Supercapacitor-powered screwdriver recharges in 90 seconds

Margery Conner - September 19, 2007

Here's a product review on Popular Mechanics' website of the new 5.4V cordless FlashCell screwdriver from Coleman. Granted, the FlashCell doesn't have the same capacity as an equivalent battery-powered screwdriver: For example, the lithium-ion-powered 3.6V iXO cordless screwdriver from Skil gets 37 screws per charge while the FlashCell gets only 22. But the Skil's charge time is on the order of hours, not seconds.

Supercapacitors don't have a problem with partial charges, so if you can only wait for a 30 second charge, go for it - the number of screws you can drive will be decreased, but you won't be wearing out the supercap. The company estimates the number of charge-discharge cycles at 500,000 - just try doing that with a lithium ion pack.

The unit shares the problem common to supercaps in that its self-discharge rate is high compared to a battery - the company says the Flashcell retains about 85% of its charge after 3 months on the shelf, but that's hardly a show-stopper when the re-charge time is just 90 seconds. And keep in mind this is a screwdriver, not a drill. For more on supercapacitor- (aka ultracapacitor-) powered drills, see this post on Paul Rako's Anablog.) Here's the [cheesy] commercial for the FlashCell: