Clearcut Campervan Design
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How To Guide

Plumb and Wire your Campervan Sink - Cold water only

Components required:

- Smev 8005 or Similar - 8005-T
- Micro-switched Tap e.g. Comet Florenz or Comet London - WW-TP-LC or WW-TP-DC
- Submersible Pump e.g. Reich 12L - WW-P-SUB-P
- 2M Blue Fresh Water Pipe - WW-H-FSH-B2
- 2M Convoluted Waste Water Pipe - WW-H20-WST-2
- 3M Twin Core Cable - EL-WR-TW-1
- Hose Clips
- Fresh and Waste Pipe Fixings
- Cable Crimps
- 10L- 20L Fresh Water Containers - WW-JC-10-SQ or WW-JC-12
- 10L- 20L Waste Water Containers - (Optional)

Most small campervan water systems operate with a micro-switched tap and submersible pump with a cold water only feed. This is the easiest to install and is well suited to on-board water supply of 10-20L of fresh water. In larger campervans and motorhomes with underslung water tanks then a more involved system is usually installed using a stronger diaphragm pump alongside a gas/240v water heater. However, this How to Guide is concerned with a basic campervan installation with a drop in submersible pump and cold water only supply.

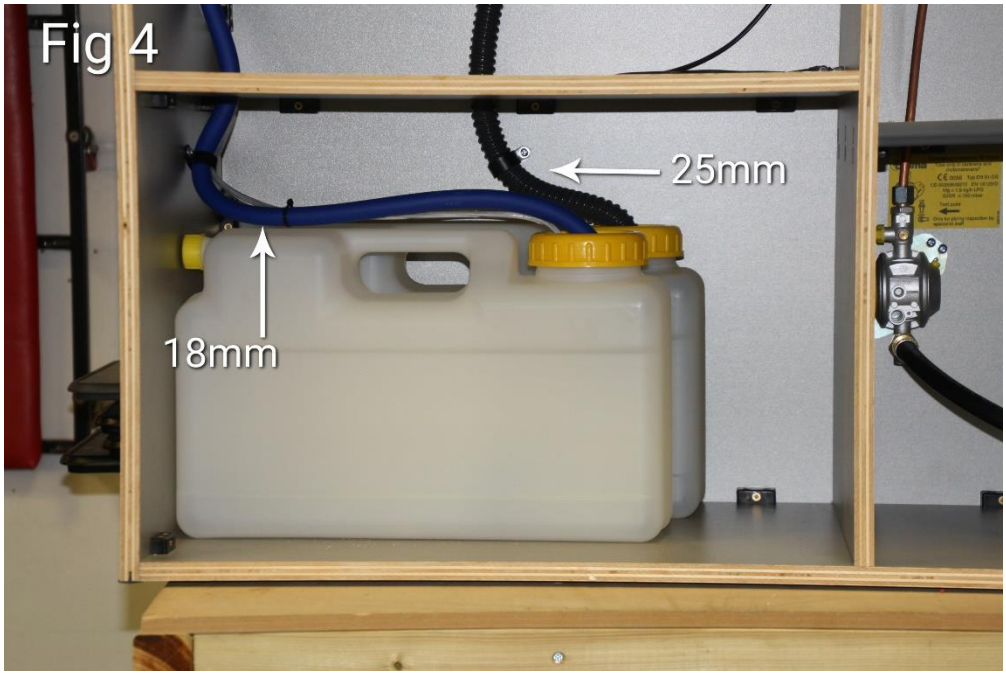
A little planning is required when fitting your sink, in particular to the running of both fresh water and waste water pipes. Ideally both fresh and waste pipes require a steady decline for their entire run from the sink downward, this allows the water to run back freely and avoids any “trapped” water in hollows or dips.

With a full length run of furniture a popular position for the fresh water container (up to 20l, is at the back of the van to the beside of the driver’s side wheel arch (within the campervan side furniture) The access to this is then via the rear doors, and in this position it is easy to remove the water container via the back doors and doesn’t take up valuable storage space at the front of the van. ①②

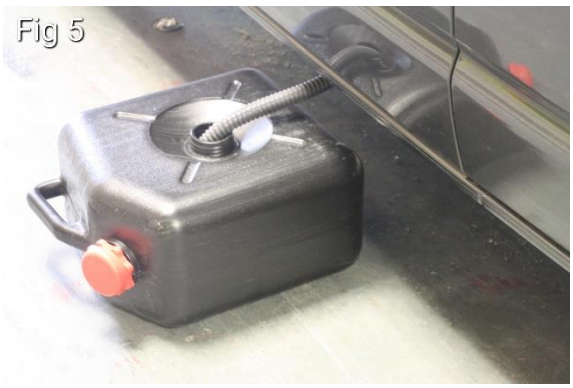
With smaller furniture designs or removable pod units the water and waste are often held in the lower compartment of the furniture for easy access and removal. Usually as a 10litre or 12litre capacity. ③

It is easiest to pre-plan the route for pipes and drill relevant holes before the sink is fitted in place.

