

120 amp split charge system V2.

CAUTION: Batteries can supply massive currents which can cause fire or explosion. Always take extra care when routing cables to avoid the possibility of damage. Never use naked flames or smoke near to batteries.

Pre Installation notes:

T5.

The kit is pre-assembled so you can see where everything goes. Before dismantling to install have a good look at how everything fits together. The 100 amp strip fuses and the hardware for mounting the relay are in a small plastic bag attached to the relay packet.

Remove drivers seat (or passenger seat if this is where you want to fit the battery)

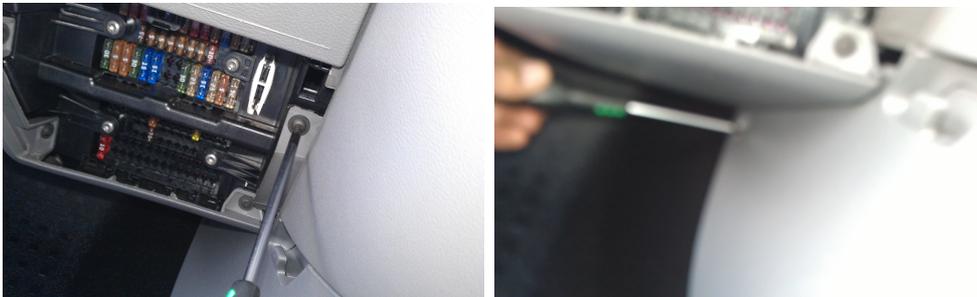
If your van is Pre 2010 and has the convenience module under the drivers seat you will need to re locate this to fit the battery in. Remove the module from its bracket (2 screws).

Once you have removed the seat base you can get to the 2 x screws that secure this bracket to the seat base. Discard the bracket and drill fixing holes directly in the side of the seat base forward of the hand brake.

Begin.T5

Inside the van remove the lower dash panel on the passenger side. Pry out the dash end panel with a screwdriver. Remove 6 x screws holding the lower dash panel in place. Top right corner is held with a clip and will have to be prized out with a screwdriver. Take care not to deform the plastic.

Remove the grey plastic cover from around the base of the gear stick. 1 x screw on passenger side by fuse box.



You will also have to remove the black plastic panel above the pedals in the drivers foot well to access 2 x screws that hold the gear stick surround in place. The top corner of the gear stick surround on the drivers side is held with a clip. You may need to pry this out with a screwdriver.

Once you have removed these panels pull back the rubber floor mat in the top left hand corner of the passenger foot well. This will expose the sound deadening material around the top of the wheel arch. Cut into the sound deadening material is a hole that lets you see a black rubber grommet about 20 mm in dia.



Use a pair of long nosed pliers to remove this grommet. Turn the grommet inside out and cut off the hard centre nipple with a blade or side cutters. Re fit the grommet to the hole and feed the cable end numbered 3 through the grommet, about 500 mm of the cable is plenty.

You should now be able to see this cable behind the battery under the bonnet. Attach the short cable numbered 1 and 2 with a strip fuse holder to the end number 3 that you just fed through.

Retrieve enough cable to allow it to pass to the left of the battery and reach to the + terminal of the battery. Using the short bolt from the small plastic bag attach cable end number 1 to the battery + terminal. (later vans will not have this facility. You should undo the existing nut that secures the cable to the battery + and place the lug on cable end numbered 1 under the OE cable before re attaching)

Now return to the inside of the van.

Feed the cable end numbered 4 into the plastic cable tunnel that goes under the rubber mat and follow the route of existing wiring into the area beneath the drivers seat (or passenger seat), securing with cable ties as you go. This is a lot easier if you remove the four nuts that secure the seat base and take off the base to allow you to lift the rubber mat.



It is not necessary to remove the hand brake but chock the wheels first so that the hand brake can be released. Use cable ties to secure the cable to the existing VW wiring loom.

Attach lug number 4 to terminal 87 of the Cyrix relay.

Now attach the cable lug number 5 to terminal 30 of the relay.

Fit the thin brown wire spade connector (attached to battery black cable) to terminal 86 of the relay (for SC120L you will need to attach the ring terminal on the end of the brown wire to an earth point).

Using the supplied nut and bolt mount the relay to one of the spare holes along the top inside edge of the seat base.

Connect cable terminal 6 to a fuse carrier and then connect the red cable (terminals 7 & 8) from the fuse carrier to the leisure battery pos +.

DO NOT INSERT THE STRIP FUSE AT THIS STAGE.

SC120L only: .Route the cable end marked 6 under the rubber mat towards the B pillar, following the existing wiring to the seat belt. Drill a 15mm hole next to seat belt wiring and fit an appropriate grommet. Run the 5-6 cable through this grommet into the cavity behind the seat belt mechanism and into the voids behind the side panels. Run the cable end marked 6 to where your battery is and proceed as above.

All kits.

