



JACKA
INDUSTRIES



JackaJay

Installation Guide

Version 5.0

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1. Introduction

This Installation guide is designed to assist you with essential information to enable you achieve a successful and fully operative JackaJay, JackaHD or ERS Electric Lift System.

1.1 Purpose of this document

The guide covers the following areas:

Installation of the JackaJay lift system and all its related components.

Removing the manual winch lift system and upgrading to a fully automatic electric lift system.

1.2 Important points to be observed throughout the Guide

The guide covers the following areas:

- Installation of the JackaJay lift system and all its related components.
- Removing the manual winch lift system and upgrading to a fully automatic electric lift system.

IMPORTANT NOTE: This will emphasize important information that is relevant to the current steps.

STOP POINT

This box aims to emphasize the importance of conducting a detailed check and confirmation on the works/items that are meant for completion.



Tick here



This note issues a **WARNING** to the installer of any impending **DANGER/ EVENT** that has the potential to cause injury or death if the stipulated directives are not followed.

1.3 Identification

- The JackaJay lift system and all installation related information and operational directives are only applicable for wind-up related camper trailers.
- Please contact Jacka Industries for approval and directives for any application of the JackaJay product outside of this document's guideline.

1.4 Reference information

- Additionally, refer to the User Operation guide for JackaJay System operation and ensure that all documents have been read and understood prior to carrying out any installation of our products.

1.5 Points of Contact

- For all queries, please contact Jacka Industries Pty Ltd or any authorised distributor within your area.

1.6 Warranty

- Recreational warranty terminates 5 years from purchase date. See Appendix A for definition.
- Commercial warranty terminates 1 year from purchase date. See Appendix A for definition.
- Jacka Industry Pty Ltd goods come with guarantees that cannot be excluded under the Australian Consumers Law (ACL). You are entitled to a replacement or refund for a major failure and compensation for any other reasonable and foreseeable loss or damage. You are also entitled to have the goods repaired or replaced if the goods fail to be of acceptable quality and the failure does not amount to a major failure.
- Any operation or installation of the JackaJay lift system, other than as directed, will void any warranty claim.
- Any unintended use / residue, regarding extreme conditions including but not limited to, the submerging of any components of the camper trailer, not including wheels, in water will void all warranty claims.
- Any major water leaks or insurance claims must be registered with Jacka Industries Pty Ltd to maintain current warranty offer.
- Any warranty claim will need to be inspected by authorized personnel and deemed claimable within Jacka Industries Pty Ltd procedures.

2 Preparation

We prepared this installation document for you as a definitive guide, to enable a smooth removal of the manual winch system and installation of the JackaJay lift system.

It is important that you have all the necessary components in the JackaJay kit, all required associated tools and equipment, and fully understand all aspects and CHECKS that MUST be conducted during the installation process. This will help you achieve a successful installation, so you don't void any warranty.

2.1 Main Tasks and Installation Steps

Section	Task
1.0	Introduction
2.0	Preparation
3.0	Installation Setup – Set Roof Height and Remove old Winch system
4.0	Install the JackaJay lift system
5.0	Test and commission the JackaJay lift system.
6.0	Post Installation care and Maintenance
7.0	Troubleshooting Guide

2.2 Environment

- During the installation process, it is important to ensure that no equipment gets wet, dropped, or damaged and all care is taken to carry out a successful installation.
- Ensure that a dry and secure site is chosen and if inclement weather is forecast, all equipment should be kept dry. Any water damage or indication of heavy drops will void the warranty of that component.
- Ensure that all personal effects are removed from the van and placed in a clean and dry location.

- Ensure the camper trailer is in a clean and tidy condition.
- Ensure that all the cabinetry is empty, and access is not hindered and ready for installation.
- Unzip the top 200mm of all windows to enable air flow and place all the curtains behind the window. This will ensure they are not obstacles when moving greased and soiled components around the van.

2.3 Equipment

During installation, it is required that JackaJay kit componentry must be sourced prior to installation. Please see the list below in this section.

