



FITTING INSTRUCTIONS

Part Number: **4200010 – DUAL BATTERY TRAY ONLY**
4300030 – DUAL BATTERY KIT *

Product Description: **4200010 UNIVERSAL TUB MOUNTED BATTERY BOX TO SUIT 10" OPTIMA BATTERIES**
4200020 ADDITIONAL SPACER KIT FOR FITMENT OF BATTERY BOX TO SOME VEHICLES WITH UTE LINERS

Suited to vehicle/s: **Ford Ranger 2011 ON**
Mazda BT-50 2011 ON
Holden Colorado 2012 ON
Isuzu D-Max 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 4300030 has been provided with a REDARC BCDC1225D charger and ARB wiring kit (4300020). If the tray has been purchased individually (4240010), the ARB Wiring kit (4300020), and a suitable REDARC BCDC charger can be purchased from ARB.

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FITTING REQUIREMENTS

REQUIRED TOOLS FOR FITMENT OF PRODUCT:

BASIC METRIC SPANNER AND SOCKET SETS	POWER DRILL 13mm CAPACITY
SIDE CUTTERS	Ø 10.5mm DRILL BIT
RUST PREVENTATIVE	FLAT AND PHILIPS SCREWDRIVERS
PLIERS	SOLDERING IRON AND SOLDER
Ø 32mm HOLE SAW	PVC INSULATION TAPE

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 – 4200010 AUX BATT KIT

APPLICATION.	PART NO.	QTY	DESCRIPTION
BATTERY BOX PREPARATION	6151475	4	Nut Speed M6
	EG50	2	Grommet Rubber
	6151017	4	Bolt Hex M6 x 1.0 x 16
	6151128	4	Nut Flange M6
	6151046	4	Washer Flat M6
FIT BATTERY BOX	6542126	1	Battery Box
	6542127	1	Battery Box Lid
	3759178	2	Floor Brace
	6151090	4	Bolt M10 x 1.5 x 50
	6151359	4	Nut Nyloc M10 x 1.25
	4581083	4	Washer Flat M10 x 20 x 2
	4581040	4	Washer Flat M10 x 25 x 3
	6250003	4	Spacer 8mm
FIT BATTERY AND CLAMP	6582415	1	Bracket Battery Clamp
	6151117	2	Bolt L M8 x 190mm
	6151032	2	Nut M8 x 1.25 Nyloc
	4581044	2	Washer Flat M8
FIT LID	6151352	4	Screw M6 x 25
	6151046	4	Washer Flat M6
CHARGER & WIRING (Supplied with 4340110)	4300020	1	ARB Wiring Kit
	BCDC1225D	1	REDARC Battery Charger
ADDITIONAL SPACER KIT FOR UTE LINER (4200020)**	5846279	4	Spacer 23mm
	6151091	4	Bolt M10 x 1.25 x 60
	4581083	4	Washer Flat M10 x 20 x 2
	4581040	4	Washer Flat M10 x 25 x 3
	6151359	4	Nut Nyloc M10 x 1.25

****NOTE: 4200020 SPACER KIT FOR UTE LINER is required for fitment of battery box to BT50/Ranger with Ute liner.**

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.

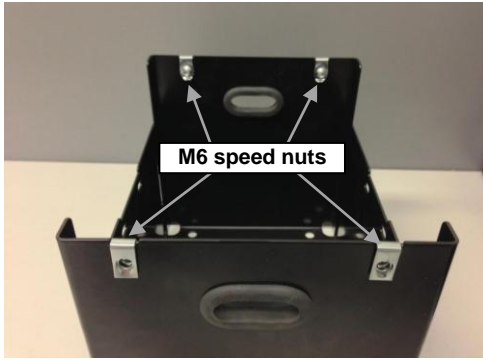
The following instructions provide fitting details for vehicles with and without tub liners. See table below for corresponding page numbers.

FORD RANGER – NO TUB LINER	Page 5
MAZDA BT50 – NO TUB LINER	Page 6
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FORD RANGER* – TUB LINER	Page 9
MAZDA BT50* – TUB LINER	Page 10
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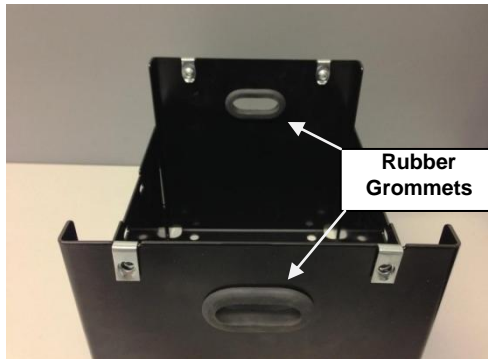
*Requires 4200020

*Requires 4200020

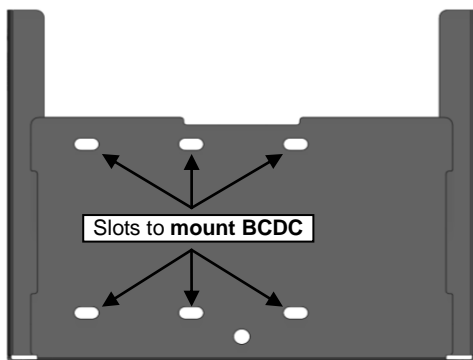
1 BATTERY BOX PREPARATION



1.1 Install 4 x M6 Speed Nuts onto battery box as shown.



1.2 Install 2 x Rubber Grommets as shown.



1.3 Install suitable BCDC (if required) using slots as shown

Use 4 x M6 x 16mm bolts, flange nuts and washers provided.

The BCDC should be positioned on the outside of the battery box as shown.

Choose the appropriate slots suited to the BCDC being used. Ideally, the BCDC should be positioned between the battery box and side of the tub as shown.

This will reduce the chance of the BCDC being damaged by loose objects moving around in the tub.

BCDC positioned on outside of battery box

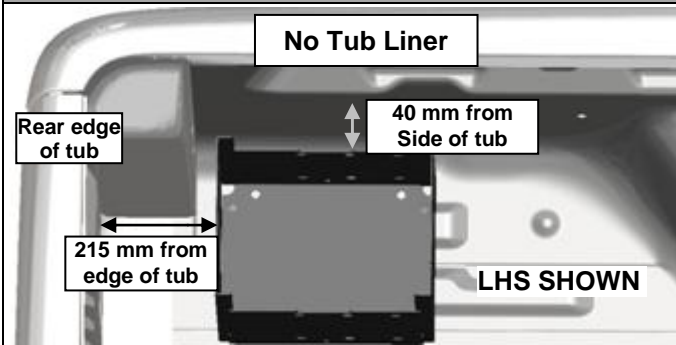


If vehicle IS NOT fitted with a tub liner, proceed to section 2.

If vehicle IS fitted with a tub liner, proceed to section 3.

