



FITTING INSTRUCTIONS

Part Number: **4248010 – DUAL BATTERY TRAY ONLY**
4344110 – DUAL BATTERY TRAY KIT *

Product Description: **CHASSIS MOUNTED BATTERY TRAY TO SUIT 10" OPTIMA BATTERIES**

Suited to vehicle/s: **DMAX + COLORADO 2011 ON**

WARNING

NOTE:

- ◆ This product must be installed exactly as per these instructions using only the hardware supplied.
- ◆ Do not use this product for any vehicle make or model, other than those specified by ARB.
- ◆ The installation of this product may require the use of specialized tools and/or techniques
- ◆ It is recommended that this product is only installed by trained personnel
- ◆ These instructions are correct as at the publication date. ARB Corporation Ltd. cannot be held responsible for the impact of any changes subsequently made by the vehicle manufacturer
- ◆ During installation, it is the duty of the installer to check correct operation/clearances of all components
- ◆ Work safely at all times
- ◆ Unless otherwise instructed, tighten fasteners to specified torque

*Kit 4344110 has been provided with a REDARC BCDC1225D charger and ARB wiring kit (4300020). If the tray has been purchased individually (4248010), the ARB Wiring kit (4300020), and a suitable REDARC BCDC charger can be purchased from ARB.

ARB 4x4 ACCESSORIES

Corporate Head Office

42-44 Garden St
Kilsyth, Victoria
AUSTRALIA 3137

Tel: +61 (3) 9761 6622
Fax: +61 (3) 9761 6807

Australian enquiries
North & South American enquiries
Other international enquiries

sales@arb.com.au
sales@arbusa.com
exports@arb.com.au

www.arb.com.au

FITTING REQUIREMENTS

REQUIRED TOOLS FOR FITMENT OF PRODUCT:

BASIC METRIC SPANNER AND SOCKET SETS	FLAT AND PHILIPS SCREWDRIVERS
ELECTRIC OR CORDLESS DRILL	8.5MM DRILL BIT
CENTRE PUNCH	TOUCH UP PAINT

HAVE AVAILABLE THESE SAFETY ITEMS WHEN FITTING PRODUCT:

Protective eyewear	Hearing protection
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NOTE: 'WARNING' notes in the fitting procedure relate to OHS situations, where to avoid a potentially hazardous situation it is suggested that protective safety gear be worn or a safe work procedure be employed. If these notes and warnings are not heeded, injury may result.

IMPORTANT:

- Ensure all electrical connections are correct and tight and that both main and auxiliary batteries have a good earth connection to engine or chassis. Failure to do this can result in the main wiring loom and vehicle catching fire.
- Make sure all wires are securely fastened away from any hot, sharp or moving surfaces. Do not fasten any wires to the brake or fuel lines.
- Good condition of the charging system and primary battery is important for the correct operation of this system. Any accessories connected to the battery must use the appropriate wiring and fuses.
- As the BCDC Charger priority charges the primary battery, it is desirable to wire additional driving lights to the primary battery. Other accessories such as a refrigerator should be wired to the auxiliary battery.
- CAUTION Additional driving lights can rapidly drain the primary battery.

INFORMATION ON THE BCDC Charger:

- **DUAL BATTERY CHARGING.** The BCDC Charger features technology designed to charge your batteries to 100%, regardless of their type or size. By providing a unique charging profile to each specific battery type, the BCDC charger can achieve and maintain an optimal charge in your auxiliary battery, at all times.
- **EFFICIENT CHARGING.** The BCDC Charger is designed to boost the low voltage present at the end of a long cable run to a level suitable to charge your auxiliary battery to 100%. The BCDC charger has a built-in battery isolator which protects your vehicle's start battery from going flat.
- **WORKS WITH ALL ALTERNATORS.** The BCDC Charger is designed to work with newer variable voltage alternators where the vehicle battery may not reach optimum voltage for a typical isolator to open. They are designed to boost the voltage to optimum levels, regardless of what input voltage they are getting from the primary battery.