2.3.1 Tools

- Battery Drill and Impact driver
- 3/8 Driver bit and #2 Phillips Driver bit.
- 90° Drill (optional)
- 32mm Hole saw
- Small Bolt Cutters
- Hammer
- Allen Keys - 2.0mm & 2.5mm
- Framing timber (Advise 90mm x 35mm)
- Framing / window shims
- General Spanners, sockets, and drill bits
- Marking Pen
- Silicone based adhesive

2.3.2 JackaJay Kit componentry

2.3.2.1 HARDWARE

- 4 x Motor Assemblies (1 x Red, 1 x Blue, 1 x Yellow, 1 x Green)
- 4 x Tube Assemblies (1 x Red, 1 x Blue, 1 x Yellow, 1 x Green)
- 4 x Corner Elbows (Black)
- 4 x Flexible Springs/ Pushrods.
- 2 x Saddles (securing harnesses near controller)
- 1 x JACKAJAY Badge – plate

2.3.2.2 ELECTRICAL

- 1 x Rear Harness (Long with Large Plug)
- 1 x Front Harness (Short with large Plug)
- 1 x Power Harness (Smaller Plug)
- 1 x Jumper Harness (Smaller plug and alligator clamps)
- 1 x Control Box

2.3.2.3 MOUNTING KIT

- 24 x 14G – 10 x 42mm Hex head self-drilling metal screws (corner elbows)
- 24 x 14G – 10 x 25mm Hex head self-drilling timber screws (motor assemblies)
- 16 x M6 x 30mm Cap head bolts, nuts, and washers (motor assemblies)
- 4 x 8G x 20mm self-drilling screws (control box)
- 4 x 8G x 15mm self-drilling timber screws (saddle)
- 4 x 8G x30mm black screws (JackaJay plaque)
- 1 x 32mm bush

2.3.2.4 GENERAL

- 1 x Grease tub
- 1 x Sticky tab packet
- 1 x Packet of Cable ties



3 Installation Setup

Please note that this Chapter is for guide purposes only. There may be individual circumstances / layout / equipment that could require you seek further assistance outside of this guide. For any queries please contact your local provider or Jacka Industries Pty Ltd. Please note, this guide is based on the installation in a Jayco Swan Outback.

3.1 Open JackaJay kit and read all User and Installation guides.

- Open the JackaJay kit, layout all the components and understand the location and use for each piece. This will assist you in ensuring that no pieces are missing. This guide will show you all that is required.

STOP POINT 1

Ensure that all componentry is accounted for in the JackaJay kit.



Tick here

3.2 Identify a flat and level location

- It is critical, when putting up a camper trailer to always ensure that you have a flat and level location and if required, use the levelling legs to prop the camper into position.

STOP POINT 2

Ensure Camper Trailer is LEVEL in both horizontal axis – sideways and lengthways.



Tick here

3.3 Expose manual winch system.

- Remove any panelling that is required to gain access to the entire manual winch system. That is:
 - Cabinetry doors
 - Covers.
 - Appliances.
 - Beds and mattresses.
 - Seat cushions, etc
- DO NOT DISCARD, all these need to be refitted.
- The JackaJay lift system installation may only require slight alterations of panels and / or cabinetry.
- JackaJay fits into the same area as the old winch & cable mechanism.

IMPORTANT NOTE: The manual winch system lift cables run along the driver's side wall inside cabinets and behind the refrigerator and / or oven. Only remove these appliances if you really need to.



Any Gas Appliances must be disconnected and reconnected by an authorised certified technician.

3.4 Set roof height and install corner supports.

- Ensure the roof is lifted to its normal height and the side door is lowered into the side wall of the camper and is closed.

STOP POINT 3

Ensure that the roof height is set to match the SIDE DOOR POSITION WITH THE DOOR Closed – i.e, the top half section of the door should be able to lock into position without undue pressure being applied to the top hinge plate (where the door attaches to the roof).



