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*® technology.
Electrolyte:	Sulfuric acid, H_2SO_4
Case:	Polypropylene
Color:	Case: Light Gray Cover: "OPTIMA" Yellow
Group Size:	BCI: 51

	Standard	Metric
Length:	9.272"	235.51 mm
Width:	5.024"	127.61 mm
Height:	8.885"	225.68 mm (Height at the top of terminals)
Weight:	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):	.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 cycle applications and for use in vehicles with large accessory loads.

Recommended Charging Information:

Alternator:	13.65 to 15.0 volts
Battery Charger (Constant Voltage):	13.8 to 15.0 volts; 10 amps maximum; 6-12 hours approximate
Float Charge:	13.2 to 13.8 volts; 1 amp maximum; (indefinite time at lower voltages)
Rapid Recharge: **(Constant voltage charger)**	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.
Cyclic or Series String Applications:	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)

Current	Approximate time to 90% charge
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 of 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.