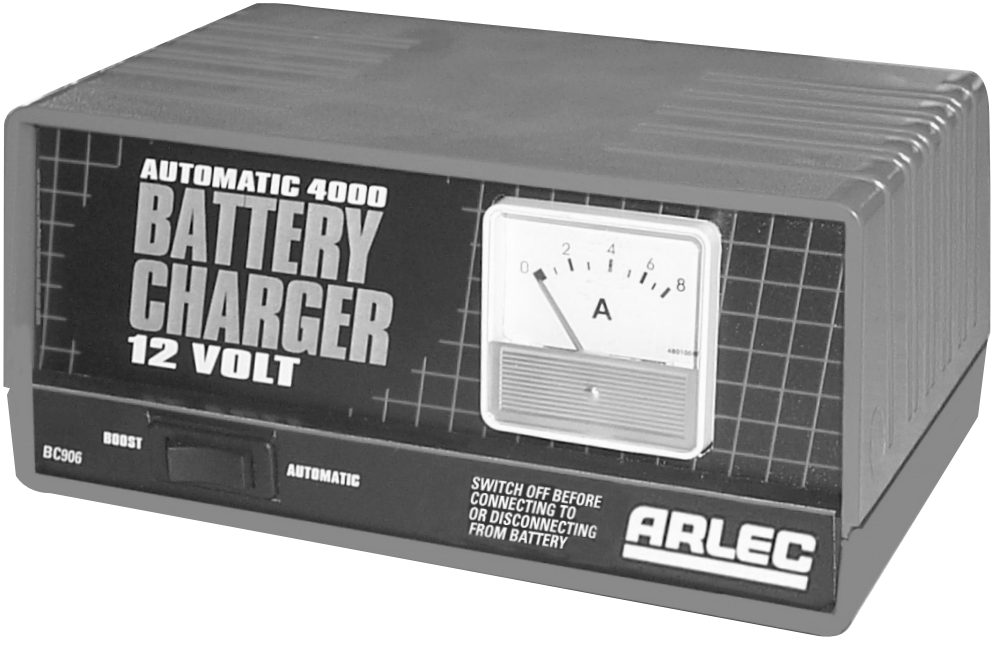
ARLEC

Automatic 4000 Battery Charger

BC906

Instruction Manual



Important! Please read these instructions carefully before use.

Due to continuous research and development the specifications herein are subject to change without notice.

working in has plenty ventilation. Never test or charge a battery in a confined area.

- Do not use the charger in the rain or expose it to water from hoses or sprinklers.

Lead acid batteries contain Sulphuric Acid. If acid contacts the skin or clothing, flush immediately with large amounts of water.

In case of accidental eye contact with battery acid, flush eyes for at least five minutes with clean water. The eyes should be submerged under water and kept open. See a doctor immediately. Do not use eye drops or other medication unless instructed by a doctor.

IMPORTANT NOTES

This charger is designed to charge 12 Volt automotive lead-acid batteries of capacity in the range 20 to 80 amp-hours. Do not attempt to charge batteries of other types.

This charger is not to be used by young children or infirm persons without supervision. Do not allow young children to play with the charger.

If the mains cord of this charger is damaged, it must e replaced only by an Authorised Service Agent.

SPECIFICATIONS

Input voltage: 240V 50Hz

Output voltage: 12V DC Nominal

Continuous Output Current: 4amps

Float Voltage on Automatic: 13.8V

Float Voltage on Boost : 14.8V

Thermal overload protection

Electronically voltage limited

Double insulated.

GUARANTEE*

Arlec guarantees this product against defects of materials and workmanship for a period of 24 months from the date of purchase provided that the product is used in accordance with Arlec's recommendations and within such voltage and current limits as are specified by Arlec in relation to the product. Arlec will at its own option make good, replace with the same or similar product, or provide credit for any product manufactured or supplied by it, which proves to be defective within the limits set out above provided always that no repairs, alterations or modifications to the product have been undertaken or attempted, other than by the company or its authorised agents. Should the purchaser wish to make a claim under the guarantee, the product should be returned pre-paid to the place of purchase.
To obtain warranty the purchase receipt must be returned with the product. This guarantee is in addition to and does not take away from any rights available to the consumer under the Trade Practices Act and the State consumer protection legislation.

Proof of Purchase
Please retain your receipt for all service or warranty claims.

The Arlec Battery Charger BC906 is designed to charge most types of 12 Volt lead acid batteries. It has switchable charging characteristics:.

'Boost' is most suitable for charging frequently used batteries overnight.

'Automatic' should be used where batteries are left on charge for long periods and is particularly suitable for sealed and low maintenance type batteries.

Before using this charger it is essential that you read important safety information on page 5.

CONNECTING THE CHARGER TO THE BATTERY

The output leads are fitted with battery clips and coloured for easy identification of polarity. Red for positive (+) battery terminal. Black for negative (-) Battery terminal. Connect the clips to the battery terminals making sure that they bite firmly and that polarity is correct.

WARNING

1. Always charge batteries in a well ventilated area remote from inflammable liquids and gases.
2. Do not use the charger in the rain or expose it to water from hoses or sprinklers.
3. Remove the battery filler caps and check the level of the electrolyte in the cells. If necessary, top up with distilled water so that the electrolyte is 6mm above the top of the plates. Do not replace the filler caps until the charging programme has been completed.
4. Ideally, disconnect the battery and remove from the vehicle before charging. If this is not practical, ensure that the battery terminal not connected to the chassis is connected first to the charger. The other connection is then made to the chassis, keeping away from the battery and fuel line. Only after connecting, switch on the mains supply to the charger.
6. After charging, switch off the mains supply. Then remove the chassis connection and the battery connection, in this order.

