



**Battery Model:** D51  
**Part Number:** 8071-167  
**Nominal Voltage:** 12 volts  
**NSN:** 6140-01-523-6288  
**Description:** High power, dual purpose engine start and deep cycle, sealed lead acid battery



**Battery Model:** D51R  
**Part Number:** 8073-167  
**Nominal Voltage:** 12 volts  
**NSN:** Number applied for, product currently available  
**Description:** High power, dual purpose engine start and deep cycle, sealed lead acid battery

**Physical Characteristics:**

**Plate Design:** High purity lead-tin alloy. Wound cell configuration utilizing proprietary *SPIRALCELL*<sup>®</sup> technology.  
**Electrolyte:** Sulfuric acid, H<sub>2</sub>SO<sub>4</sub>  
**Case:** Polypropylene  
**Color:** Case: Light Gray  
           Cover: "OPTIMA" Yellow  
**Group Size:** BCI: 51

	Standard	Metric
<b>Length:</b>	9.313"	236.5 mm
<b>Width:</b>	5.063"	128.6 mm
<b>Height:</b>	8.938"	227 mm (height at the top of the terminals)
<b>Weight:</b>	26.0 lb.	11.8 kg

Terminal Configuration: SAE / BCI automotive.

**Performance Data:**

**Open Circuit Voltage (fully charged):** 13.1 volts  
**Internal Resistance (fully charged):** 0.0046 ohms  
**Capacity:** 38 Ah (C/20)  
**Reserve Capacity:** BCI: 66 minutes  
                           (25 amp discharge, 80°F (26.7°C), to 10.5 volts cut-off)

**Power:**

**CCA (BCI 0°F):** 450 amps  
**MCA (BCI 32°F):** 575 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.)

### Model: D51 and D51R

These batteries are designed for starting and deep cycling applications and for use in vehicles with large accessory loads.

## Recommended Charging Information:

<b>Alternator:</b>	13.65 to 15.0 volts
<b>Battery Charger (Constant Voltage):</b>	13.8 to 15.0 volts; 10 amps maximum; 6-12 hours approximate
<b>Float Charge:</b>	13.2 to 13.8 volts; 1 amp maximum (indefinite time at lower voltages)
<b>Rapid Recharge (Constant voltage charger)</b>	Maximum voltage 15.6 volts. No current limit as long as battery temperature remains below 125°F (51.7°C). Charge until current drops below 1 amp.
<b>Cyclic or Series String Applications:</b>	14.7 volts. No current limit as long as battery temperature remains below 125°F (51.7°C). When current falls below 1 amp, finish with 2 amp constant current for 1 hour.

**All limits  
must be  
strictly  
adhered to.**

**Recharge Time:** (example assuming 100% discharge – 10.5 volts)

<b>Current</b>	<b>Approx. time to 90% charge</b>
100 amps	25 minutes
50 amps	65 minutes
25 amps	130 minutes

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

(All charge recommendations assume an average room temperature of 77°F, 25°C)

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 end of life. 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.

### **Manufacturing Location:**

OPTIMA Batteries  
17500 East 22nd Avenue  
Aurora, CO 80011  
United States of America  
Phone: 303-340-7400  
Fax: 303-340-7474

BCI = Battery Council International

OPTIMA Batteries  
Product Specifications: Model D51 and D51R  
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