

## **FREEPLAY ENERGY**

### **Rechargeable Battery Maintenance**

Freeplay products have industry-standard rechargeable batteries fitted. If these batteries are maintained correctly they will last for many years.

All batteries have a self-discharge characteristic. This means that over time the battery will become discharged. By far the most common cause of failure of rechargeable batteries is due to the damage resulting from storing batteries in a discharged condition. This is applicable to all battery chemistries.

To prevent this happening all rechargeable batteries need frequent charging, ideally no longer than every three months. Recharging a battery is most easily achieved by charging the product overnight via a USB cable or an adaptor. However recharging can also be achieved by winding, where applicable. It is recommended that Freeplay products are recharged after use to prevent them being stored with partially or fully discharged batteries.

In cases where a Freeplay product has been stored with a discharged battery, and the battery has been damaged by this, it may be possible to reverse some of the damage, depending on the severity of the damage. Please note that the method outlined below will not work on seriously damaged batteries.

- “Exercise” the battery by a series of winding and playing/shining cycles of the product.
- Wind at about 130rpm or more, for 30 to 60 seconds to partially recharge the battery, and then operate the product until it stops.
- Repeat this several times. If the battery is recoverable, it will be noticed that as the battery is “exercised” the play/shine time increases for each subsequent cycle.
- Once several charge/discharge cycles (up to 10) have been performed on the product and an improvement in battery behaviour is noticed the battery may be charged overnight by an adaptor or USB cable.
- The winding cycles induce a short high-energy burst into the battery, which is essential to any recovery process. This needs to be performed prior to any adaptor charging (which by its nature provides a slow rate of charge).
- For your information: Play/shine time is very dependent on winding speed (130rpm is recommended) and volume/light-intensity level of the product; the faster the winding speed the longer the operation time, as well as the lower the volume/light-intensity the longer the operation time.