 Ah (C/20)  
**Reserve Capacity:** BCI: 155 minutes  
 (25 amp discharge, 80°F (26.7°C), to 10.5 volts cut-off)

**Power:**

**CCA (BCI 0°F):** 900 amps  
**MCA (BCI 32°F):** 1125 amps

**Recommended Charging:**

The following charging methods are recommended to ensure a long battery life:  
 (Always use a voltage regulated charger with voltage limits set as described below.)

## Recommended Charging Information:

- Alternator:** 13.8 to 15.0 volts
- Battery Charger:** 13.8 to 15.0 volts, 10 amps, 12-15 hours approximate  
(Constant Voltage)
- Float Charge:** 13.2 to 13.8 volts, 1 amp maximum current
- Rapid Recharge (Constant Voltage Charger)**  
Maximum voltage 15.6 volts  
No current limit as long as temperature remains below 125° F  
Charge until current drops below 1 amp
- Recharge Time:** (example assuming 100% discharge - 10.5 volts)

<b>Amperage</b>	<b>Approx. time to 90% charge</b>
100 amps	52 minutes
50 amps	112 minutes
25 amps	210 minutes

Recharge time will vary according to temperature and charger characteristics. When using Constant Voltage chargers, current will taper down as the battery becomes recharged. When current drops below 1 amp, the battery will be close to a full state charge.

### **Cyclic application or series string applications:**

Constant Voltage with Constant Current finish (CV/CC):

14.7 volts, temperature < 125°F, no current limits. When current falls below 1 amp, finish with 3 amp constant charge for 1 hour.

(All charge recommendations assume an average room temperature of 77°F)

Always wear safety glasses when working with batteries.

Always use a voltage regulated battery charger with limits set to the above ratings. Overcharging can cause the safety valves to open and battery gases to escape, causing premature failure. These gases are flammable! You cannot replace water in sealed batteries that have been overcharged. Any battery that becomes very hot while charging should be disconnected immediately.

Not fully charging a battery can result in poor performance and a reduction in capacity.

## Shipping and Transportation Information:

OPTIMA batteries can be shipped by AIR. The battery is nonspillable and is tested according to ICAO Technical Instructions DOC. 9284-AN/905 to meet the requirements of Packing Instructions No. 806 and is classified as non-regulated by IATA Special Provision A-48 and A-67 for UN2800. Terminals must be protected from short circuit.