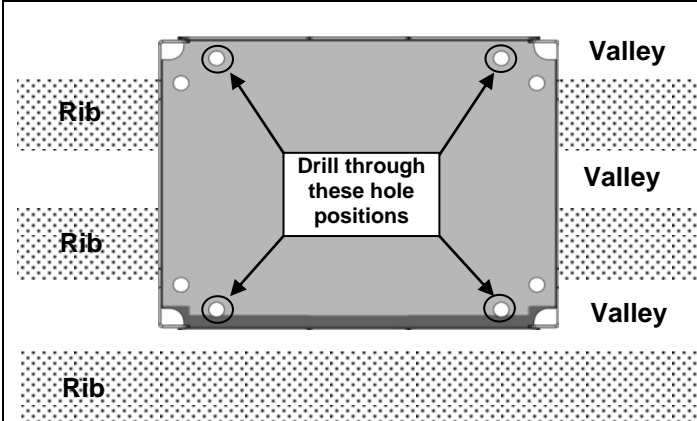
2 FITTING PROCEDURE – VEHICLES WITHOUT TUB LINERS

FORD RANGER - *no tub liner*



If vehicle is fitted with tub liner, proceed to Step 3.1.

- 2.1 Place battery box in tub behind LH or RH wheel arch
- 2.2 Position battery box 215 mm from the rear edge of tub and 40 mm from side of tub.



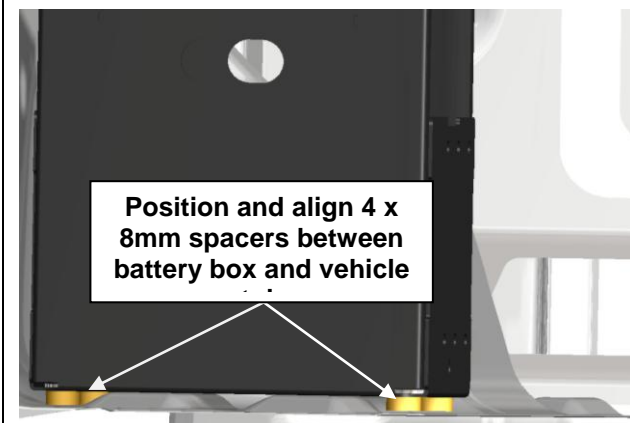
- 2.3 Mark hole positions of battery box onto vehicle tub.

NOTE: Make sure the hole positions are located in the valleys of the floor between the ribs.

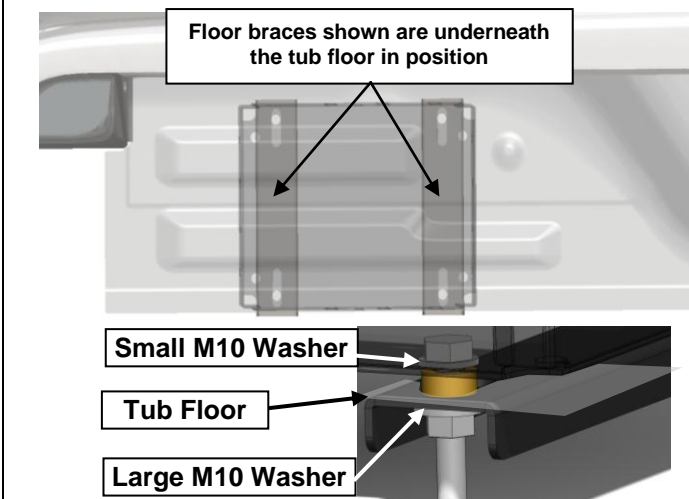
- 2.4 Remove battery box from tub.
- 2.5 Drill through marked holes as shown using 10.5mm dia drill bit.



Warning: Drilling operations can result in flying metal debris, safety glasses should be worn.



- 2.6 Clean away metal cuttings. Touch up bare metal in holes with rust preventative.
- 2.7 Position 4 x 8mm spacers between the battery box and vehicle tub as shown. Align with drilled holes.
- 2.8 Re-position box onto vehicle tub and align with drilled holes.



NOTE: Use Small M10 Washers (M10 x 20 x 2) under head of bolts.

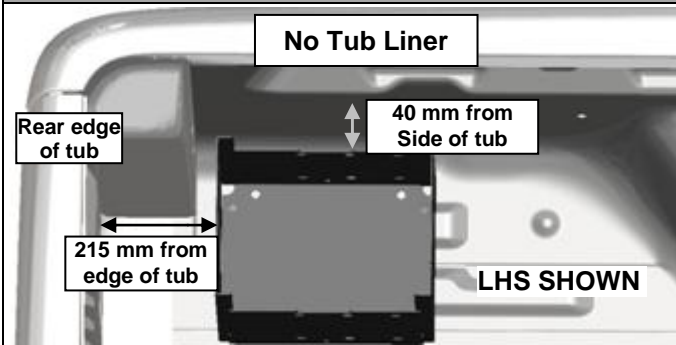
NOTE: Use Large M10 Washer (M10 x 25 x 3) between floor brace and nyloc nuts.

- 2.9 Bolt battery box in position with 4 x M10 x 50mm Bolt and 4 x M10 Small Washer.
- 2.10 Position Floor braces to run across the width of the tub (underneath) as shown. Align with drilled holes.
- 2.11 With the help of another person, fasten with 4 x M10 Large Washer and 4 x M10 nyloc nuts.

- 2.12 Install Cabling to suit. Refer to Wiring Section on page 14 for installation guide.

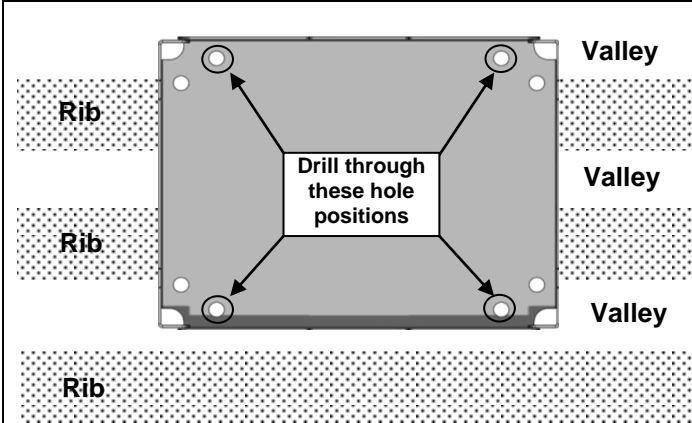
FITTING PROCEDURE – VEHICLES WITHOUT TUB LINERS cont.

MAZDA BT50 – no tub liner



If vehicle is fitted with tub liner, proceed to Step 3.15

- 2.13 Place battery box in tub behind LH or RH wheel arch
- 2.14 Position battery box 215 mm from the rear edge of tub and 40 mm from side of tub.



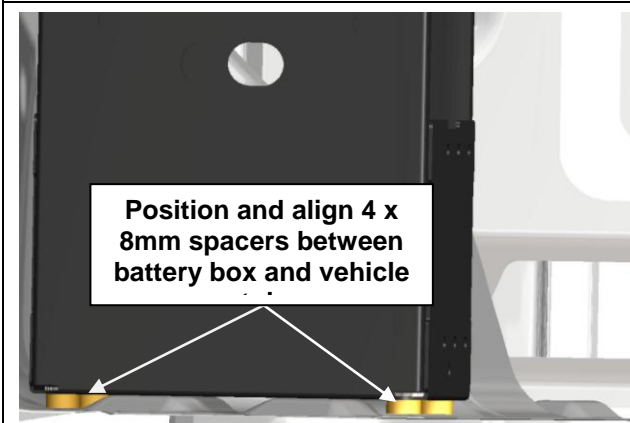
- 2.15 Mark hole positions of battery box onto vehicle tub.