PARTS LISTING – 4248010 AUX BATT KIT

APPLICATION.	PART NO.	QTY	DESCRIPTION
BCDC TO BATTERY TRAY	6151017	4	Bolt Hex M6 x 1.0 x 16
	6151128	4	Nut Flange M6
	6151046	4	Washer Flat M6
BATTERY TRAY TO CHASSIS	6542139	1	Battery Tray
	6582460	1	Clamp Chassis Bracket
	6151619	2	Bolt M10 x 1.5 x 140
	6151665	2	Bolt M10 x 1.5 x 200
	6151322	4	Nut Nyloc M10 x 1.5
	4581083	8	Washer Flat M10 x 20
	5811062	2	Tube Spacer 108mm
	5811063	2	Tube Spacer 165mm
	180302	6	150mm Cable Ties
BATTERY CLAMP	6582457	1	Bracket Battery Clamp
	6151216	2	Bolt L M8 x 210mm
	6151032	2	Nut M8 x 1.25 Nyloc
	4581044	2	Washer Flat M8
	5848397	2	Plastic Insulator
SPARE WHEEL SPACER	3759283	2	Bracket Spare Wheel Spacer
	6151021	4	Bolt M8 X 20
	4581044	8	Washer Flat M8
	6151032	4	Nut Nyloc M8
CHARGER & WIRING (Supplied with 4340110)	4300020	1	ARB Wiring Kit
	BCDC1225D	1	REDARC Battery Charger

****NOTE** : This product is designed to fit on the Spare wheel Cross member above the spare wheel .

FASTENER TORQUE SETTINGS:

SIZE	Torque Nm	Torque lb/ft
M6	9Nm	7lbft
M8	22Nm	16lbft
M10	44Nm	32lbft

NOTE:

- ARB recommends installing a REDARC BCDC as part of this fitment. Refer to ARB/REDARC to determine the appropriate BCDC unit for your application.
- For details about the REDARC BCDC charger, refer to the manual provided with the unit.
- If using an alternative charging system and/or wiring, refer to the guidelines provided with those units.

CHASSIS AND BATTERY CLAMP PREPARATION



1. Press the 2 insulator pads into the back of the cover plate as shown



2. **Disconnect the Negative terminal** from the main Battery.

NOTE: Failure to disconnect negative terminal may result in fault codes on the dash when the ABS and taillight plugs are reconnected.

3. Disconnect the ABS and Taillight plugs from the Drivers side of the chassis.
4. Unclip the loom plugs along the Spare wheel Cross member to the Passenger side of the Chassis.



5. Re Route the Loom through the top of the Cross Member, past the Spare wheel retainer and back up through the Cross Member as shown.
6. Reconnect the 2 plugs and fasten loom with original plugs and/or cable ties.

