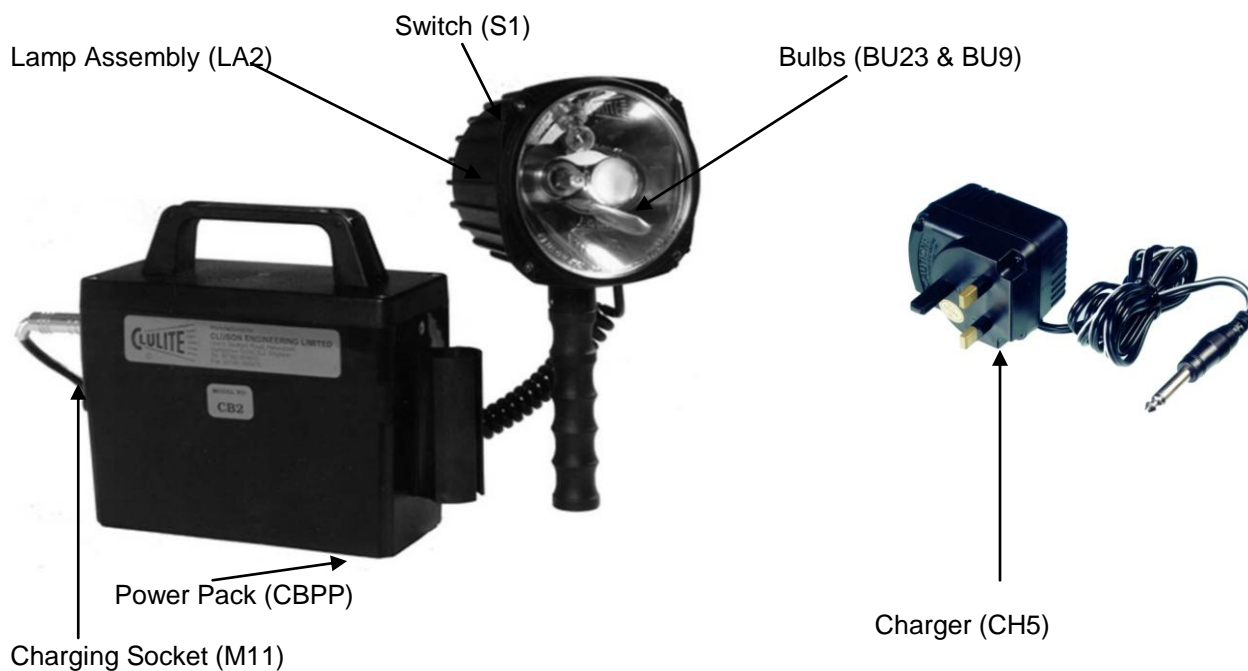


CLUBMAN DELUXE (CB2)

Workshop Manual



BASIC FUNCTIONS & INFORMATION:

The rechargeable battery in the CB2 is 12v 7amp/hr and is housed in a robust plastic case. The lamp is supplied complete with mains charger taking 12 hours to charge from flat. It is fitted with 2 bulbs, the Main Bulb being a Xenon bulb (BU23) and the Secondary beam (BU9) is quartz halogen.

Duration: Main beam 1. 5 hours continuous, 3 hours intermittent
 Secondary beam 8 hours

A MORE IN DEPTH GUIDE:

The basic requirement is to produce a versatile durable lamp to give a beam of approx. 1000m. All parts to be replaceable in the years to come.

Due to the numerous working conditions and circumstances this more comprehensive guide is available to the practical person who has the need to investigate the practical and repair side of the CB2.

To get the best results from the CB2 the following key points should be observed, remembering that the sealed lead acid battery is the power source and is the top priority. Always keep the battery in the lamp in the best condition possible.

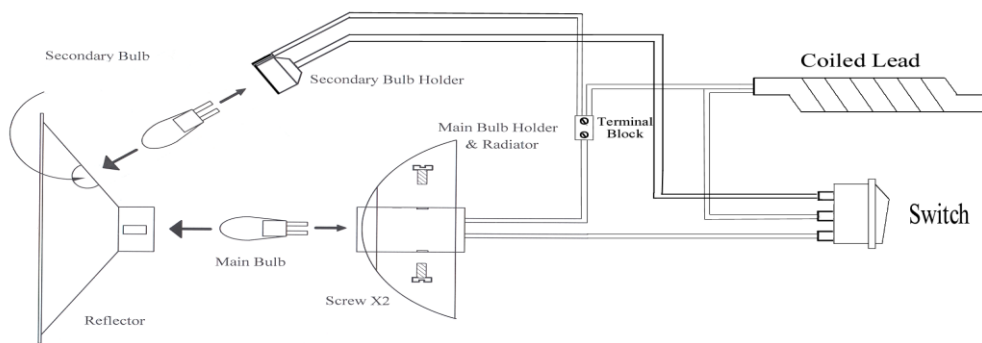
Mains charging:

The lamp is powered by a sealed maintenance-free battery, which is recharged from a 220-240 volts A.C. mains supply.