Tick here

- The measurement required for the next few steps are to make timber support posts.
- The measurement is to be taken from where the telescopic mast exits the side wall of the camper trailer, up the telescopic mast.
- Take the measurement from the top (horizontal face, or spot next to the telescopic mast) of the fixed wall of the camper, to the bottom lip of the roof (piece that slides over the side wall of the camper when the roof is down)

STOP POINT 4

Ensure that the canvas is NOT stretched tight on all corners, it should NOT be too loose either, but soft to touch with slight room for movement.



Tick here

- Take the corner height measurements, as reference for later.
- You have 2 options here. You can attempt to cut 4 x framing timbers (90mm x 35mm) to the exact right length, or, cut 4 x framing timbers to 1050mm lengths, and use framing / window shimms / spacers to pack out the rest.

- Position framing timbers against each telescoping leg at each corner, and use framing shims to adjust supported roof height, if required. The timbers should be a tight fit, but NOT lifting the roof.
- Secure the timbers to the telescopic masts with long cable ties / rope / heavy duty duct tape, etc



Ensure that the timber corner supports are firmly secured with cable ties or another suitable method. These timber supports will be holding the roof up while you are working inside. They **MUST** be tight and secure.

- Once your timber corner supports are secured, carry out a check on the side door operation, position them and check your canvas is not too tight. If required, adjust corner heights with the framing shims.

VERY IMPORTANT:

The height you set the roof to, will be the final point that the roof is raised to during the Roof UP Automatic function using the JackaJay lift system. If you want to adjust the height of a certain corner. You **MUST** do it now! However, be careful not to make the door fitting too loose and / or the canvas tight.

- Once you are happy with the corner heights, canvas tension and side door position, wind down the manual winch system 3 turns. Ensure your timber supports are secure and the side door position is adequate. At this point, the manual lift system is now no longer holding up the roof, the timber supports are.

STOP POINT 5

Ensure you have the Roof set to the desired height and the canvas and side door position is correct. Your corner supports **MUST** be Secure. All the manual winch cables should be loose and ready to be removed.



Tick here

3.5 Remove the manual winch system.

- Please be aware that the removal of the existing winch system is half of the job! Take your time. Remove any panelling that you need to and note down what you have done.
- Keep in mind, if you can remove the old winch components, you can install the JackaJay components.
- The Old Winch and Cable Lift Mechanism is found at the front & rear of the camper trailer laterally across the floor against the front and rear walls. You should have already exposed all the componentry in earlier steps.
- Locate the winch (position varies, front or rear, according to the model of the wind-up Camper Trailer).
- Confirm that all cables DO NOT have tension on them.
- At the end of a thick single cable, leading from the winch you will see a square fish plate with 4 x smaller cables attached to it. If you wish to keep the old system, and the cables are in good condition, unscrew the 4 x hooks / eyelets holding the cables. Release the cable from the hooks. If not, use the Bolt Cutters to cut the 4 x cables close to the fish plate.
- Where the cables would be exposed (not behind cabinetry) the cables are covered by a plastic channel. Remove this channel and keep for reinstallation later when the JackaJay System is installed. DO NOT DISCARD channel and screws.
- Pull all the cables back from the fish plate to their respective corners for removal. However, once you have pulled the rear 2 x cables along the Driver-side wall, you will need to ensure that you remove all the pulleys from the wall, and pull back a cable (or draw wire) to the front again through the kitchen. This is used as a draw wire later, to pull through the new Electric Harnesses during the JackaJay installation.

STOP POINT 6

Pull all cables back to the associated corners. Ensure that all pulleys on the Drivers side wall are removed where possible. Reinstall a cable / wire / fine rope so that you can use it to pull the new JackaJay harness through.