FITTING PROCEDURE

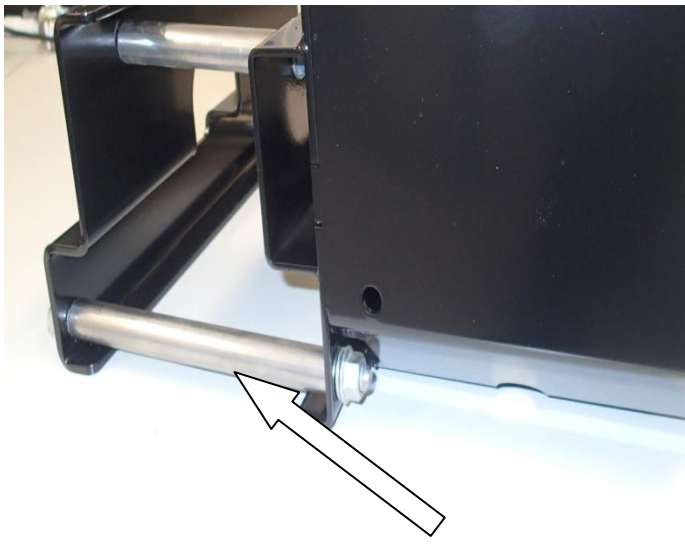


7. Photo depicts assembly of Battery Tray and Clamp out of the vehicle for clarity.

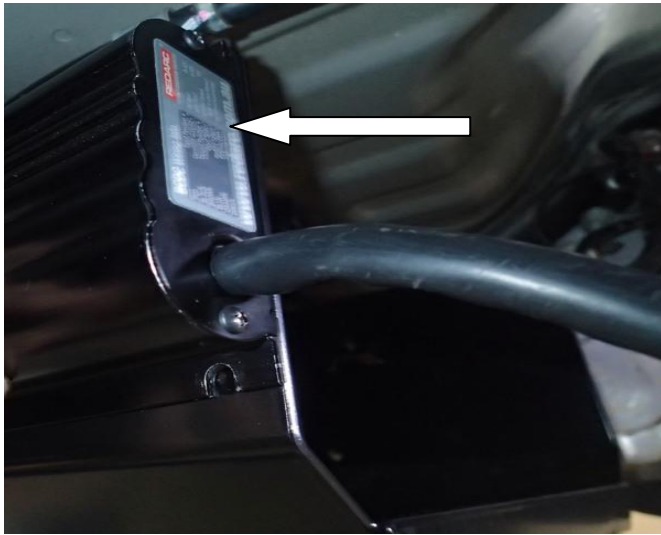
FITTING PROCEDURE CONT'



8. Place the Chassis Clamp bracket over the Spare Wheel retainer.
9. Place a M10 flat washer on the M10 x 140 bolts and feed through the top holes of the Battery tray.
10. Place a 108mm Spacer tube over the bolts and with the assistance of another person, fit the tray by passing the 2 top bolts and spacer tubes over the Cross member and locate the top holes of the Chassis clamp.
11. Place a M10 washer then loosely fasten with M10 Nyloc nut.



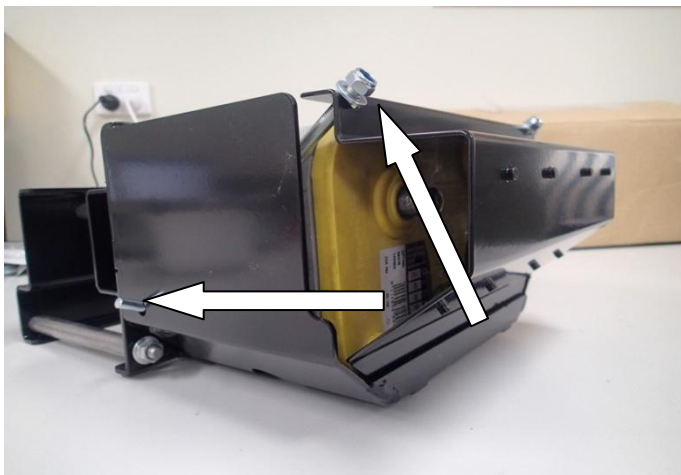
12. Place a M10 washer on the M10 x 200 bolts and feed through the lower holes ,passing through the 165mm Spacer tubes as shown.
13. Tighten the 2 top bolts, then tighten the lower bolts to specified torque.



14. If installing a Redarc BCDC, Fasten to the side of the tray using the M6 hardware supplied.



15. Place the Optima battery into the tray ensuring the terminals are at the top
 16. Place a pry bar or similar through the tray as shown and lift the back edge of the battery. This will make the battery parallel to the base of the tray and allow it to slide into the tray.



17. Refer to the diagram below for the correct wiring installation.
 18. Place the "L" bolts through the lower hole on each side and fit the cover plate.
 19. Fasten using the M8 flat washers and Nyloc nuts supplied
 20. Reconnect the Negative terminal clamp at the Main battery.



21. Hold the wheel spacer up to the cross member over the position of where the tyre contacts. **Ensure** that the arrow faces the front of the vehicle.
 22. Using a scribe, mark the hole positions for drilling. Repeat on the other side
 23. Centre punch and drill through the marked holes. De burr the holes and apply touch up paint.
 24. Fasten the Spacer Brackets using M8x20 bolts flat washers and Nyloc nuts.
 25. Re Install Spare wheel.

1 CONNECTING THE CHARGING CIRCUIT

ARB recommends fitting a Redarc BCDC charger to achieve optimum performance from the auxiliary battery.

To achieve safe and reliable operation of the BCDC charger, follow the steps below.