AMMETER

The ammeter provides a useful indication of the amount of charge accepted by the battery. If the battery is completely flat (fully discharged), there may be an initial full scale deflection of the ammeter needle, maintained only for a short period depending on the capacity and condition of the battery. As the battery charges, the needle will move gradually down the scale and stabilise at, or just below the charger's continuous current rating. At this stage the battery will be approaching a fully charged condition.

PROTECTION

A fully automatic circuit breaker in the output circuit protects the charger against overload, short circuits, and reversed connections to a battery or bank of batteries. Prolonged charging in excess of the maximum continuous rating may cause the circuit breaker to operate, switching the charger ON and OFF automatically until the batter has achieved a satisfactory charge. This will be indicated by the meter 'cycling' (needle falling to zero and jumping

back up at short intervals). This is perfectly normal and will not cause damage to either charger or battery. However, if the circuit breaker continues to operate for a period in excess of 4 hours it is possible that the battery is faulty and should be checked with a hydrometer or by an automotive electrician.

CHARGING THE BATTERY

Boost Charging

The 'Boost' mode has been designed to automatically charge batteries to a higher float voltage than the 'Automatic' mode and in many cases a battery will be able to start a car after only a short period of charging.

CHARGING BATTERIES IN GOLF BUGGIES, WHEELCHAIRS, ETC, USING 'BOOST' MODE

The 'Boost' position is ideally used for charging batteries which are used on a daily basis (e.g. wheelchairs), or for situations where the battery is used several times a week such as in golf buggies. Batteries used for these applications should be recharged after each use. Typically the batteries will be charged after 12-15 hours when using the 'Boost' mode (based on charging 30 ampere wet cell battery used in golf buggies).

This procedure is not recommended for sealed/low maintenance batteries, the charger should be switched over to the 'Automatic' mode until the charging program is completed.

When charging batteries in the 'Boost' mode do not charge for longer than 24 hours, as overcharging may occur.

Generally a battery in good condition which has reached a fully charge state, should not have any noticeable decrease in its state of charge when stored for a couple of weeks.

Batteries only partially discharged, or batteries of smaller capacity may only require charging for a few hours in 'Boost' mode.

AUTOMATIC CHARGING

In this mode the charger automatically reduces the charging current as the battery becomes charged and thereafter provides just sufficient current to maintain the battery in a charged condition.

Consequently, batteries may be left on charge continuously for long periods without risk of damage resulting from over charging.

This feature is ideal for charging most sealed batteries and is particularly useful for batteries which are installed in boats, golf buggies, caravans or lawn mowers where they are only used intermittently.

WARNING

Batteries of the non-sealed type emit hydrogen gas when in use. This is known as 'gassing'. Hydrogen ignites explosively in confined spaces so never approach battery cells with a naked flame or cause sparks in the vicinity of the battery.

Sealed or low maintenance batteries do not gas so noticeably a ordinary batteries. Nevertheless, the usual safety precautions should still be observed.

Please always adhere to battery manufacturer's recommendations when charging batteries.

Although the charger is suitable for the charging requirements of most batteries, please always ensure you follow up the battery manufacturer's guidelines when charging their batteries.

TESTING BATTERIES

As a guide, your battery should have reached either 60% or 90% capacity at the time the ammeter on the charger drops below 1 amp; the capacity is dependent on the charge mode, Automatic or Boost, respectively.

To further determine the battery's state of charge the following information may be useful.

Testing Sealed and Non Sealed Batteries

Batteries can be tested with the aid of an Arlec Battery Tester BT964 or by use of a volt meter (Arlec Digital meter or similar). A good indication of the battery's state of charge will only be possible if the battery has not been charged or discharged for at least 15 minutes.

Testing battery capacity with the aid of a volt meter

Battery Capacity	Battery Voltage
20% - 40%	12.00V to 12.25V
40% - 60%	12.25 to 12.50V
60% - 80%	12.50V to 12.75V
80% - 100%	12.75V as above

The BT964 is an inexpensive electronic device which is simply connected to your battery, when required. It is designed to:

a. test the battery's state of charge

b. show that the car's charging circuit is operating

c. indicate that your battery maintains sufficient voltage during engine cranking

Batteries with filler caps, can be tested with a hydrometer which will provide a high degree of accuracy when measuring the state of charge as the battery's cells can be tested individually. Alternately the battery can be tested by most battery retailers or an automotive electrician.

The products listed in this guide can be purchased/ordered from most automotive outlets.

SAFETY INFORMATION

Warning

Working in the vicinity of a lead acid battery is dangerous due to the emission of explosive gases. These explosive gases can be ignited by a spark, cigarette or naked flame such as a cigarette lighter or matches.

- Keep sparks and naked flames away from battery at all times.
- Never smoke or light a cigarette near a battery.
- Take extreme care with metal objects and tools including items of jewellery such as rings and watch bands. Metal objects touching the battery terminals may cause sparks or serious heat burns to the user or wearer.
- Do not allow tools to drop on the battery and never temporarily place tools on top of a battery.
- When testing or working on or around a lead acid battery it is advisable to wear protective eye glasses.
- When testing or charging a lead acid battery, ensure that the area you are

For all Sales enquiries
Phone (03) 9727 8860 Fax 1300 360 650

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