NOTE: Make sure the hole positions are located in the valleys of the floor between the ribs.

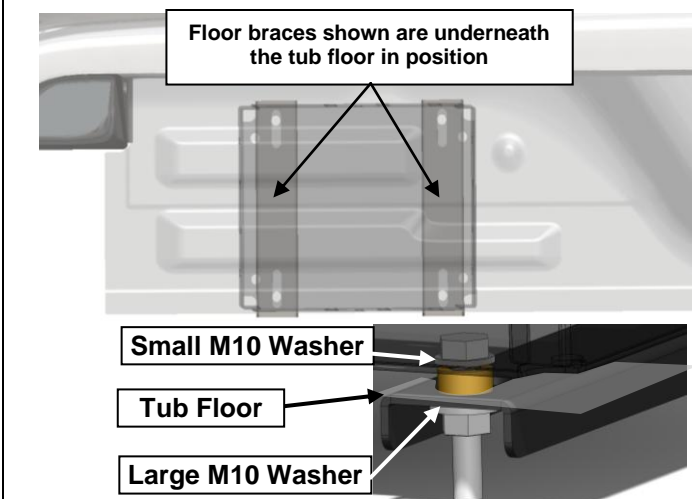
- 2.16 Remove battery box from tub.
- 2.17 Drill through marked holes as shown using 10.5mm dia drill bit.



Warning: Drilling operations can result in flying metal debris, safety glasses should be worn.



- 2.18 Clean away metal cuttings. Touch up bare metal in holes with rust preventative.
- 2.19 Position 4 x 8mm spacers between the battery box and vehicle tub as shown. Align with drilled holes.
- 2.20 Re-position box onto vehicle tub and align with drilled holes.



NOTE: Use Small M10 Washers (M10 x 20 x 2) under head of bolts.

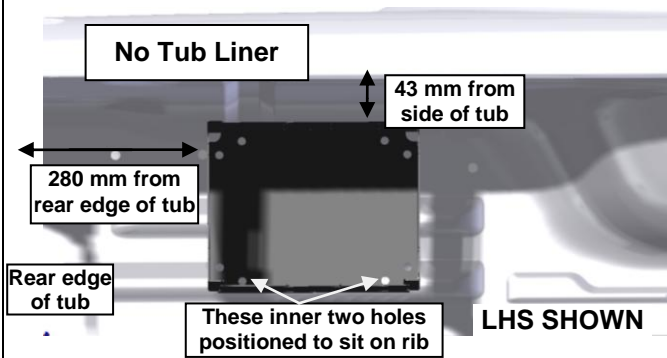
NOTE: Use Large M10 Washer (M10 x 25 x 3) between floor brace and nyloc nuts.

- 2.21 Bolt battery box in position with 4 x M10 x 50mm Bolt and 4 x M10 Small Washer.
- 2.22 Position Floor braces to run across the width of the tub (underneath) as shown. Align with drilled holes.
- 2.23 With the help of another person, fasten with 4 x M10 Large Washer and 4 x M10 nyloc nuts.

- 2.24 Install Cabling to suit. Refer to Wiring Section on page 14 for installation guide.

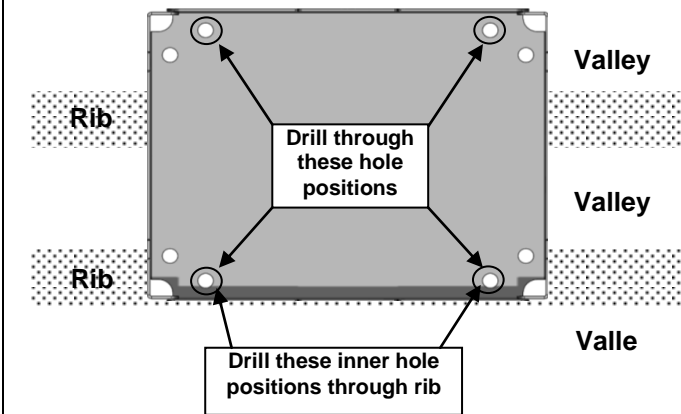
FITTING PROCEDURE – VEHICLES WITHOUT TUB LINERS cont.

ISUZU D-MAX - no tub liner



If vehicle is fitted with tub liner, proceed to Step 3.29

- 2.25 Place battery box in tub behind LH or RH wheel arch.
- 2.26 Position battery box 280 mm from the rear edge of tub and 43 mm from side of tub.

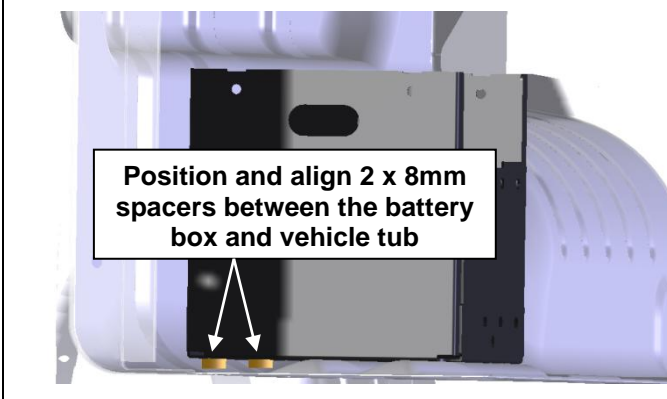


- 2.27 Mark positions of battery box holes onto vehicle tub.
- NOTE: The inner two holes are positioned to be drilled through the rib.**

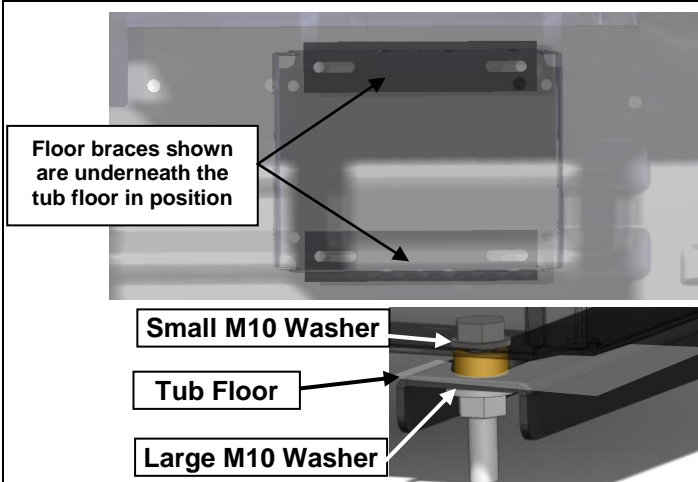
- 2.28 Remove battery box from tub.
- 2.29 Drill through marked holes as shown using 10.5mm dia drill bit.



Warning: Drilling operations can result in flying metal debris, safety glasses should be worn.