Even though the BCDC used will depend on the application, the following guidelines still apply.

Do not fasten any wires to brake or fuel lines.

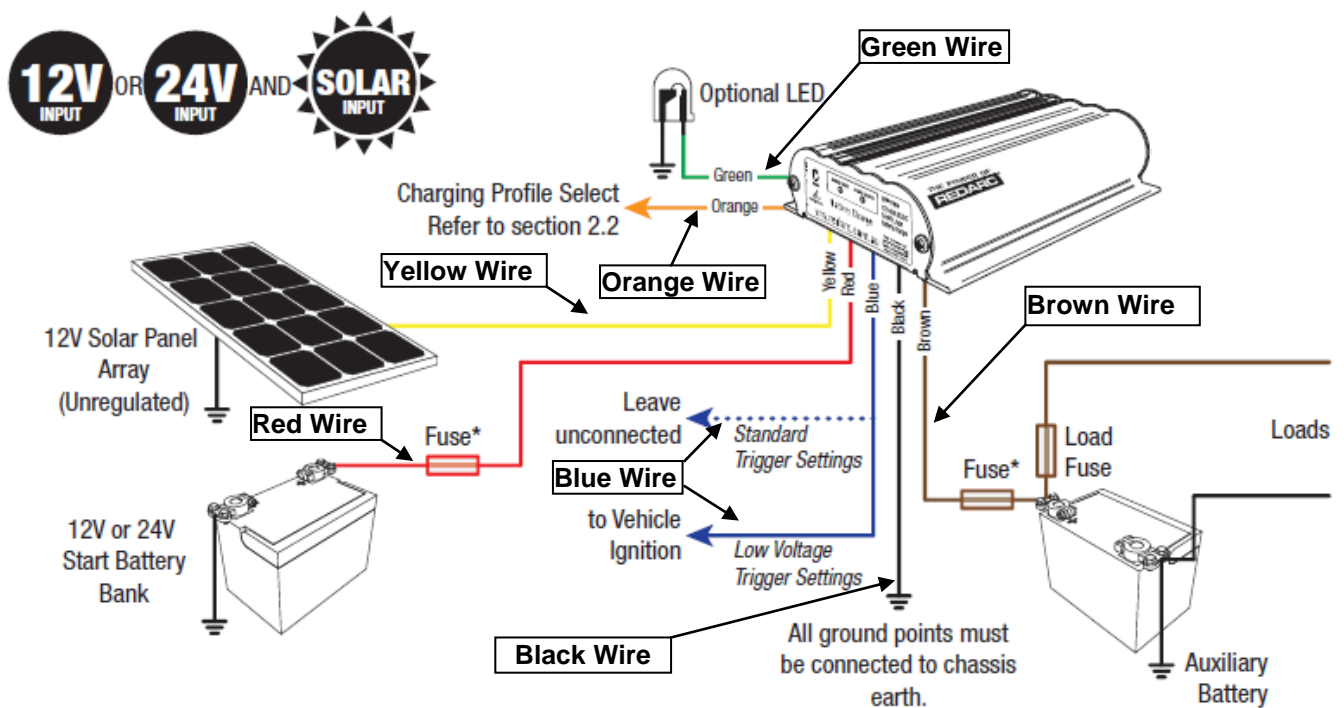
If the charging circuit is not working after correct installation, please consult a qualified Automotive electrician for assistance.

CAUTION: Make sure all wires are securely fastened away from any hot, sharp or moving surfaces.

Refer to diagram below for a typical setup of a 12V Battery connected with a BCDC Charger.

For detailed steps on how to wire the BCDC charging circuit, go to page 15.

Installation Setup diagram courtesy of REDARC Electronics.



WIRING – AUX BATTERY CHARGING SYSTEM

1. Disconnect main battery terminals, negative terminal first.

2. **RED WIRE**

Connect BCDC Red Wire to Positive Terminal on Vehicle Main Battery. This wire must have a fuse as close as possible to the positive terminal of Main Battery. Use the fuse listed below for the BCDC being installed.

