Problems with your 12/24V Booster?

Check this Trouble Shooting Manual for your answer

1. TOOLS REQUIRED

1

Digital Multimeter with 2 decimals

a 'Voltage' position

b 'Buzzer' position

2

Battery Tester (Amps)

3

Phillips Head Screwdriver

4

2 X 8mm Spanners
and 2 X 10mm Spanners

2. FIRST TESTS TO CONDUCT

2.1 Measure the Voltage at the Clamps

With your Digital Multimeter you can measure the actual voltage of both batteries.

1. Directly connect both terminals of your multimeter to the clamps (red terminal to red clamp, black terminal to blue clamp) and connect the selector at the back of the unit to the 12V Plug.

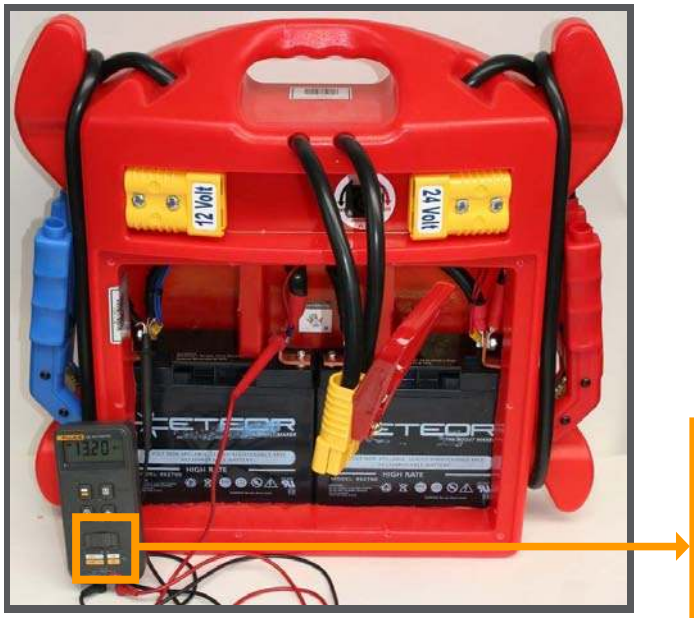
Connect directly to the clamps:

Connect Selector at back of unit:

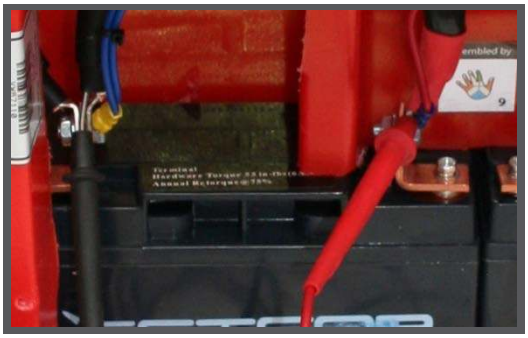
Or

2. Remove the back cover of the unit. Connect the red terminal to the positive battery terminal and the black terminal to the negative battery terminal of one of the batteries. Then Repeat this process with the other battery.

Connect directly to battery terminals:



Connect terminal inside unit:



If your reading is 0 Volts:

- The battery has short-circuited (dead)

If your reading is between 1 and 12.4 Volts:

- The Booster hasn't been charged (Recharge it for at least 24 hours)
- The Booster will not charge: The charger does not work anymore (see point 3.8), or The four pole charging plug is disconnected or damaged (see point 3.7)
- One of the internal cells of the battery has melted after a short-circuit or a too long starting attempt.

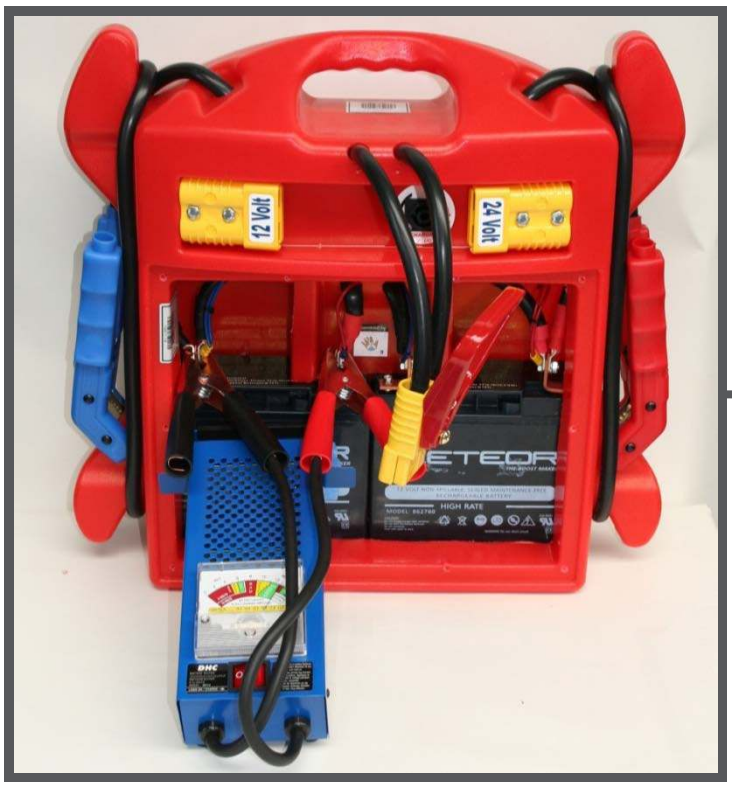
If your reading is 12.4 Volts or more:

- An Amp test will be necessary in order to measure the exact cranking amps level left in the battery. (See point 2.2)

2.2 Testing the power (Amps)

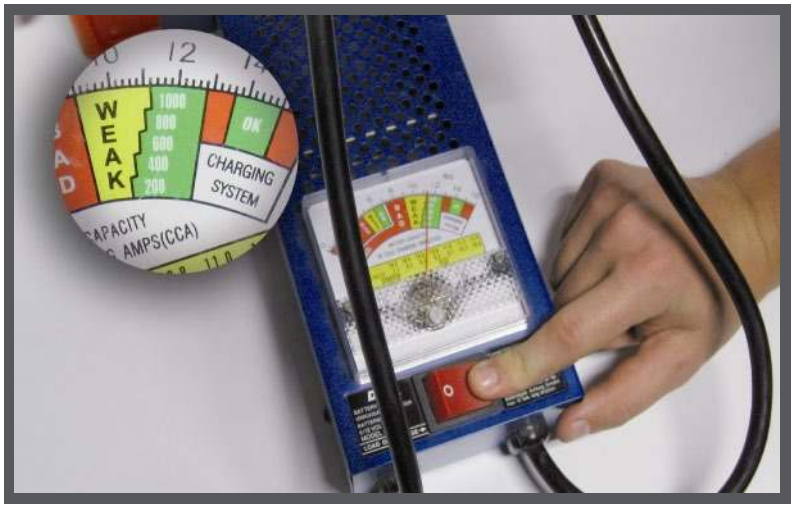
You will need to take the back cover of the Booster off to gain access to the batteries.

- Connect the red clamp of your tester to the positive terminal of the battery and the black clamp to the negative terminal of the battery.
- Turn the tester on for 10 seconds, then check the reading for the cranking amp level of your battery. Repeat for the second battery.



RESULTS:

If the meter shows a reading in the Green zone, the power level of your battery is fine.



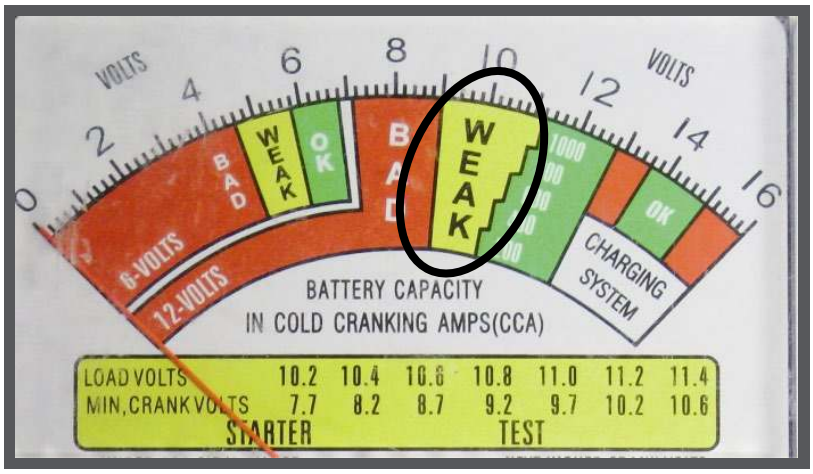
In this Green zone :
- A 12/24V-1520/760CA should be between 600 to 800A
- A 12/24V-2000/1000CA should be between 900 to 1000A
- A 12/24V-2400/1200CA should be between 1100 to 1200A

If you still encounter starting problems in spite of this result:
- Check that the connections at the clamps and battery terminals are firm.
- Check that you are using the correct size Booster for your vehicle's needs.
- Check the overall condition of the vehicle. Eg: Out of Fuel or a mechanical problem.