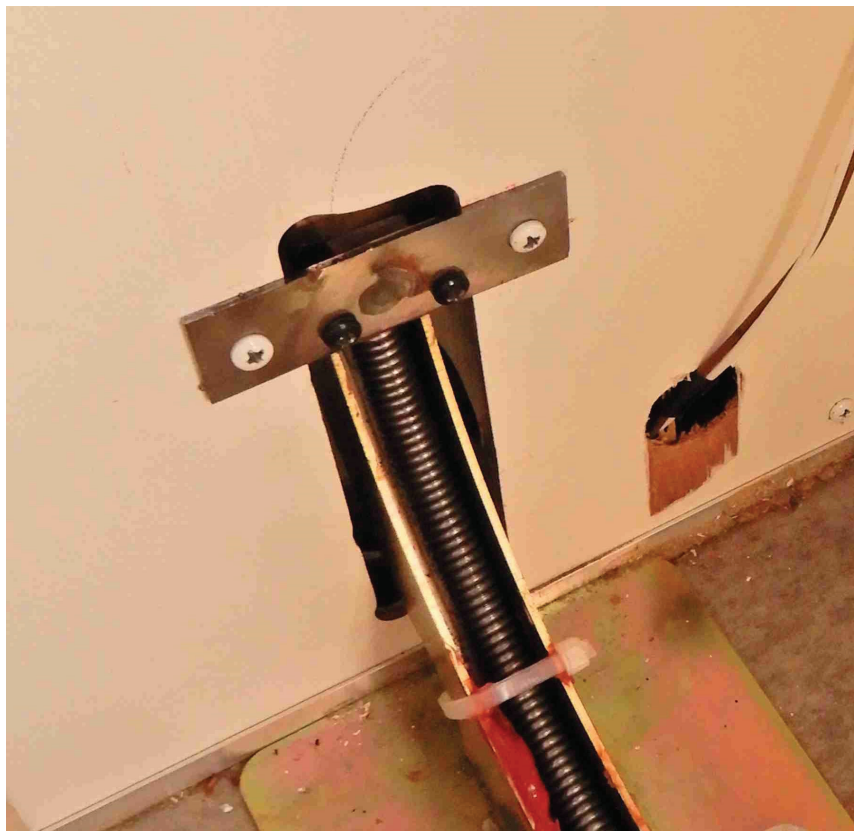
Tick here

- Remove external vent cover from behind the fridge on the side of the van. In some models the old lift cables lay inside a 30mm diameter plastic tube, the JackaJay rear electric harness will feed through this tube to the rear motors.
- This tube may or may not be sealed either end, however the space around the tube where it passes through the panelling will be sealed. This is to ensure that if gas leaks behind the fridge, it will not be released into the living area of the Camper Trailer.



This gas seal around the tube **MUST** not be broken, if it is, it **MUST** be resealed and certified.

- Remove all bolts and screws from the old winch system and remove the winch, square tubes, flexible springs/pushrods, cables, pulleys, and corner elbows. Be careful of dirt & grease stains on the curtains, cabinetry, and flooring.
- DO NOT attempt to remove the telescopic legs from the wall of the camper. Also, there is a small plate on the wall of the camper, where the corner guide enters the base of the telescopic mast. DO NOT remove this plate, it **MUST** be intact, because it secures the base of the telescopic mast.



- Do a thorough clean up of the whole area where the old manual lift system was installed. Generally, there is accumulated dirt and swarf from modifications / original build.
- If the Camper Trailer is an older model check for rot in the floor. If required, during the JackaJay installation use metal screws to drill into steel chassis or backing plate.
- If deemed necessary, use a variety of screws / bolts with washers and nuts to ensure secure attachment of corner elbows and motor assembly.
- If the floor timbers are substantially damaged you **MUST** repair the floor to ensure there is an adequate timber / metal to secure the JackaJay lift mechanism.
- Ensure that all holes in the floor have been sealed up with silicone before starting you installaiton. This will limit any dust and moisture ingress into the camper

STOP POINT 7

Ensure that all manual winch system components have been removed.
The camper floor has been cleaned and is ready for JackaJay installation.



Tick here

4 Installation of JackaJay lift system

JackaJay COLOUR - CODING POSITIONS

It is CRUCIAL that the correct colour Motor Assembly and Tube Assembly are mounted in the instructed positions.