Fuse Guide	
Type of BCDC	Fuse Size (A)
BCDC 1220/1220-IGN	30*
BCDC 1225/1225-LV/1225D	40*
BCDC 1240/1240-LV/1240D	50

** If using the ARB wiring kit (4300020), use the 50A MIDI fuses supplied with this kit as the wire is the correct size for these fuses.*

When lengthening the wire, use the wire size listed below for the BCDC being installed.

Input Battery Positive – Wire Size Guide		
Type of BCDC	Length (m)	Recommended Wire Size (mm ²)
BCDC 1220/1220-IGN	1-3	3.5 mm ² OR 6mm auto
	3-5	5.7 mm ² OR AWG 8
	5-9	10.2 mm ² OR AWG 8
BCDC 1225/1225-LV/1225D	1-5	7.71 mm ² OR AWG 8
	5-9	13.56 mm ² OR AWG 6
BCDC 1240/1240-LV/1240D	1-5	13.56 mm ² OR AWG 6
	5-9	20.28 mm ² OR AWG 4

3. **BLUE WIRE**

For BCDC 1220/1225/1240

Connect BCDC Blue Wire to Positive Terminal of Vehicle Start Battery (12V Positive Supply).

For BCDC 1220-IGN/1225-LV/1240-LV

Connect BCDC Blue Wire to Vehicle Ignition Power (12V Accessories).

For BCDC 1225D/1240D

Leave Blue Wire disconnected for *standard trigger settings*

4. **ORANGE WIRE**

Leave orange wire disconnected. Tape back to loom. If installing a different type of battery, refer to Redarc BCDC user manual for correct installation.

5. **GREEN WIRE**

If customer requires a visual indicator to show when the BCDC is charging the aux battery, connect green wire to positive terminal of a LED. Connect LED negative terminal to ground. The LED can be placed inside the vehicle on the dash.

NOTE: This wire can be left disconnected if visual indicator is not required.

6. **BLACK WIRE**

Connect BCDC Black Wire to Chassis Ground/Earth.

NOTE: Do not connect to vehicle tub.

7. **BROWN WIRE**

Connect BCDC Brown Wire to Positive Terminal on Auxiliary Battery. This wire must have a fuse as close as possible to the positive terminal of Aux battery. Use the fuse listed below for the BCDC being installed.

Fuse Guide	
Type of BCDC	Fuse Size (A)
BCDC 1220/1220-IGN	30*
BCDC 1225/1225-LV/1225D	40*
BCDC 1240/1240-LV/1240D	50

* If using the ARB wiring kit (4300020), use the 50A MIDI fuses supplied with this kit as the wire is the correct size for these fuses.

When lengthening the wire, use the wire size listed below for the BCDC being installed.

NOTE: The BCDC brown wire may be connected directly to the aux battery positive terminal without any extra wire length added on to it.

Output Battery Positive – Wire Size Guide	
Type of BCDC	Recommended Wire Size (mm ²)
BCDC 1220/1220-IGN	3 mm ² OR 5mm auto
BCDC 1225/1225-LV/1225D	7.71 mm ² OR AWG 8
BCDC 1240/1240-LV/1240D	7.71 mm ² OR AWG 8

8. **YELLOW WIRE**

Connect Yellow Wire to Solar Panel input if option is available.

NOTE: This wire can be left disconnected if Solar Panel is not required.

9. Connect Negative Terminal of Auxiliary Battery to Chassis Ground/Earth.
10. Reconnect Vehicle Main Battery Terminals.

TESTING

Start the engine.

Observe the LEDs on the BCDC Charger.

Normal Operation:

BCDC 1220, 1225, 1240, 1225LV, 1240LV

Under battery type, the one of the three LEDs (Standard, AGM/Gel or Calcium) must be blinking.

Under charge status, one of the three LEDs (boost, absorption or float) must be blinking.

BCDC 1225D, 1240D

Under Charge Profile, the one of the three LEDs (A, B, C or Li) must be blinking.

Under Charge Status, "Stage" must be on or blinking.

Faulty Operation:

If all the LEDs on the BCDC are blinking at the same time, consult the Redarc BCDC user manual or a qualified auto electrician to diagnose the issue.