**Battery Model:** D34/78
**Part Number:** 8014-045
**Nominal Voltage:** 12 volts
**NSN:** 6140-01-441-4272
**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<br>Cover: "OPTIMA" **Yellow** |
| **Group Size:** | BCI: 34 |

| | Standard | Metric |
|---|---|---|
| **Length:** | 10.018" | 254.46 mm |
| **Width:** | 6.829" | 173.46 mm |
| **Height:** | 7.925" | 201.30 mm (Height at the top of terminals) |
| **Weight:** | 43.5 lb | 19.7 kg |

Terminal Configuration: SAE / BCI automotive and **3/8" threaded (nut) side terminals**

## Performance Data:

| | |
|---|---|
| **Open Circuit Voltage (Fully charged):** | 13.1 volts |
| **Internal Resistance (Fully charged):** | .0028 ohms |
| **Capacity:** | 55 Ah (C/20) |
| **Reserve Capacity:** | BCI: 120 minutes<br>(25 amp discharge, 80°F (26.7°C), to 10.5 volts cut-off) |

## Power:

| | |
|---|---|
| **CCA (BCI 0°F):** | 750 amps |
| **MCA (BCI 32°F):** | 870 amps |

## Cycle Life:

**300+ deep discharge/recharge cycles**

**This battery is designed for engine starting and also for use in deep cycle applications.**

**It's also ideal for use in vehicles with heavy accessory loads.**

OPTIMA BATTERIES
THE ULTIMATE POWER SOURCE™

## Recommended Charging Information:

| | |
|---|---|
| **Alternator** | Recommended charge voltage setting: 14.2 to 14.8 volts (measured at the battery). For best results we also recommend use of an alternator/regulator with temperature compensation that adjusts charge voltage relative to battery temperature. |
| **Battery Charger** | Constant voltage type charger. Max charge voltage regulated between 14.4 to 15.0 volts. Typical charge current 10 to 20 amps . Higher amperage is OK with proper voltage regulation. Always monitor battery during charging for signs of overheating. |
| **Please contact us to discuss the best charging for your military application.** | |

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

| Current | Approximate time to 90% charge |
|---|---|
| 100 amps | 35 minutes |
| 50 amps | 75 minutes |
| 25 amps | 140 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.

## 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.

**MILITARY CUSTOMERS & OEMs:**

**Please contact us for assistance regarding alternator charger settings, shop charging, CAD Drawings, etc.**

**Manufacturer Representatives to the US Military**
**970-586-0660** [www.milbatteries.com](http://www.milbatteries.com)
MILITARY BATTERY SYSTEMS