Motor Assembly and Tube Assembly slide together with matching colours. Wiring Harnesses have matching colour tags fitted to match the corresponding Motor Assemblies and Tube Assemblies, i.e. red to red, green to green, blue to blue and yellow to yellow.

POSITION FOR EACH COLOR

The position relates to the telescoping leg being lifted by that coloured JackaJay corner, i.e. the Green components lift the driver's side front telescoping leg.

DRIVER'S SIDE FRONT



PASSENGER SIDE FRONT



DRIVER'S SIDE REAR



PASSENGER SIDE REAR



4.1 Corner Bend Installation

- Position, but DO NOT fix to the floor, 4 x Corner Elbows (black) into each corner such that the upper end of elbow fits into the largest (bottom) stage of the telescoping leg. It should slide in by only around 10mm. If required, remove only one small screw that secures the lower section of the telescopic mast. You must ensure that it goes back in
- Place a large dab of grease into the bottom of the corner elbow. This is where the flexible pushrod will slide in and will lubricate the inside of the corner bend.

STOP POINT 8

You will have all 4 x corners elbows located into the lower section of the telescopic mast, NOT screwed down, with a dab of grease inside the lower end.



Tick here

4.2 JackaJay Flexible Pushrod / Spring installation

4.21 Jayco camper Spring Installation

- Locate the NEW 4 x 1420mm Flexible Springs/Pushrods, they will be pre-greased.
- Remove them from the plastic sleeve one at a time as required.
- Locate the dome headed end of the Spring, slide it into the corner elbow, and feed up until it stops. The dome headed end will be in contact with the final (smallest) stage of the telescoping leg.
- You will have around 45 – 85mm of spring / pushrod exposed from the lower end of the corner elbow (This varies due to corner height variation). Position something heavy enough to hold the spring / pushrod temporarily in position.

4.22 Goldstream or OTHER camper Spring Installation

Locate the 4 x 1700mm flexible springs/pushrods in the kit. These pushrods will need to be cut down, cleaned up, greased and then installed.

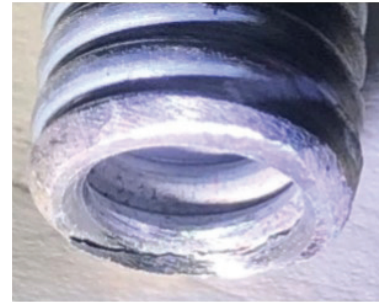
Measuring – Cutting – Cleaning up - installing your new pushrod to suit the custom height of your camper.

- When the roof is up, slide the riveted end of the spring into the black corner guide and ensure that it is all the way in. You will need to mark the spring length, so that when cut, there is 50-60mm sticking out the end of the black corner guide.
- Cut the Springs to length.
- When trimming the springs down, you MUST ensure that the cut is square, as it MUST sit flat and clean against the bronze block in the drive tube. You can use a flat disc cutting bade on a grinder to ensure it is square.
- Debur the inside and outside.
- Any internal burring may damage the thread. The spring needs to run up and down the thread in the drive tube assembly. It will push against the bronze block so must be square with deburred edges.
- Clean out as much as possible.
- It is important that you tap out the end of your springs on a hard clean surface and clean out the end as much as possible after the trimming process. Any swarf may jam the thread and nut.

- Grease your springs.
- Grease all your springs using red grease provided in your kit. Ensure you force some grease internally up into the trimmed base of the springs, and externally up running it all over the outside of your springs.
- Continue to follow your installation guide to install the springs into your system.



Riveted end at the roof of camper.



Square trimmed end deburred and cleaned ready to grease.

STOP POINT 9

You will have all 4 x Flexible push rods installed with grease seen inside the protruding spring that is coming out of the corner elbow.

You should have 45 – 85mm of spring protruding.