An 18mm clearance hole through the furniture board is used for fresh water pipe routing and a 25mm hole for waste water pipe. ④



The route for the waste pipe can be either directed into an onboard waste container the same size as the fresh water container (Stored with in the internal cupboards of the van), often used in removable Pod Units. ④ Alternately, the waste pipe can be taken externally through the floor of the van, this would end with a short tail under the van that could then be directed into a portable waste container as is needed. ⑤



The final option for waste water storage is to take the waste pipe through the floor and into a waste tank fitted underneath the vehicle. This is usually only suitable for larger van conversions or motorhomes. Or when there is a specific need to carry a larger water capacity, for example if you plan to fit a shower ⑥

Fitting

Cut the required shape for the sink (usually the sink is accompanied with a full-size cutting template), allow adequate space for the waste kit and tap to be fitted underneath the sink.

It is usually easiest to fit the tap into the sink before it is installed in your worktop ⑦ this gives better access to the underside of the sink to tighten the fixing nuts. Don't fit the waste kit at this point.

Feed water and waste pipes through any clearance holes in your furniture.

Place the sink in position but don't fix in place just yet - you may yet need to lift the sink to get access to fix the water pipe onto the tap.

By now you should have the sink loosely positioned and the waste and water pipes threaded through and in position but over length by approx. 200mm each end.

Locate the fresh water container in position and feed the water pipe and pump wire through the top cap of the container. If you're using a 2-part lid design (as with our 10l and 12l water containers) the water pipe is fitted through the middle hole and the pump wire is fitted through the smaller side hole – make sure both of these a snug fit. ⑧

If you're using a more basic single piece lid then a single hole is drilled in the top, 18-20mm in diameter. Both the water and pump wire must pass through the same hole, the fitting needs to be snug but also allow the cap to be rotated around the water pipe so that it can be unscrewed.

Ensure that the water pipe is long enough to allow the water container to be completely removed from of the storage cupboard. ⑨ If you fail to allow this in the pipe length then it will be difficult to remove the water container from the cupboard, and even harder to re-install it once it has been filled with water.

The water pump should be touching the bottom of the container when it is positioned inside the furniture cupboard.

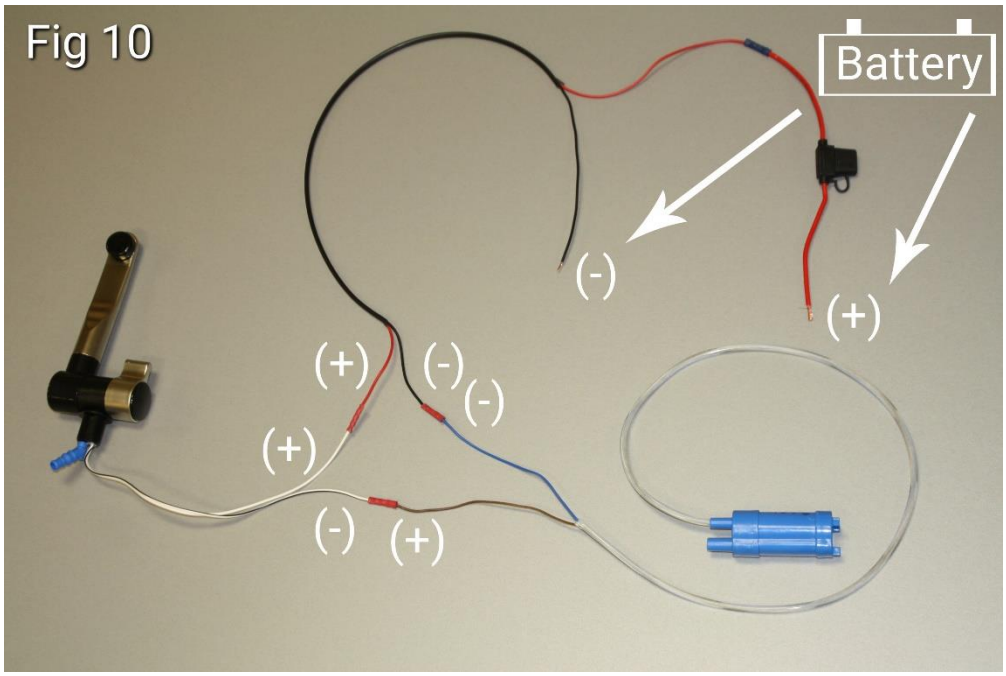
The water pipe should be fitted to the pump stem with a stainless-steel hose clip.