If your result is in the Yellow zone:

The battery of your Booster is lacking power.

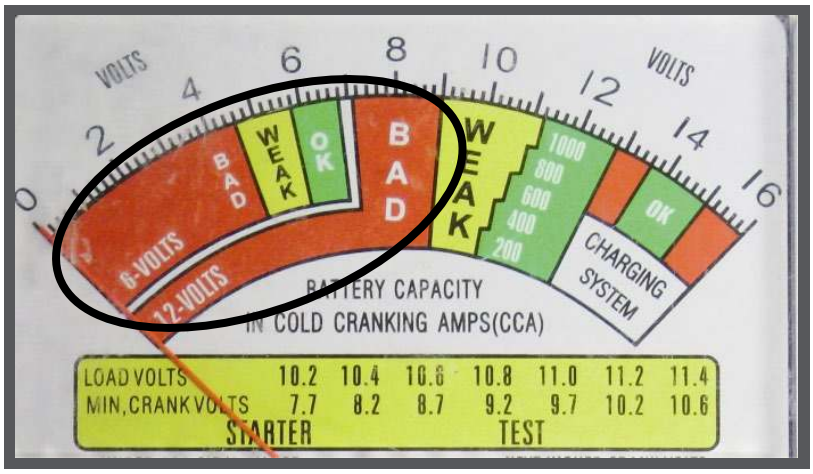
NOTE: This is usually caused by not waiting three minutes between vehicle start attempts, or attempting to use the Booster for more than 10 seconds at a time.
You have damaged your battery, and should take care not to damage it any further.



If your result is in the Red zone:

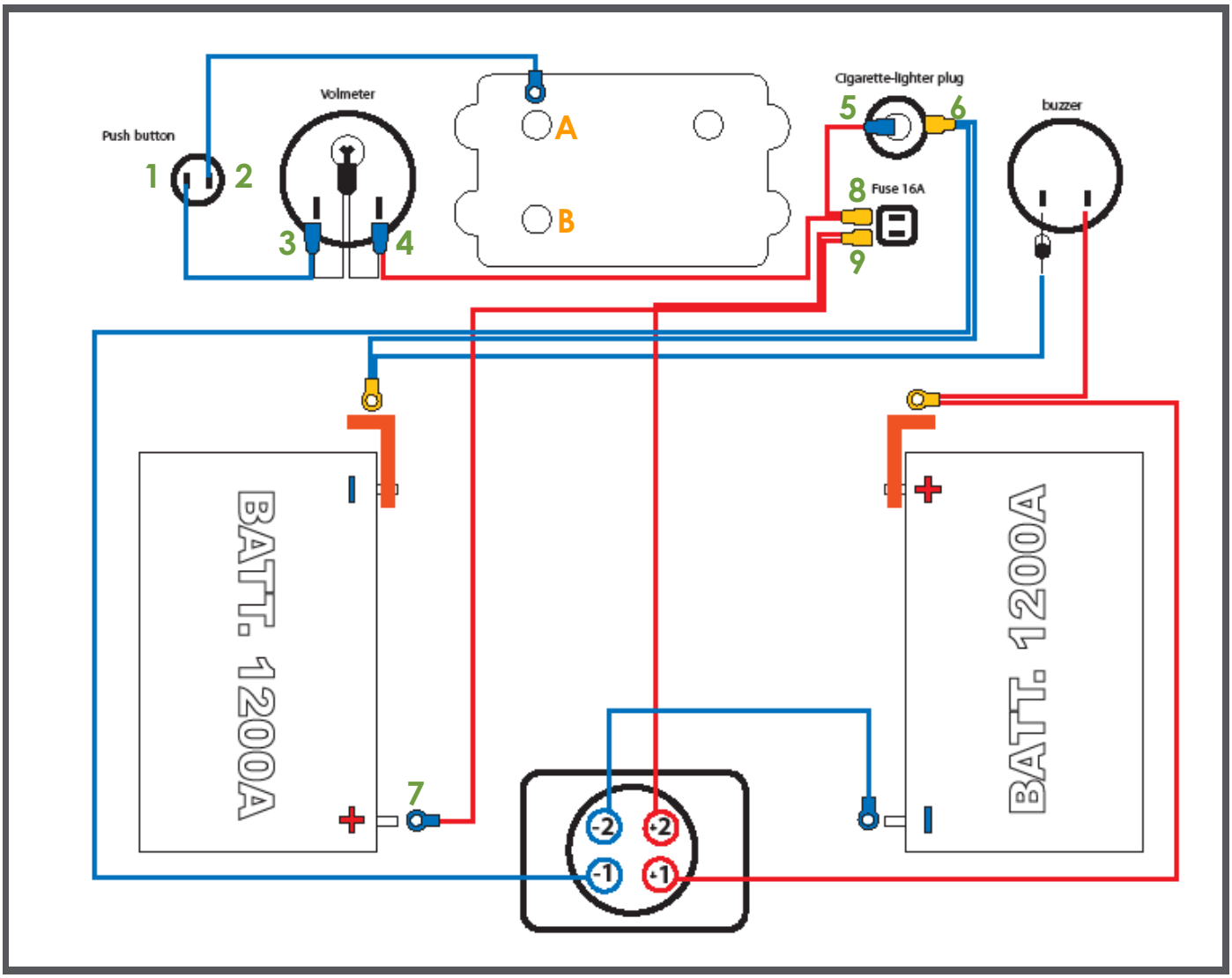
The battery needs to be replaced.