Tick here

4.3 Coloured square drive tubes and Motor Assemblies

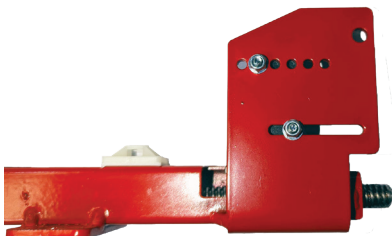
Follow the steps below for each of the corner's complete assembly. This should be done one at a time:

- Locate one full set, i.e., RED Drive tube and RED motor assembly.
- Check that they slide together completely, and the drive shaft fits into the motors coupler all the way in. See image below for Coupler



Limit switch mount bracket / Finished roof height adjustment

- Familiarise yourself with the limit switch mount bracket. The fixed location of the limit switch indicates the LIFT COMPLETE position for that corner.
- To adjust the finished height of each corner, you may need to adjust the position of this limit switch on each corner. You will find a long slot (lower mount point, finer adjustment) and multiple holes (upper mount point, courser adjustment). See image below:



- Note: For a fine adjustment, slightly loosen both upper and lower bolts (do not un-bolt), and adjust the limit switch arm (small roller) in the direction that you require. For higher lift, swing towards the wall of the camper.
- For Lower lift, swing towards the drive motor. This will give only 1-4mm of adjustment.
- For Larger adjustment. Loosen the lower bolt (do not un-bolt / remove), then, un-bolt the upper bolt and reinstall in a new hole. As above for higher lift, use a new hole towards the wall of the camper, for Lower lift, use a new hole towards the drive motor. This will give 5mm of adjustment per next hole used.

STOP POINT 10

Before installing the drive tube assemblies, visually inspect the position of the bronze drive block.

The bronze drive block is found at the end of the drive tube where the micro switch is mounted.

The bronze drive block **MUST** be 1-2mm away from the small roller mounted on the arm of the microswitch. See image below for example.

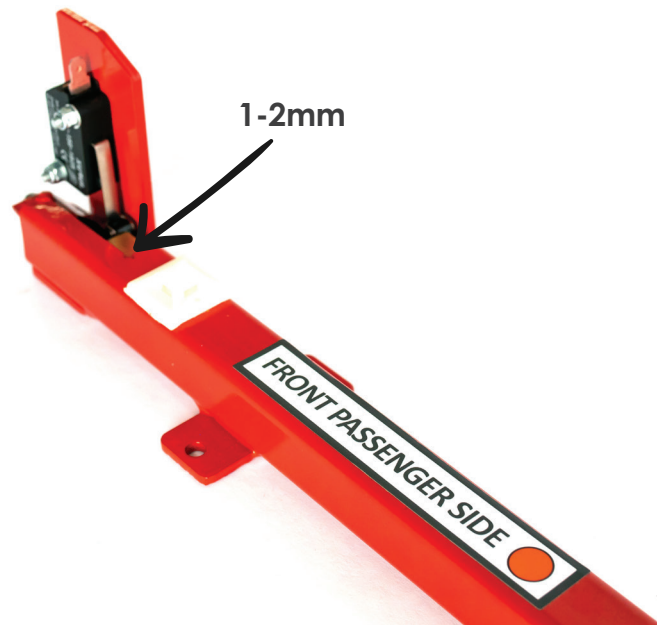
Heavy Roof models (Coromals / late Goldstreams / camper with AC) The quoted 1-2mm gap between the limit arm and bronze drive nut, needs to be increased to 2- 3mm.

If the shaft has been rotated from factory settings, rotate by hand to the correct position.

All Bronze Drive Blocks must be in the same position, i.e , Bronze drive block **MUST** be 1-2mm from the micro-switch roller.



Tick here



- Position the Square Drive Tube Assembly roughly into the Camper Trailer by easing it through the same pathway where the old square tubes were removed. They should fit easily as they are shorter than the old tubes. DO NOT push into the spring yet.
- Place and position the correct coloured Motor Assembly into the Camper Trailer behind the shaft end of the Drive Tube Assembly. Check to ensure the shaft has not rotated.
- Slide the Motor Assembly and the Drive Tube Assembly together.

