Trailer Rack Electric System

The system was designed to allow each trailer connection a max of 2 Amps (approx. 480Watts). The connection on the trailer should be a 16A Appliance Inlet (plug) preferably a Caravan Mains Hook Up Inlet or Surface Mount Inlet with covers for protection when not connected.

Have a look at these

https://www.leisureshopdirect.com/electric/230v-equipment/230v-plugs-and-sockets/exterior-plugs-and-sockets/230v-inlet-connection-for-caravan-or-motorhome-white

http://www.essentialsupplies.co.uk/acatalog/16a-Inlets---Mounted-Sockets--2-1.html

https://www.towsure.com/flush-fit-caravan-mains-electric-inlet

The preferred option is the surface mounting caravan mains inlet as it is a proven solution (thousands of caravans use it to hook up at campsites throughout Europe) but in reality many LGC trailers have fitted ordinary surface mounted inlets. The inlet MUST be mounted correctly for the mated combination to work as an IP44(splash proof) connection. The ordinary inlet must come with a cover, for use when not mated with a socket, and must be mounted with the pins horizontal either left or right. Mounting the inlet with pins vertical or angles between horizontal and vertical will still achieve the IP44 specification but makes the socket more vulnerable to water ingress.

The club supplies a flying lead, from a metered supply, with a socket to mate with the trailer fixed inlet. This socket is ALWAYS LIVE – so don't be tempted to change the installation or modify this primary connection in any way.
It is recommended that the flying lead is always connected to the trailer when parked on the rack and it is also recommended that an internal trailer isolation switch be installed for supply control. When this socket is not mated with a trailer inlet it shall be placed on the cable distribution tray or suspended face down NOT thrown on the ground. This solution was adopted to make trailer removal simple, for retrieves, etc, and eliminate trailing leads from trailers.

There is no fuse in the line but each user shares the supply with 2 other users (all individually metered) with a 6 Amp (design compromise) Mini Circuit Breaker (MCB) for the shared supply. Hence the average allowed consumption is 2 Amps each. It was assumed that not everyone will switch on at the same time, will not be using the max 2 Amps and we will not have a large starting surge which will trip the MCB. It was recognised there could be a problem if all user partners are running at or near max current and we have a power cut but it was one of the compromises which had to be made due to limited available power. All supplies are RCD protected.
The good news is that there will be a 62 Amps supply to the south rack with max of 32 users. In the past there has been a 16 Amp MCB in the main panel of the Ottley workshop and it only tripped infrequently with about 20 users. It was concluded that a lot of trailers are running low current appliances, hence the original design concept of

2 Amps per user with an overall utilisation of 75% giving about 16 Amps for all the pedestal sockets.
Please minimise your power consumption for the benefit of others. See FAQs 3).

There are two standard 13 Amp rectangular pin weatherproof sockets for general use on each of the pedestals (as on previous system). While 13 Amps can be taken from an individual socket there is max current limit of 16 Amps simultaneously from the pair of sockets on each pedestal. When inserting a 13Amp plug DO NOT raise the weatherproof covers passed horizontal because the hinge will break. Ensure after use that the weatherproof covers are closed correctly. These sockets are not to be used for trailer supplies and if used at max current together with max demand from the trailers the Ottley MCB may trip – so use wisely. If you trip the main Ottley MCB you will not be popular with your fellow campers!!

All distribution/meter boxes will be locked. This is primarily for safety reasons but also to stop any tampering with the system. It is recognised that in a MCB (three users) or RCD (six users) trip situation this may be inconvenient but again was a compromise in the design. The CFI/ Manager will hold the keys.

Any questions or problems contact the undersigned or the CFI/Manager.

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Trailer Rack Frequently Asked Questions

1) Are alternative connections allowed?

If you already have a flying plug from the trailer it can be mated with the club supply socket but the positional constraints must be observed (plug horizontal) and the connector pair must NOT be on the ground. See Trailer Rack Electric System Document.

2) How will power usage be charged?

Each supply will be designated to a glider trailer and owner/syndicate at a rack position. The supply is not allocated to a specific rack location. The person shown in the club records, as the syndicate treasurer or sole owner of that glider trailer at that rack position will be charged at 12 monthly intervals. Make sure, therefore, that the user/glider registration chart on the North wall of the main office is always kept up to date.

3) Why is the voltage low?

DO NOT think of this system as a domestic supply. EVERY Amp. taken from the supply reduces the voltage to EVERY user. Users at the remotest part of the rack (position 1 and 98) will see the largest reductions. The concept of the supply is to safely provide energy to trailers to maintain their internal condition slightly warmer and/or dryer than the outside environment.

Some rules/suggestions to help with above: -

a) Do not use the rack supply for non-essential/unnecessary use like charging batteries, radios, etc.

b) Use most efficient, lowest powered dehumidifiers that have on/off humidity sensing control (i.e. not continuous).

c) Realise that some equipment will NOT work at reduced mains input voltage.

d) Minimise use of the general 13 Amp. sockets during periods of maximum demand.

4} Should I earth my trailer to the mains input supply?

Yes, it is good practice, particularly if you are not connected to a ball hitch and you are running underfloor/trace heating to warm the trailer. Trailers are often manufactured using joint mastic, which means that parts of a trailer can be electrically isolated from each other. If you are running wire heating elements on a metal trailer floor make an earth connection to the floor or ensure there is earth continuity around the trailer. This action should give Residual Current (RCD) protection to your installation from the distribution system local box.

5) Can the single 2 Amp supply be split to enable the power to be shared by two trailers?

Yes, but the splitter connection must be limited to 2 Amps and comply with the positional constraints of the connector pairs (plugs horizontal) and the connector pairs must NOT be on the ground. See 1) above. A proprietary Y splitter could be used, cable tied horizontally to the underside of the cable distribution tray.

6) How can I get a connection?

If you have just bought a glider or you have decided you want power to your trailer, then contact the office and register that you are interested in a power connection. There is normally a waiting list.

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