- 2.30 Clean away metal cuttings. Touch up bare metal in holes with rust preventative.
- 2.31 Position 2 x 8mm spacers between the battery box and vehicle tub as shown. Align with drilled holes.
- 2.32 Re-position box onto vehicle tub and align with drilled holes.



NOTE: Use Small M10 Washers (M10 x 20 x 2) under head of bolts.

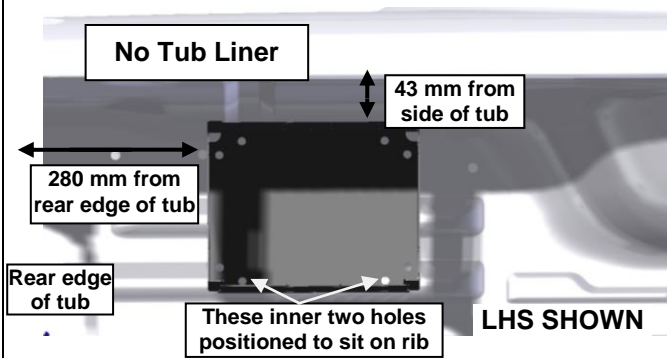
NOTE: Use Large M10 Washer (M10 x 25 x 3) between floor brace and nyloc nuts.

- 2.33 Bolt battery box in position with 4 x M10 x 50mm Bolt and 4 x M10 Small Washer.
- 2.34 Position Floor braces to run across the length of the tub (underneath) as shown. Align with drilled holes.
- 2.35 With the help of another person, fasten with 4 x M10 Large Washer and 4 x M10 nyloc nuts.

- 2.36 Install Cabling to suit. Refer to Wiring Section on page 14 for installation guide.

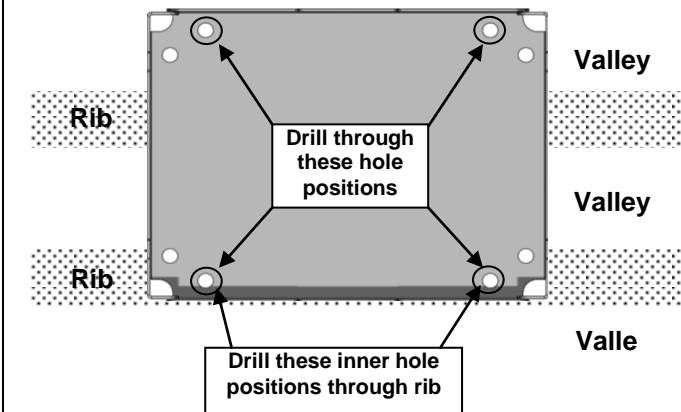
FITTING PROCEDURE – VEHICLES WITHOUT TUB LINERS cont.

HOLDEN COLORADO - no tub liner



If vehicle is fitted with tub liner, proceed to Step 3.41

- 2.37 Place battery box in tub behind LH or RH wheel arch.
- 2.38 Position battery box 280 mm from the rear edge of tub and 43 mm from side of tub.

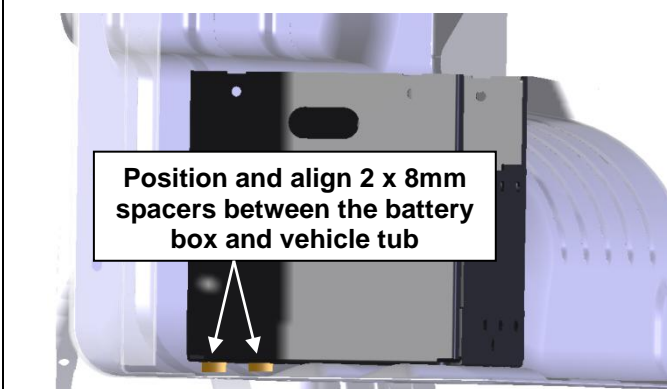


- 2.39 Mark positions of battery box holes onto vehicle tub.
- NOTE: The inner two holes are positioned to be drilled through the rib.**

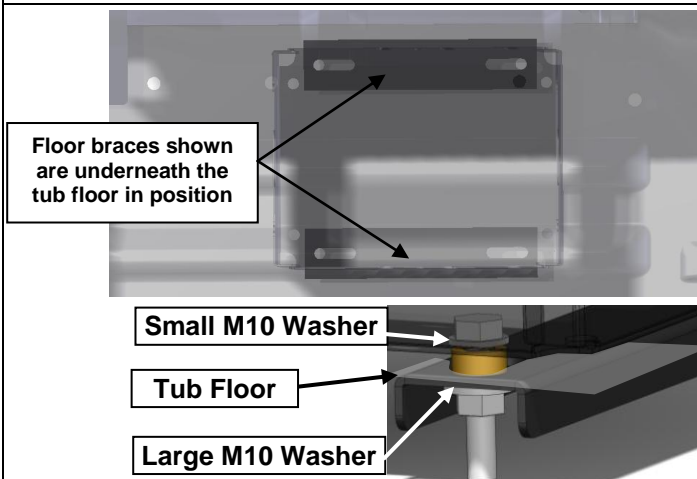
- 2.40 Remove battery box from tub.
- 2.41 Drill through marked holes as shown using 10.5mm dia drill bit.



Warning: Drilling operations can result in flying metal debris, safety glasses should be worn.



- 2.42 Clean away metal cuttings. Touch up bare metal in holes with rust preventative.
- 2.43 Position 2 x 8mm spacers between the battery box and vehicle tub as shown. Align with drilled holes.
- 2.44 Re-position box onto vehicle tub and align with drilled holes.



NOTE: Use Small M10 Washers (M10 x 20 x 2) under head of bolts.

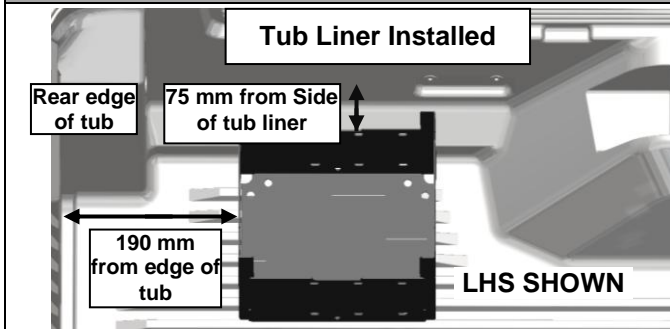
NOTE: Use Large M10 Washer (M10 x 25 x 3) between floor brace and nyloc nuts.

- 2.45 Bolt battery box in position with 4 x M10 x 50mm Bolt and 4 x M10 Small Washer.
- 2.46 Position Floor braces to run across the length of the tub (underneath) as shown. Align with drilled holes.
- 2.47 With the help of another person, fasten with 4 x M10 Large Washer and 4 x M10 nyloc nuts.

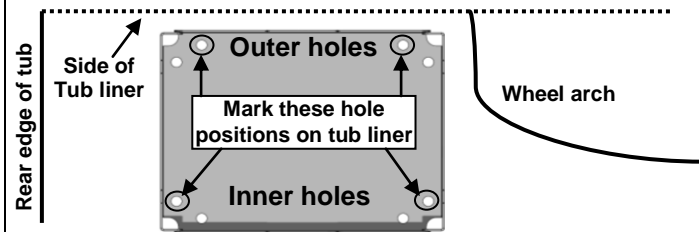
- 2.48 Install Cabling to suit. Refer to Wiring Section on page 14 for installation guide.