- ENSURE that the drive shaft is fully located into the coupler between the Motor drive shaft and the Drive Tube drive shaft. APPLY pressure on them and tighten the grub screws with a 2.5mm Allen Key. Ensure that BOTH grub screws are firmly tightened; there are 2 grub screws in total, on each coupler. You may need to turn the coupler to reach the other screw, and ensure that you turn it back.
- THESE GRUB SCREWS MUST BE VERY TIGHT. If they are loose, the shaft may rotate and not drive the roof up.

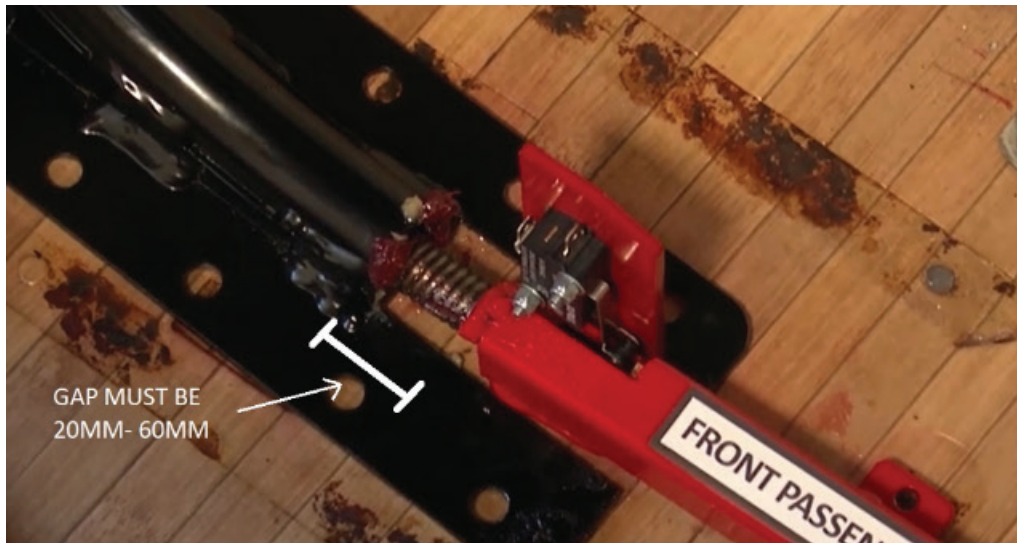
STOP POINT 11

You MUST ensure that the Drive shafts are pushed all the way into the Coupler and ALL the grub screws are tightened. There are 2 grub screws in total on each coupler.



Tick here

- Once the two Assemblies are locked together, check the position of the Bronze Drive Block again and adjust if required by turning the motor / shaft coupler.
- Insert the protruding end of the drive spigot (at the microswitch end) into the Flexible Spring / Pushrod that protrudes from the corner elbow.
- Firmly push the entire JackaJay assembly towards the corner elbow, until it STOPS. The end of the square drive tube assembly should be sitting 20-60mm away from the corner elbow. It MUST NOT be resting up against the corner elbow tube. See below for image.
- If the end of the square tube is resting greater than 60mm away from the corner elbow tube, you will be required to remove the flexible pushrod from the camper trailer and cut it down with a grinder.
- After cutting, if required, ensure that the inside of the spring does not have any metal swarf or bits of metal that will obstruct the drive shaft from spinning freely inside the spring. You MUST file it out clean.



Once all the above points have been completed, proceed to the next corner assembly, until all 4 corner assemblies are in position.

IMPORTANT NOTE:

Once all 4 corner assemblies are in place, you **MUST** ensure that the Drive tubes can be placed as straight as possible with at least 5mm between opposing corner assemblies.

STOP POINT 12

You **MUST** have all lift mechanisms including corner elbows, flexible pushrods, square drive tubes and motor assemblies laying in their correct positions.

It is imperative that you check the colour coding and confirm that it matches as directed.

Additionally, you **MUST** confirm that when the lift mechanism is pushed towards the corner elbow, the end of the square drive tube is not resting against the corner elbow tube, and, is not resting greater than 60mm from the corner elbow tube.



Tick here

4.4 Fixing Down of all components

Once all the Corner elbows, flexible pushrods and motor / tube assemblies have been placed into the camper you need to secure them all into position.