You have drained it beyond repair.



3. TESTING THE BOOSTER ACCESSORIES

Unscrew the back cover and open the Booster.
The following diagram shows the inside wiring and schematics of your Booster.



3.1 Internal Fuse

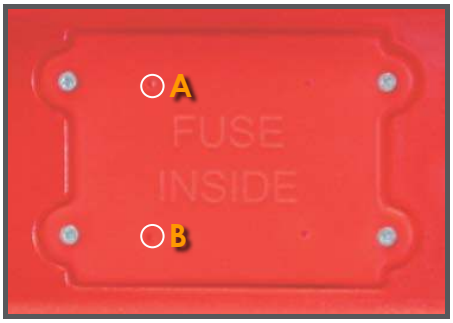
To test the Internal Fuse, use the multimeter by touching the red terminal to point **A** on the 'Fuse Inside' plate on the front of the Booster, and the black terminal to point **B**.

If you hear a long beep:

- The current is passing through the fuse correctly. Fuse is fine.

If you do not hear anything :

- The internal fuse is blown. You need to replace the fuse.



NOTE: Bolts must be well tightened after replacing the fuse.
Never replace with a fuse stronger than needed:
300A Fuse for 12/24V-1520/760CA & 2000/1000CA
500A Fuse for 12/24V-2400/1200CA

3.2 16A External Fuse

To test the External Fuse, use the multimeter by connecting the red terminal to point **5** on the diagram, and the black terminal to point **7**.

If you hear a long beep:

- The current is passing through the fuse correctly.
  Fuse is fine.

If you do not hear anything :

- The 16A external fuse has shut down.
  Push the red button on the fuse to restart it.
- The 16A external fuse is blown.
  You need to replace the 16A fuse.

3.3 Cigarette Lighter Plug (12V Only)

Method 1
Test the voltage with your multimeter at the front of the Booster as shown on these images:

Connect the red terminal (+) in the centre of the plug and the black terminal (-) on the side of the plug.

Method 2
Test the voltage with your multimeter by connecting the red terminal to point **5** on the diagram, and the black terminal to point **6**.

If the voltage appears:

- The cigarette lighter plug is powered.

If nothing appears on your multimeter:

- The 16A external fuse has shut down. Push the red button on the fuse to restart it.
- An internal cable may be disconnected.
  Check the connections at points 5, 6, 7, 8, and 9 on the diagram.
- The 16A external fuse is blown. You need to replace the 16A fuse.

3.4 Push Button

Test the Push Button with your multimeter by connecting the red terminal to point **2** on the diagram and the black terminal to point **1**.

Push the push button.

If you hear a long beep:

- The Push Button is functioning correctly.

If you do not hear anything :

- The Push Button needs to be replaced.

3.5 Voltmeter

Test the supply of the voltmeter with your multimeter by connecting the red terminal to point **4** on the diagram and the black terminal to point **3**, AND by pushing the push button.

If a voltage appears on the multimeter and the voltmeter:

- Voltmeter is working correctly.

If a voltage appears on the multimeter, but not on the voltmeter on the Booster:

- Check wire connections. Voltmeter may need to be replaced.

If no voltage appears on either the multimeter or the voltmeter on the Booster:

- Voltmeter needs to be replaced.

3.6 Buzzer

Test the supply of the Buzzer by connecting the red clamp on the negative terminal of a battery and the blue clamp on the positive terminal of the same battery.

NOTE: The selector MUST be disconnected !