Now return to the engine battery.

Insert 100 amp strip fuse and tighten 5 mm nuts

Secure the fuse carrier to the main VW battery cable using the supplied cable ties through the holes in the fuse carrier.

Finally, connect the leisure battery earth cable to the battery neg - and secure to the vehicle body. If your leisure battery is under a front seat there is a VW earth point under the rubber floor mat in the centre of the seat base.

If battery is at rear of van use earth point by rear light cluster.

Check that system functions with engine running.

T4

Begin by removing this panel.



Connect cable end 2 to a fuse carrier. Connect cable end 3 to the other end of this fuse carrier.

Do **NOT** insert the strip fuse at this stage. Connect red cable end 1 to the engine battery +.

Next, open the grommet to the left of the engine battery and feed the cable end marked 4 through the grommet. To ease the cable through lubricate with a little washing up liquid or WD40.

The cable will come out behind the glove box just below the top edge of the rubber floor mat. Bring the cable into the space behind the panel that you removed and route cable across the top of the steering column to behind the fuse box and then under the rubber mat to the space below the drivers seat and connect to terminal 87 of the relay. The relay will be mounted on the side of the seat base using the supplied 6 mm bolt and nut. Connect the thin brown earth cable to relay terminal 86. (on SC120L connect brown wire ring terminal to bolt used to mount the relay on to the seat base)

When you have made these connections connect cable end 5 to relay terminal 30, then cable end 6 to a strip fuse holder. Connect cable end 7 to the same fuse holder and cable end 8 to the + battery terminal.

Attach the black negative battery cable to one of the large nuts securing the seat base.

Clean the face of the nut first with fine emery paper to ensure good contact.

You can secure the battery in place under the seat with a buckle strap like this:

Once the relay is secure you can put the battery connectors onto the battery terminals and insert the 100 amp strip fuses. Do not over tighten any of the bolts.
Connect the leisure battery neg cable last.

For SC120L only.

Connect cable ends 2 & 3 to a fuse carrier and connect end 1 to the van battery +. Open the grommet next to the battery and lubricate with washing up liquid or WD40. Pass cable end 4 through the grommet. The cable will come out inside the van just below the top edge of the floor mat. Pass the cable into the space below the heater controls.

Next, lower the vans main fuse box and feed cable end 4 over the steering column support bracket into the void above the fuse box.

After removing the A pillar trim and the sun visor loosen the roof lining along the drivers side. Pass the cable end 4 up the A pillar using the existing cable supports to secure in place. The cable now passes through the hole with the white plastic lining above the windscreen and out through the other hole with a white plastic lining. You can now route the cable all the way to the back of the van and down the back pillar following the route of existing wiring. Exit behind the rear light and connect to the relay terminal 87. Connect cable end 5 to relay terminal 30 and cable end 6 to a fuse carrier and cable 7 – 8 between fuse carrier and battery +. Attach the black negative cable to the earth point behind the rear lights with all the brown wires on it. Connect the other end to the battery – and the thin brown wire to the terminal 86 on the relay.

Insert a strip fuse into each fuse carrier and tighten securely. Close the lid on the fuse carriers.
Run the engine and after about 8 seconds you should hear the relay engage with a solid click.

LT Series

Run the cable end numbered 4 from the battery area under the bonnet underneath the cab to the grommet beneath the passenger seat. Open the grommet and pass the cable through. Connect 4 to terminal 87 of the Cyrix relay. Connect 5 to terminal 30 of the Cyrix relay. Connect 6 to the strip fuse holder. Connect 7 to the other end of this strip fuse holder. Connect 8 to the leisure battery + terminal. Secure the cable to the existing wiring under the cab and return to the battery under the bonnet. Connect 3 to a strip fuse holder. Connect 2 to the other end of the same strip fuse holder. Connect 1 to the engine battery +.

Connect the leisure battery negative cable to a bolt that secures the seat base. Connect the brown wire spade connector to terminal 86 on the Cyrix relay.

Mount the relay in a convenient place using the supplied 6mm nut and bolt.

Insert 100 amp strip fuse in each fuse holder and close covers.

Run the engine and after about 8 seconds you should hear the relay engage with a solid click.

Optional kit to populate main VW T5 fuse box.

Attach the ring terminal of the fuse box cable to terminal 30 of the relay. Do **not** insert 50 amp fuse at this stage.

Remove lower fuse box by pulling towards the passenger side foot well after removing screws.

To open the spare ports ready to receive the new inserts you will need to move the purple locking plate by a few millimetres in the direction of the arrow. This is easier if you use a screw driver to lever it across. Now place the inserts in your chosen ports.

Crimp the spare inserts onto the cables supplying your new circuits and insert into ports opposite the ones you just populated. When you have finished here slide the lock plate back into position, re fit the fuse box and insert the 50 amp fuse.

You can now insert the appropriate fuse for each circuit that you installed.