3 FITTING PROCEDURE – VEHICLES WITH TUB LINERS

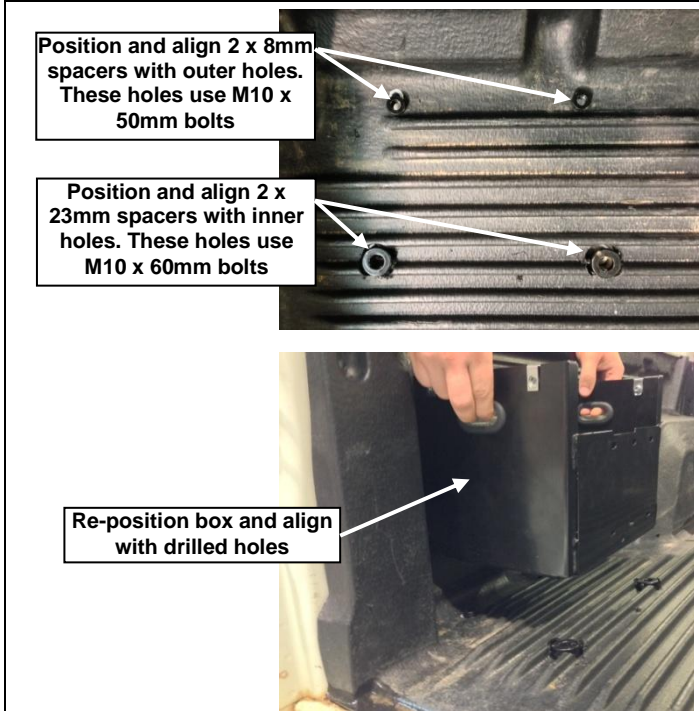
FORD RANGER – *with tub liner*



- 3.1 Place battery box in tub behind LH or RH wheel arch
- 3.2 Position battery box 190 mm from the rear edge of tub and 75 mm from side of tub liner.



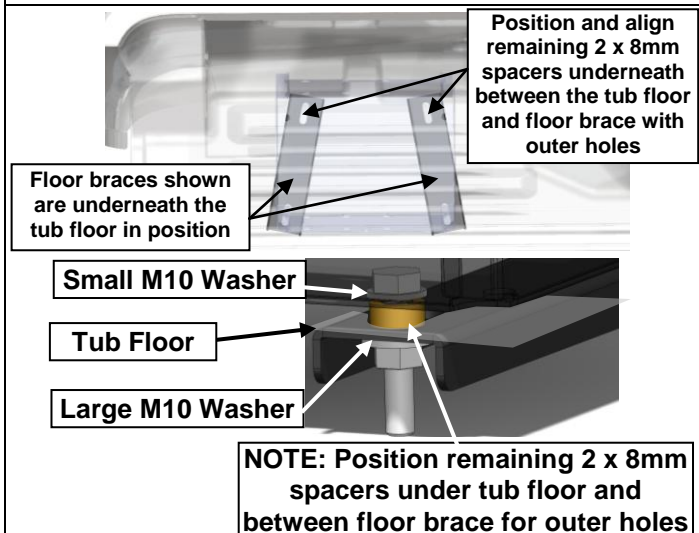
- 3.3 Mark the 4 hole positions (inner and outer) on the vehicle tub liner as shown.
NOTE: The outer holes should be positioned against the flat floor of the liner.
- 3.4 Remove battery box from tub.



- 3.5 Drill the marked hole positions through liner and tub using 10.5mm dia drill bit.
- 3.6 Clean away metal cuttings. Touch up bare metal in holes with rust preventative.
- 3.7 For the inner holes, drill \varnothing 32mm hole through the tub liner only, to fit 23mm spacers.
NOTE: Do not drill through floor of tub.
- 3.8 Position 2 x 8mm spacers between the battery box and vehicle tub liner. Align with outer holes.
- 3.9 Position 2 x 23mm spacers between the battery box and tub floor. Align with inner holes.
- 3.10 Re-position box onto vehicle tub liner and align with drilled holes.



Warning: Drilling operations can result in flying metal debris, safety glasses should be worn.



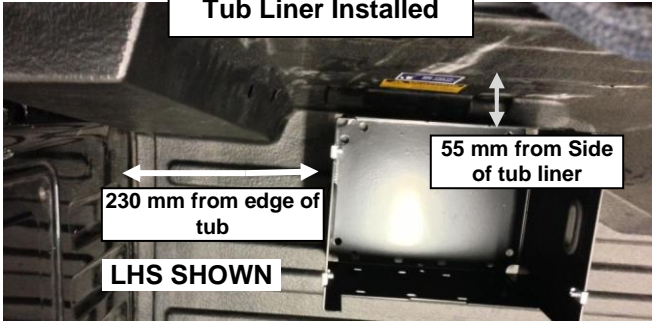
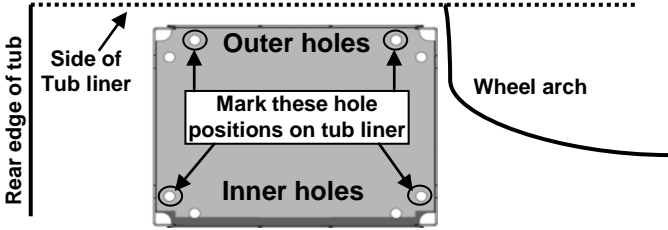

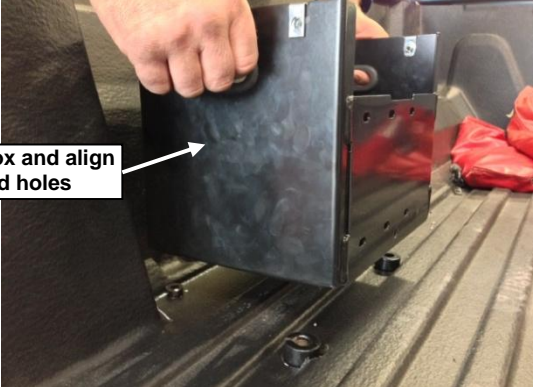


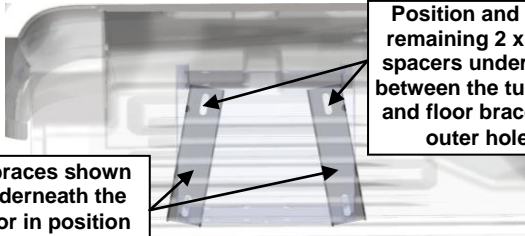
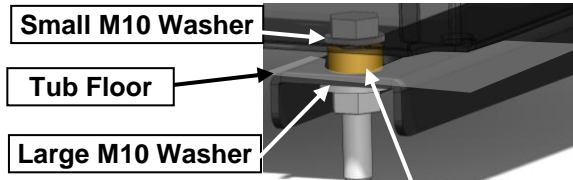
NOTE: Use Small M10 Washers (M10 x 20 x 2) under head of bolts.

NOTE: Use Large M10 Washer (M10 x 25 x 3) between floor brace and nyloc nuts.

