



Matson Dual Battery Kit Fitting Instructions

MATSON

Dual Battery Kit

Protects the charge in your vehicle's starting battery

- Automatically isolates the starting battery from the auxiliary battery
- Suitable for 4x4, Marine, Truck, Caravan & Camping applications
- No need to modify vehicle wiring
- Kit contains all components required to complete the job
- Voltage sensitive relay rated at 140 Amps
- Proven reliability over many years
- Easy to install.



4x4



Marine



Camping

Part No. MA98500

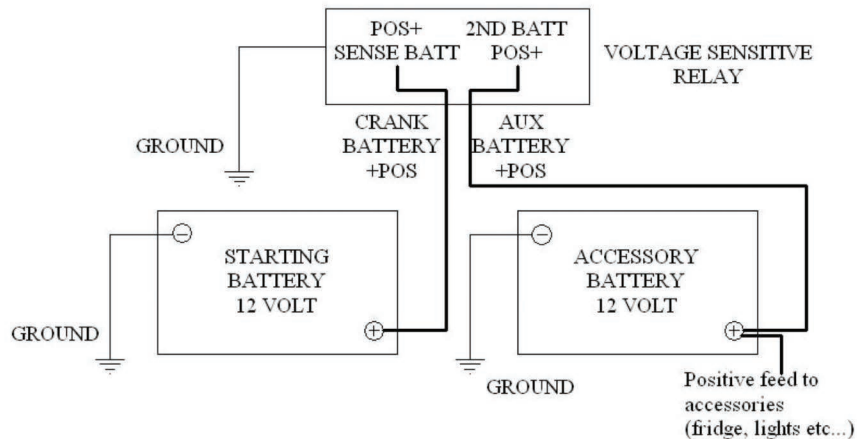


Matson Dual Battery Kit Fitting Instructions

Fitting the Matson Dual Battery Kit is relatively simple and requires tools readily available in most home workshops. Tools required are:

- a) Cutting pliers, side cutters or Stanley knife to cut and strip the cable
- b) Crimping tool or electricians pliers for terminal crimping
- c) Spanner set, socket set or shifting spanner
- d) Philips screwdriver
- e) Hairdryer or lighter for heat shrink
- f) Drill and 3.5mm (9/64) drill bit
- g) Multimeter or voltmeter (optional)

These instructions assume you have purchased and mounted your auxiliary battery (preferably a deep cycle) in your vehicle.



1. Lay out the contents of your Dual Battery Kit and check that all the components are in the kit. You should have:

- 1 x Voltage sensitive relay with mounting screws
- 1 x 6 metre length of 10mm sq red cable lugged at both ends
- 1 x 61cm (24") black earth cable
- 2 x Positive Marine type battery terminals
- 1 x Negative Marine type battery terminal
- 2 x Copper crimp lugs
- 2 x Red heat shrink
- 1 x Insulated ring terminal
- 6 x 200mm cable ties

2. Disconnect the start battery by removing the negative terminal.

3. Select a location for the Voltage Sensitive Relay that is easily accessible and will not have the cables running near exhausts or turbochargers and is preferably close to the start battery.

- 4.** Remove the lower mounting plate from the VSR to use as a template and mark the position of the four (4) holes to be drilled. Drill the holes using a 3.5mm (9/64) drill bit.
- 5.** Secure the top right and lower left holes of the base with the short 4mm screws.
- 6.** Take the 6 metre length of red cable, which has been lugged at both ends, and starting from the centre of the mounting plate run the cable to the positive terminal of the start battery being careful to keep the wiring away from any moving parts and preferably running the cable along the inner guard and firewall. Cut the cable to length.
- 7.** Repeat the above process but this time go to the positive terminal of the auxiliary battery.
- 8.** Strip the un-lugged ends of both cables back 15mm, fit the lugs and crimp in place with crimping tool or pliers, making sure the connection is secure. If you prefer you can also solder the cable to the lug.
- 9.** Slide the heat shrink over the lug and heat with a flame or hairdryer until secure.
- 10.** Attach the insulated ring terminal to the black wire on the VSR. This is an earth wire and it is important that it has a secure and clean (Bare Metal) contact. If possible select a nearby bolt or screw that is earthed to the body.
- 11.** Attach both red cables to the VSR. The cable from the start battery goes to the stud on the VSR with the painted RED DOT and marked "Positive + Sense Batt". The cable from the auxiliary battery goes to the unpainted stud and marked "Positive + Second Batt".
Note – You may have to widen or cut out the slots in the housing to ensure the cable fits through.
- 12.** Mount the VSR to the bottom plate and fix with the two (2) longer 4mm screws.
- 13.** Secure the black earth lead on the VSR to the selected earth point.
- 14.** Fit the Positive (Red) battery terminal and the Negative (Black) battery terminal to the auxiliary battery and tighten securely (not over tight).
- 15.** Select a nearby body bolt or drill an 8mm hole and secure one end of the 24" (61cm) black earth cable for the auxiliary battery, make sure to have a secure and clean (bare metal) connection.

16. Secure the other end of the black earth lead to the negative (black) terminal of the auxiliary battery.

17. Connect the red lead from the VSR to the positive terminal of the auxiliary battery and then secure the cable using the cable ties.

18. Before fitting the supplied battery terminal to the positive of the start battery, check the type of the existing battery terminal and if it has a stud and nut on the terminal to secure the existing wiring connect to the existing terminal.

19. Connect the red cable from the VSR to the positive terminal of the start battery and secure the cable using the cable ties.

20. Re connect the start battery earth cable.

The hard work has been done and it's now time to do some tests.

21. Test for a proper earth on the auxiliary battery by placing a voltmeter across the positive and negative terminals and take a reading. Remove the negative probe and place on an earth point on the body or engine (not the point the earth cable is mounted), both readings should be the same.

If the readings are not the same check the earth cable has clean and secure mountings.

22. Start the vehicles engine.

23. When the starting battery's voltage is above 13.3V the relay will close automatically and allow the auxiliary battery to be charged. This is indicated by the red light on the left hand side of the VSR front panel being illuminated.

24. Ensure that the auxiliary battery is charging by checking that the voltage is above 12.8V.

25. Turn off the engine.

26. Check that the VSR disengages when the start battery's voltage falls below 12.8V. This can take some time so to speed up the process turn on the headlights or leave the door open and interior lights on.

If the VSR works as per the above tests you have successfully installed the Dual Battery Kit.