

Part 2 Setting up the electrolyte jan 2023

Setting up Generator – CONFIGURATION 1 with out a PWM fitted

1. Using distilled water only , Fill the systems to a level which is 1 litre below the fill level on the 3 litre tank.
2. Add 100 mls of distilled water to a 500 ml plastic mixing container or beaker.
3. Measure 50 grams of potassium hydroxide solid and add to a second dry 500 ml plastic mixing container or beaker.
4. Slowly add the solid to the liquid ,stirring the mixture as it is added.
5. Allow 5 minute for the mixture to cool.
6. Switch on the system so that the recycling tank is circulating the water.
7. Slowly add small quantities of up to 10 mls of potassium hydroxide solution (electrolyte) to the storage tank , taking note of the increasing current flow.
8. Reduce the volumes added once the current approaches 13 amp as shown on the ammeter. Stop adding electrolyte once the current reaches 15 amp.
9. Run the system for 15 minutes and record the current flow. This should be no greater than 16 amp.
10. In the event that the current is more than 18 amp , remove 1.0 litre of water and replace with 1.5 litre of fresh distilled water.
11. Go back to step 8 and repeat steps 8 and 9
12. Add distilled water to the system tank to a point 0.5 litre from the top of the tank.

Setting up Generator – CONFIGURATION 1 with a PWM fitted

Points 2-4 is only for systems using PWM units

1. Turn both potentiometer switches of the PWM fully clockwise. This places the PWM into the 100% duty cycle position so that the unit is 100% switched on
2. The power supply should now be connected and switched on
3. Gradually add the Potassium Hydroxide solution to the recycling container in small amounts, while watching the current flow increase towards 15 amps and then stop. The mixture should now be correct.
4. **Dispose of unused Potassium Hydroxide solution safely.**
5. Once 15 amps has been reached, adjust both Potentiometers anticlockwise until the current drops to 14 amp (cold)
6. Operating the system will slowly increase the solution to operating temperature of 70 degrees Celsius during which time the current flowing will rise to a stable current of 27 amp
7. Run the system and after one hour of operation , recheck the current flowing. Readjust the current flowing to a maximum of 26-27 amp.
8. This is the operational value and you should not need to readjust the unit again. With each trip the current flowing will rise as the temperature of the solution rises , to a maximum of 27 amp . **DO NOT EXCEDE THIS CURRENT FLOW AS IT MAY LEAD TO INTERNAL DAMAGE WITHINN THE SYSTEM ELECTRONICS.**

9. Add water to the recycling tank till it is 8cm from the top. The tank is now holding 2.5 Liters of a very dilute caustic solution.
- The gas piping is connected to the air intake pipe prior to the throttle body and prior to any turbo charger fitting.
 - Use a Brass male/female Push-lock fitting (1/4 inch BSPT) to screw into the tapped hole on the air intake pipe. Push the pipe securely into the 10mm “Female” connection