Moving on to the sink end of the installation, bring a 12v twin core cable from your 12v battery or Power Management Unit. The 12v cable should have a 5-10 amp fuse on the (+) cable close to the battery (you can use a leisure battery or your main vehicle battery as a power source).

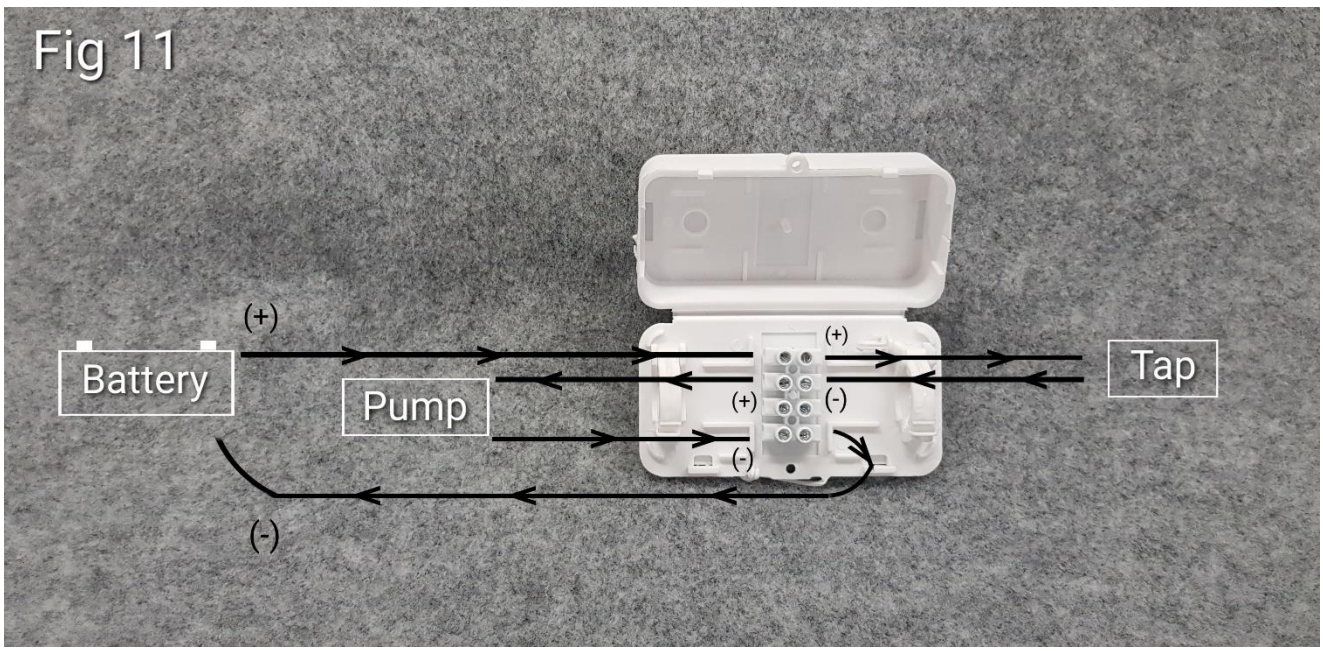
If the power is coming directly from a power management unit such as the PMS3 or PC180 then there will already be a suitable fuse fitted with in the unit itself.

Make sure that the fuse is removed from the circuit while you are carrying out the installation.

Connect the pump, tap and battery cabling as in the diagrams below ⑩ Each cable can be left slightly over length as this then allows the cable loom to be tied up out of the way once the installation is complete.



Alternatively, a connection/junction box can be used, the connections can be seen below. ⑪



The wiring diagram above shows a basic looping circuit with the tap operating as an inline switch. When the tap lever is lifted the circuit is completed allowing the pump to activate.

The tap micro-switch cables may appear to be the same colour, if this is the case then it doesn't matter which way around the tap wires are connected. Sometimes the tap cables are the same colour- usually white - but the negative cable is indicated with a black line running its length. In some taps the (+) is indicated as brown and (-) is indicated as blue. In other taps the (+) is red and the (-) Black.

Once the water pipe is connected it should be secured to the side of the furniture approx. 200 -300mm below the tap, this is so that pressure isn't placed on the tap stem – which could result in the tap leaking. ⑫

Connect the water pipe to the tap with a hose/jubilee clip, some taps have fixed tail others have a flexible tail. ⑬

The waste pipe can now be connected to the waste kit, if you heat the pipe up by resting it in a cup of hot water it will become more pliable and can be pushed onto the waste kit stem. A hose clip can be added but isn't usually required. This should be done before the waste kit is fitted to the underside of the sink.

Don't over tighten the waste kit as the thread insert is usually held in a plastic surround and this can easily be damaged if over tightened.

Secure all pipe/cables work up using suitable clips, reinstall the fuse and activate the tap and check the system for leaks. ⑭