- 3.11 Bolt battery box in position with 2 x M10 x 50mm Bolt (inner holes), 2 x M10 x 60mm Bolt (outer holes) and 4 x M10 Small Washer.
- 3.12 Position Floor braces to run across width of tub (underneath) as shown. Position remaining 2 x 8mm spacers under tub floor and between floor brace. Align with outer drilled holes.
- 3.13 With the help of another person, fasten with 4 x M10 Large Washer and 4 x M10 nyloc nuts.
- 3.14 Install Cabling to suit. Refer to Wiring Section on page 14 for installation guide.

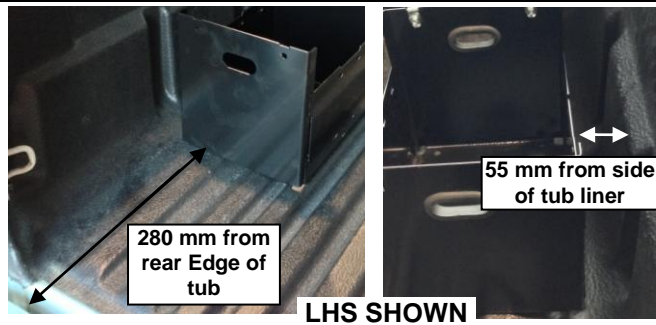
FITTING PROCEDURE – VEHICLES WITH TUB LINERS cont.

MAZDA BT50 – with tub liner

<div style="text-align: center; border: 1px solid black; padding: 2px; margin-bottom: 5px;">Tub Liner Installed</div>  <p style="text-align: center;">230 mm from edge of tub</p> <p style="text-align: center;">55 mm from Side of tub liner</p> <p style="text-align: center;">LHS SHOWN</p>	<p>3.15 Place battery box in tub behind LH or RH wheel arch.</p> <p>3.16 Position battery box 230 mm from rear edge of tub and 55 mm from side of tub liner.</p>
 <p style="text-align: center;">Outer holes</p> <p style="text-align: center;">Mark these hole positions on tub liner</p> <p style="text-align: center;">Inner holes</p>	<p>3.17 Mark the 4 hole positions (inner and outer) on the vehicle tub liner as shown.</p> <p>NOTE: The outer holes should be positioned against the flat floor of the liner.</p> <p>3.18 Remove battery box from tub.</p>
<div style="border: 1px solid black; padding: 2px; margin-bottom: 5px;">Position and align 2 x 8mm spacers with outer holes. These holes use M10 x 50mm bolts</div> <div style="border: 1px solid black; padding: 2px; margin-bottom: 5px;">Position and align 2 x 23mm spacers with inner holes. These holes use M10 x 60mm bolts</div>  <div style="border: 1px solid black; padding: 2px; margin-bottom: 5px;">Re-position box and align with drilled holes</div> 	<p>3.19 Drill the marked hole positions through liner and tub using 10.5mm dia drill bit.</p> <p>3.20 Clean away metal cuttings. Touch up bare metal in holes with rust preventative.</p> <p>3.21 For the outer holes, drill \varnothing 32mm hole through the tub liner only, to fit 23mm spacers.</p> <p>NOTE: Do not drill through floor of tub.</p> <p>3.22 Position 2 x 8mm spacers between the battery box and vehicle tub liner. Align with outer holes.</p> <p>3.23 Position 2 x 23mm spacers between the battery box and tub floor. Align with inner holes</p> <p>3.24 Re-position box onto vehicle tub liner and align with drilled holes.</p> <div style="display: flex; align-items: center; margin-top: 10px;"> <div style="border: 1px solid black; padding: 2px; margin-right: 5px;"></div> <div style="font-size: small; margin: 0 5px;">Warning: Drilling operations can result in flying metal debris, safety glasses should be worn.</div> <div style="border: 1px solid black; padding: 2px; margin-left: 5px;"></div> </div>
 <div style="border: 1px solid black; padding: 2px; margin-bottom: 5px;">Position and align remaining 2 x 8mm spacers underneath between the tub floor and floor brace with outer holes</div> <div style="border: 1px solid black; padding: 2px; margin-bottom: 5px;">Floor braces shown are underneath the tub floor in position</div>  <div style="border: 1px solid black; padding: 2px; margin-top: 5px;">NOTE: Position remaining 2 x 8mm spacers under tub floor and between floor brace for outer holes</div>	<p>NOTE: Use Small M10 Washers (M10 x 20 x 2) under head of bolts.</p> <p>NOTE: Use Large M10 Washer (M10 x 25 x 3) between floor brace and nyloc nuts.</p> <p>3.25 Bolt battery box in position with 2 x M10 x 50mm Bolt (inner holes), 2 x M10 x 60mm Bolt (outer holes) and 4 x M10 Small Washer.</p> <p>3.26 Position Floor braces to run across width of tub (underneath) as shown. Position remaining 2 x 8mm spacers under tub floor and between floor brace. Align with outer drilled holes.</p> <p>3.27 With the help of another person, fasten with 4 x M10 Large Washer and 4 x M10 nyloc nuts.</p>
	<p>3.28 Install Cabling to suit. Refer to Wiring Section on page 14 for installation guide.</p>

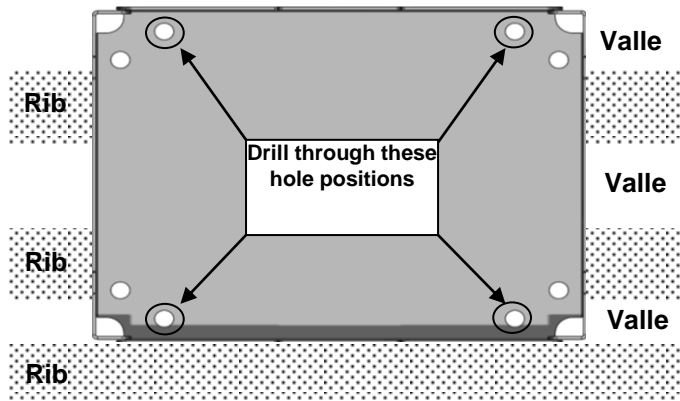
FITTING PROCEDURE – VEHICLES WITH TUB LINERS cont.

ISUZU D-MAX – with tub liner



- 3.29 Place battery box in tub behind LH or RH wheel arch.
- 3.30 Position battery box 280 mm from the rear edge of tub and 55 mm from side of tub liner.

NOTE: Make sure the hole positions are located in the valley between the ribs as shown.

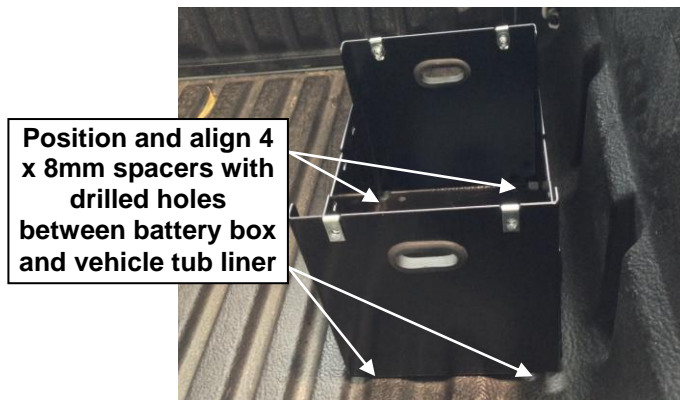


- 3.31 Mark positions of battery box holes onto vehicle tub liner.
- 3.32 Remove battery box from tub.
- 3.33 Drill through marked holes as shown using 10.5mm dia drill bit.