If you hear a long beep:

- The Buzzer is working correctly.

If you do not hear anything:

- The Buzzer needs to be replaced.

NOTE: There needs to be at least 4 volts into the battery for the buzzer to work.

3.7 Four Pole Charging Plug

Test the supply of the Four Pole Charging Plug, which is on the back of your Booster, with our Four Pole LED Tester:

2 LED lights shows that the charging plug is working correctly.

How to test the Charging Plug:

1. On the back of your Booster, next to the 24V connection plug, you will find the female charging plug.

2. Have the charging plug LED Tester ready.

3. Insert the charging plug tester in the female charging plug and turn it on as per the arrow, (to the right).

If both LED lights are lit:

- Your female charging plug and the charging circuit work perfectly.

If one of the LED lights is lit:

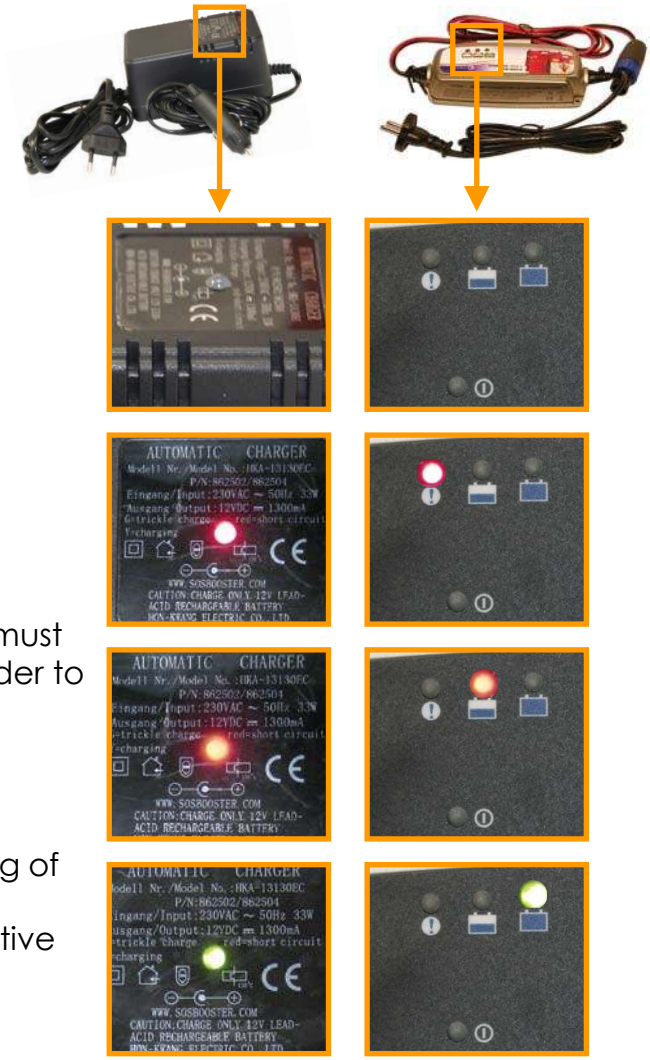
- One or two poles of the four pole charging plug are blown.
- A cable inside the Booster going from the charging plug to the battery is disconnected/blown.
- One of the two batteries is completely discharged to zero Volts (very rare case).

If neither of the LED lights is lit:

- Three or four poles of the female charging plug are blown (95% of the cases).
- One or more cables between the battery and the female charging plug are disconnected/blown.
- Both batteries are completely discharged to zero Volts (very rare case).

3.8 External Charger

1. Check the charger's cables for any splits or gaps.
2. Connect both terminals of your multimeter to the clamps of the Booster (red terminal to red clamp, black terminal to blue clamp).
3. Connect the charger to a mains supply (wall plug)
4. Connect the charger's male cigarette lighter plug into the Booster.



Check the Charger's LED:

LED lamp does not light at all.

- No current on the plug.
- The led lamp is broken.
- The charger does not work anymore.

LED lamp lights **Red**.

- The charger does not work anymore.

LED lamp lights **Orange**.

- The charger has a current.

LED lamp lights **Green**.

- Battery is charged.

If the battery is charged (**Green** LED and 14.4V) you must test the Amps with the battery tester (point 2.2), in order to lower the voltage to make the charger work.

Results on the multimeter:

No reading.

- You need to test the female cigarette lighter plug of the Booster (point 3.3)
- The male charging plug of the charger is defective
- The charger does not work anymore.

The voltage on the multimeter rises until about 14.4V

- The charger is functioning properly.