- a) Insert the jack-plug on the mains charger into the charging socket on the end of the Power Pack ensuring it fully enters the socket.
- b) Insert the charger into a suitable 220-240 volts A.C. mains socket and switch on (do not switch on the lamp).
- c) Recharge a fully discharged battery for approximately 12 hours.
- d) Extended charging is permissible for boost purposes (up to 24 hours) if the battery has been left in a discharged condition and may also help to revive a flagging battery. Extended charging must not be used on a regular basis. See section 9 "Battery Care".

BATTERY CARE:

- (1) Always keep battery fully charged.
- (2) Use as often as practical, the average battery will give some 600 complete cycles or 4-5 years if used less frequently.
- (3) Do not leave on permanent charge unless you have purchased a float charger (CH12 optional extra), or using the L3 Car Charger (supplied).
- (4) There is no memory to this type of battery so it can be recharged at any point; the normal recharge time is 12 hours, which would give the 1 ½ hour duration expected per charge, but if the lamp has been used for, say, just ½ hour a four hour charge would be sufficient. Should there be any doubts because of the short duration of uses it would be useful to turn the light on and discharge completely and recharge for 12 hours. For a faster charge (6hrs) a Rapid Charger is available (CH10J).
- (5) The battery does not have to be charged after every use but obviously as the light output begins to fail then the lamp will need to be recharged as soon as convenient.
- (6) Shelf life is the approximate time that the lamp can be stored fully charged without damage to the battery. When supplied as new it will be approximately one year but this term reduces with the age of the battery and may end up with just a few weeks when the battery is a few years old.
- (7) The battery in the latter stages of its life may fail completely, or become more sluggish to charge in the normal manner, or possibly dim and then brighten up in use. It is a false economy to manage with these conditions and will probably overload the charging unit so a new battery (B8) is the most sensible answer in the long term.
- (8) Vehicle charging can be carried out using a L3 charging lead, which provides the charging facility from any 12v D.C. supply. The most convenient being the cigar socket in cars etc. A more permanent fitting can be made direct to the battery (via a fuse) or fuseboard taking care to observe correct polarity. A metal tray to strap in the lamp for stowage & stability is also available if required. (A13CB).
- (9) **Battery Boosting:** Should a battery begin to underperform a booster charge should help by leaving on charge for up to 24 hours (12hrs with CH10J)(Max) at a time, then turning on the lamp to discharge fully. Repeating this process several times may be necessary
- (A) **Bulb Replacement:** Remove the rim and lens via the four screws. The complete reflector assembly may now be lifted out of the lamp bowl to gain access. Do not touch the bulb with fingers – use a clean, dry tissue. Contamination of the bulb's surface with traces of grease/dirt/moisture reduces the life of the bulb drastically. Avoid touching the surface of the reflective surface of the reflector – if marked in any way leave alone – do **NOT** attempt to wipe the reflector clean. Either bulb can then be removed and replaced. Both bulbs are “push fit” – do not twist. Having replaced the bulb, ensure it is pushed completely in and that the filament is as central as possible. Reverse procedure to reassemble and refit lens assembly The correct bulbs to use in the CB2 lamp are Main Beam - 12v 50w Xenon 2-pin G6.35 (BU23) Secondary Beam – 12v 10w QH 2-pin G4 (BU9). Both bulbs may be cleaned carefully with methylated spirit.
- (B) **Focusing:** Adjustments to correct focusing, if necessary, are carried out by slackening off the bulb holder retaining screws and sliding the holder in or out as required. Direct the beam at a vertical surface (i.e. a wall) at a distance of approximately 4 metres (12'), the light should produce a spot approximately 30cm (12”) across – carefully retighten the screws once focused. NB. To eliminate variations in element positions within the bulb it may be necessary to tilt the bulb slightly in the bulbholder to improve focus.
- (C) Whilst adjusting the focus with the bulb holder the reflector does become very hot so adjust only for short periods at a time, taking care not to squeeze the reflector out of shape whilst focusing, as this will affect the spot beam.
- (D) The venting system in the back of the lamp is for use in warm environments and extended use, this provides an airflow to keep the reflector as cool as possible due to the reduced space in this unique lamphead.



BASIC FAULT FINDING

TOTAL LAMP FAILURE:

First ensure the charger is OK – confirm that both the Red Indicator light on the charger and also on the Power Pack come on when plugged in. If not then the Charger is not working and will need replacing. (Use L3 lead supplied to charge Power Pack until a replacement mains charger has been obtained). Once it is established that the charger is functioning correctly, further tests can be carried out to find the reason for lamp failure.

Plug the charger into the mains socket and also into charging (Input) socket.

Turn on.

Plug Lamp into output socket and switch on.