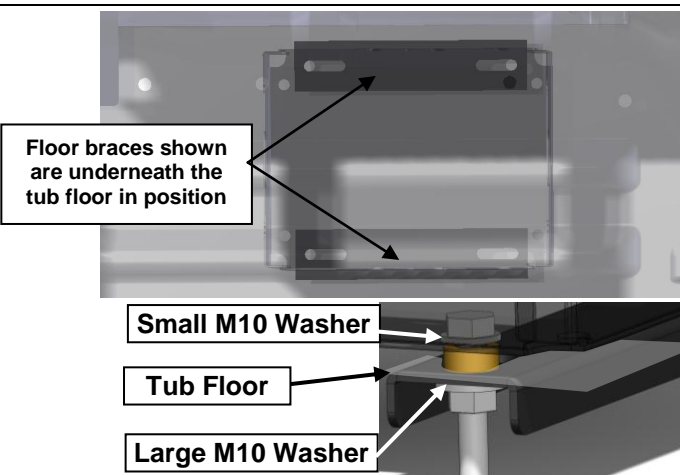
NOTE: Drill through both liner and tub.



Warning: Drilling operations can result in flying metal debris, safety glasses should be worn.



- 3.34 Clean away metal cuttings. Touch up bare metal in holes with rust preventative.
- 3.35 Position 4 x 8mm spacers between the battery box and vehicle tub liner as shown. Align with drilled holes.
- 3.36 Re-position box onto vehicle tub and align with drilled holes.



NOTE: Use Small M10 Washers (M10 x 20 x 2) under head of bolts.

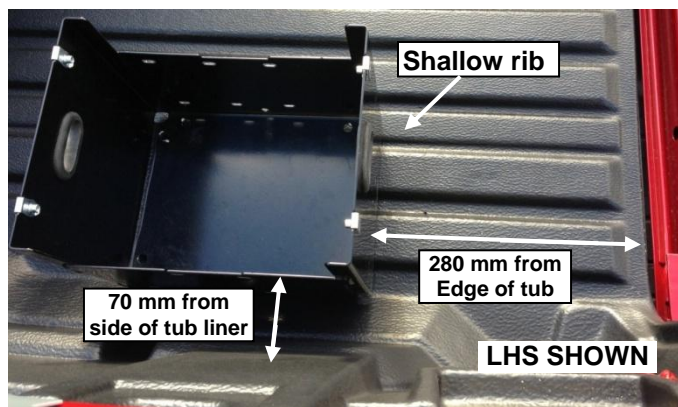
NOTE: Use Large M10 Washer (M10 x 25 x 3) between floor brace and nyloc nuts.

- 3.37 Bolt battery box in position with 4 x M10 x 50mm Bolt and 4 x M10 Small Washer.
- 3.38 Position Floor braces to run across the length of the tub (underneath) as shown. Align with drilled holes.
- 3.39 With the help of another person, fasten with 4 x M10 Large Washer and 4 x M10 nyloc nuts.

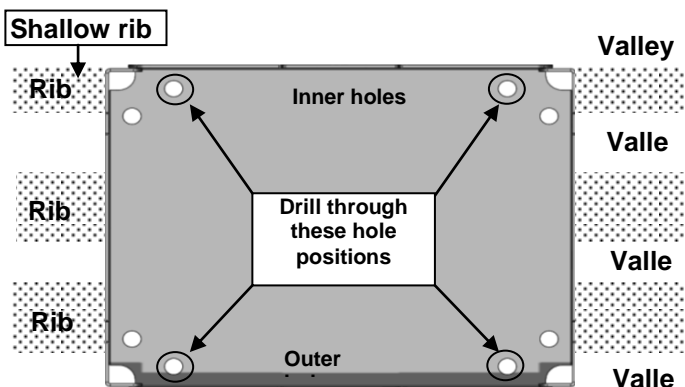
- 3.40 Install Cabling to suit. Refer to Wiring Section on page 14 for installation guide.

FITTING PROCEDURE – VEHICLES WITH TUB LINERS cont.

HOLDEN COLORADO – *with tub liner*



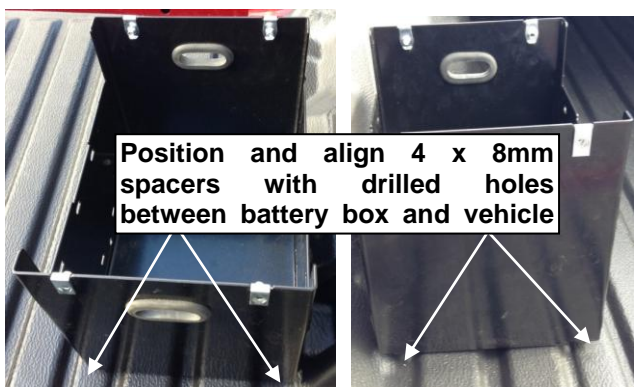
- 3.41 Place battery box in tub behind LH or RH wheel arch.
- 3.42 Position battery box 280 mm from the edge of tub and 70 mm from the side of tub liner.
- NOTE: Make sure the outer holes are located in the valley and the inner holes are located above the shallow rib.**



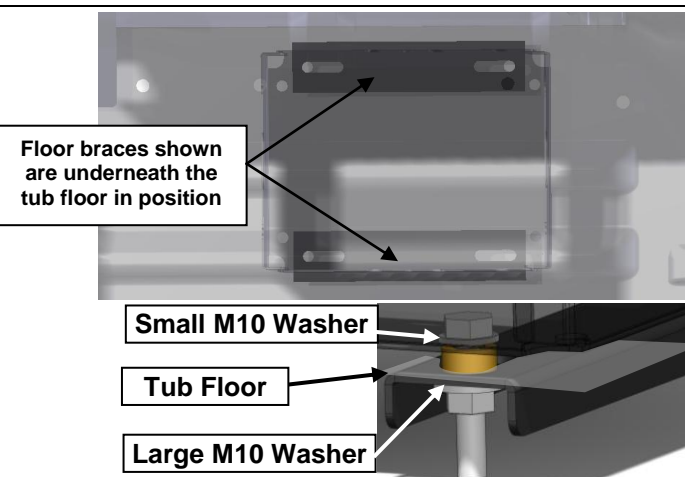
- 3.43 Mark positions of battery box holes onto vehicle tub liner.
- 3.44 Remove battery box from tub.
- 3.45 Drill through marked holes as shown using 10.5mm dia drill bit.
- NOTE: Drill through the liner and through the tub.**



Warning: Drilling operations can result in flying metal debris, safety glasses should be worn.



- 3.46 Clean away metal cuttings. Touch up bare metal in holes with rust preventative.
- 3.47 Position 4 x 8mm spacers between the battery box and vehicle tub liner as shown. Align with drilled holes.
- 3.48 Re-position box onto vehicle tub and align with drilled holes.



NOTE: Use Small M10 Washers (M10 x 20 x 2) under head of bolts.

NOTE: Use Large M10 Washer (M10 x 25 x 3) between floor brace and nyloc nuts.

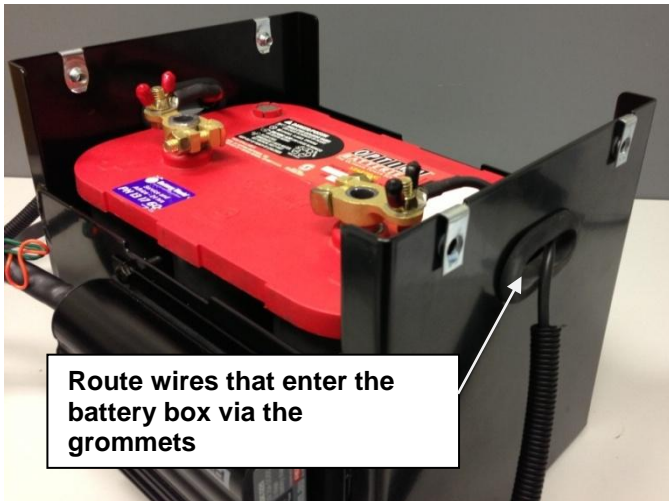
- 3.49 Bolt battery box in position with 4 x M10 x 50mm Bolt and 4 x M10 Small Washer.
- 3.50 Position Floor braces to run across the length of the tub (underneath) as shown. Align with drilled holes.
- 3.51 With the help of another person, fasten with 4 x M10 Large Washer and 4 x M10 nyloc nuts.

- 3.52 Install Cabling to suit. Refer to Wiring Section on page 14 for installation guide.

4 INSTALLING BATTERY



- 4.1 Place Battery in Box. Fit battery clamp with 2 x M8 L bolts, 2 x M8 Flat Washers and 2 x M8 Nyloc nuts.

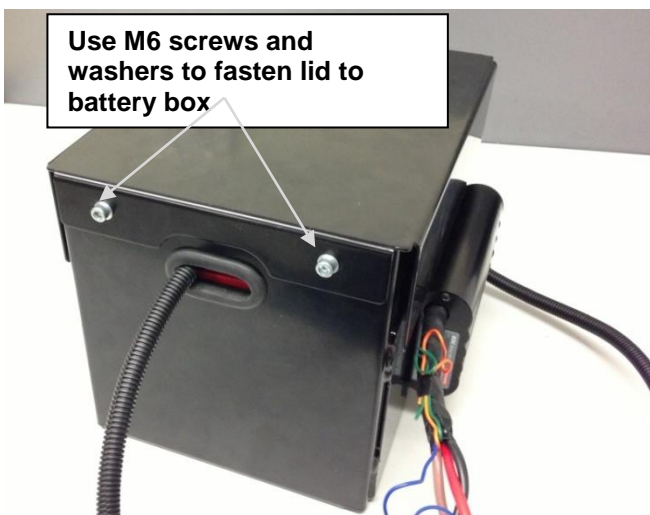


- 4.2 Connect wires with the positive and negative terminals of the battery using suitable battery terminals and connectors.

NOTE: All wires that enter the battery box must pass through the grommet at each end of the box as shown.

CAUTION: Conventional automotive wiring techniques must be followed at all times. This includes the use of suitable fuses on all positive wires and the correct selection of wire size for the anticipated load on the circuit.

Use M6 screws and washers to fasten lid to battery box



- 4.3 Fit the lid to the battery box.
4.4 Fasten lid to battery box using the 4 x M6 screws and washers into the speed nuts installed in step 1.

CAUTION: Take care not to damage any cables when fitting the lid.

HINT: Use corrugated tubing to protect the wires from getting damaged.

5 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.

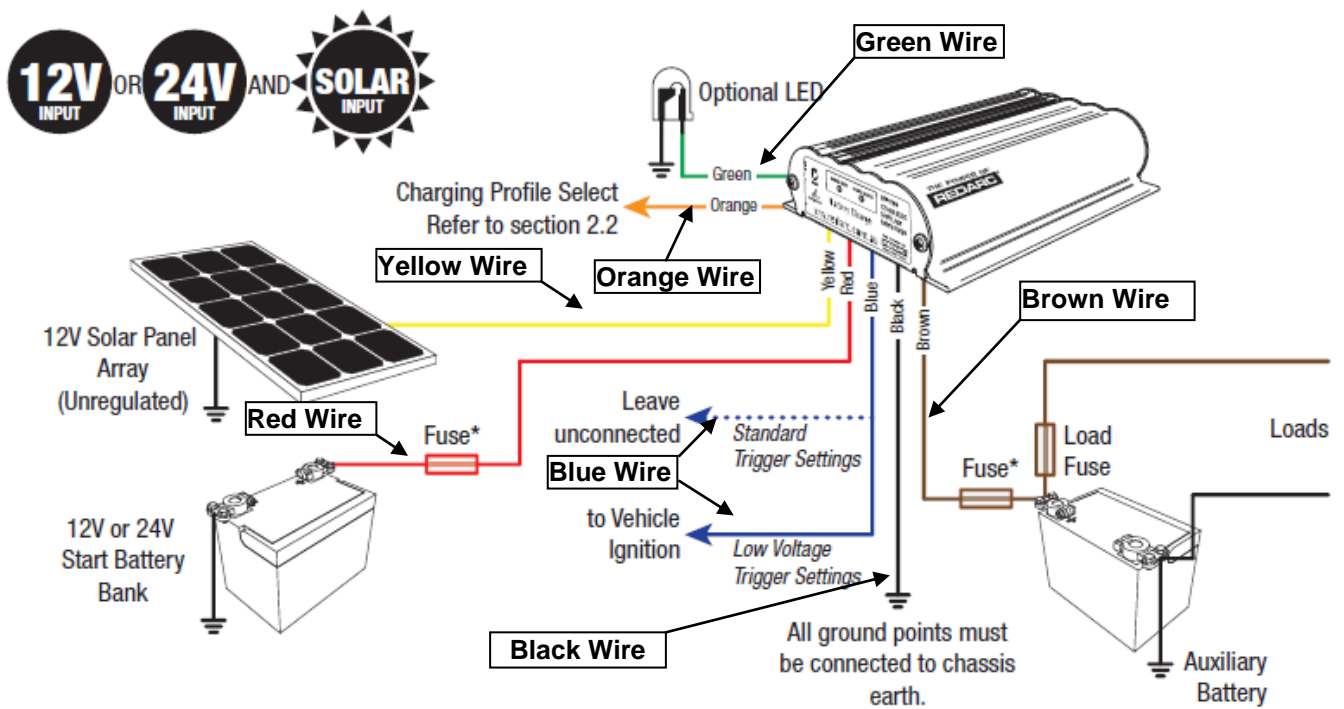
If the charging circuit is not working after correct installation, please consult a qualified Automotive electrician for assistance.

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* Refer to Redarc manual for directions on when this wire should be connected.

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.