- A) If the Lamp now works it would indicate that the fault is in the Power Pack. This is most likely to be the fuse. If the fuse is OK then the battery will need replacing.
- B) If the lamp does not work then the fault is most likely in the Lamp Head. It would be unusual for both bulbs to fail simultaneously or the switch to cease connection in both positions (although the possibility should be considered) therefore the most likely cause would be a fault in the Coiled Lead – L2 (Failure of this part usually commences by being intermittent) or a fault in the wiring harness in the Power Pack (L21).

LAMP WORKS BUT IS NOT BRIGHT:

(Even after being charged)

Assuming that the charger test has confirmed that the charger is OK carry out the test as before.

- A) If the light becomes brighter when the charger is plugged in, a new Battery is necessary.
- B) If the light remains the same intensity check that it is the correct charger (CH5), check for bulb damage and type
(Main: BU23 – 12v 50w Xenon)
(Secondary: BU9 – 12v 10w)
Check if the reflector surface has deteriorated and that the lamp is still focused.

LAMP WORKS BUT DOES NOT LAST:

Providing the charger is OK, the correct type and is being charged for the correct amount of time, and the correct bulbs are being used, this kind of fault is usually down to the battery and may well be due to incorrect usage. Try boost charging (24hr); if there is no improvement then replace the battery.

ONE BULB NOT WORKING:

Usually due to failure of the relevant bulb or switch failure. It could also be a fault of the bulb holder concerned. If it is Main bulb failure make sure that the battery pack has sufficient

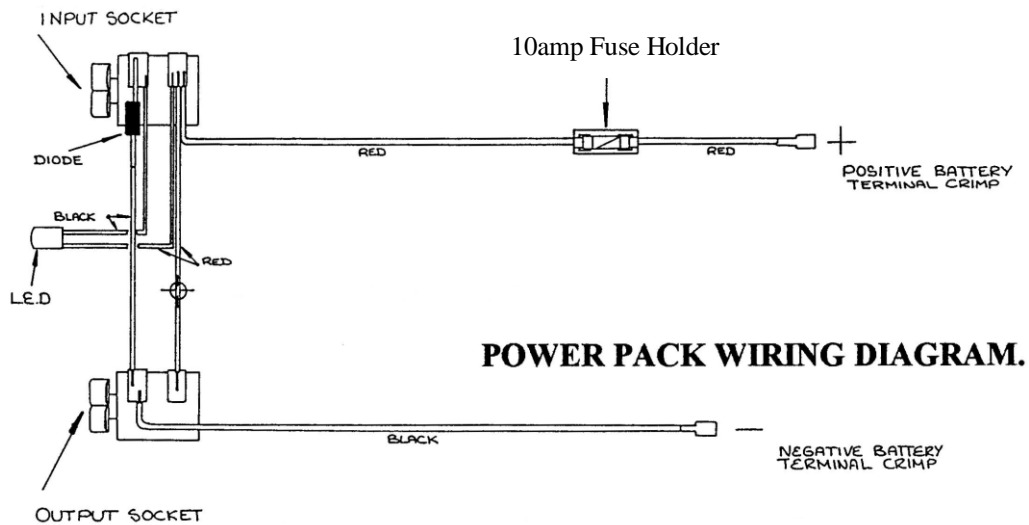
charge as a low battery may well work the secondary bulb but not the larger main bulb. (Switch the lamp on with the charger plugged in to confirm this). If the fault persists remove the rim to enable further test, although a fault in a bulb is usually visible do not assume that the bulb is OK just because it looks alright. If possible it is best to test the bulb (either with a meter or directly onto a suitable power source). If the bulb is found to be faulty, replace. If OK then the fault could be in either the switch or the bulb holder. To decide which (assuming that the lamp head is still dismantled) replace the bulbs (if removed) disconnect the two outermost wires connected to the switch and swap positions. If the fault remains the same then the bulb holder is at fault. If the bulbs now reverse in functioning then the switch is at fault.

SWITCH REPLACEMENT: (S1)

Follow “Bulb Replacement” section to gain access to the inside of the lamp. Make note of wire connections to switch and then disconnect. You should now be able to push the switch out of the bowl by applying pressure from the inside.

WIRING HARNESS (L21)

Should this need replacing it is supplied complete, for convenience with the 6mm Jack sockets, fuse & fuse holder and LED Lamp.



PHYSICAL DAMAGE

All problems and parts associated with damage sustained can be rectified with spare parts, in the event of difficulty in obtaining spare parts contact Cluson Engineering direct.

CASE DAMAGE

This can only occur due to unfair wear and tear or a heavy impact. This item is replaceable as part no. C1.

AGE

To enable you to “date” our chargers and batteries our dating method is shown below:
 A0 = Jan '00 C5 = Mar '95 K3 = Nov '03 L2 = Dec'02
 (Number refers to the Year – Letter refers to the Month)

Apr-04