It is imperative that securing down of all components during Section 4.4 is adequate. So as, to ensure that NO components may come away from the floor, causing catastrophic dropping of a roof corner or structure during setup or camping. If there is any indication of Rot in the floor or inadequate material to secure to, conduct repairs or upgrades. This is the responsibility of the installer. Multiple means of fixings are supplied with the JackaJay kit.

4.4.1 FIXING CORNER ELBOW

- Do one corner at a time.
- Manoeuvre the corner elbow such that it is centred in the base of the telescoping leg.
- Check the alignment of all components. i.e, the motor assembly, corner elbow and telescopic leg.
- Select 4 holes that are deemed suitable for fixing the corner guide to the floor, assess underneath the camper and internally, to ensure that there is no possible damage to cabling, gas lines or hoses when drilling or fixing down.
- If the pilot drill, drills into metal – use the 14G – 10 x 42mm metal screws.
- If the pilot drill passes through timber – use M6 bolts, washers and nuts. Or use the 14G-10 x 25mm Timber screws.
- Use Hex Nut driver to firmly drive in appropriate screws to attach corner Elbow permanently to floor.

STOP POINT 13

All 4 x corner elbows MUST be securely fixed to the floor and the vertical tube MUST be accurately aligned up with the centre of the base tube for the telescopic mast.



Tick here

4.4.2 FIXING SQUARE DRIVE TUBE & MOTOR ASSEMBLIES

- Do one corner at a time.
- Ensure that there is no less than 5mm clearance between the Motor Assembly and the opposing-coloured drive tube assembly. This allows space for slight adjustments and cabling.

VERY IMPORTANT:

Apply pressure to the end plate of the motor assembly, i.e., pushing the motor and tube assembly with firm pressure towards the corner elbow, so that the lift mechanism has pressure on it.

As if you are trying to lift the roof of the camper yourself.

IF YOU FAIL TO APPLY PRESSURE, WHEN YOU FIX THE LIFT MECHANISM DOWN TO THE FLOOR, THE ROOF WILL DROP UNTIL IT FINDS THE PRESSURE.

- While you are applying firm pressure to the lift mechanism towards the corner elbow, mark out pilot holes in the base of the motor assembly. Move the motor assembly out of the way, if possible.
- Then Drill a small pilot hole through the 4x marked out holes for the base plate of the Motor Assembly. Select the correct mounting screw. (Timber or Metal)
- Replace the motor assembly and apply firm pressure to the lift mechanism and check your pilot holes. If they line up, firmly drive in the selected appropriate 3 x screws, for a selected forth hole, drill the floor out with a 6mm drill bit, and install at least 1 x nut and bolt set to securely mount the Motor drive unit to the floor.

VERY IMPORTANT:

Locate the end of the square tube (near the corner elbow) so that the flexible pushrod enters the corner elbow tube in the middle.

- The square tube has a fixing point near the limit switch on either side of the tube. You only need to fix one of these points to the floor. If required, you could even cut one off if room is limited.
- Secure to the floor using self-drilling timber screws. This fixing point on the square tube assembly allows for the motor assembly to be removed and replaced if required. This point will hold the pressure of the roof.
- Check that the Flexible Spring/Pushrod is tight, and CAN NOT slide into either the square drive tube OR the telescopic mast. If it slides, you have NOT placed enough firm pressure during mounting the motor to the floor. You MUST reset the motor mount fixings so that the spring is tight.
- Motor Cover – The cover should already be in place over the motor housing.
- REPEAT THIS PROCEDURE FOR THE OTHER 3 X CORNERS.

STOP POINT 14

You MUST have all 4 x lift mechanism securely fixed to the floor and conduct the following checks:

Are the square drive tubes straight? Are flexible pushrods entering the corner elbow in the middle?
Are the square drive tubes secured by their mount points near the limit switch?

Is there a minimum 5mm gap between opposing tubes assemblies?

Is the square bronze block located just 1-2mm off the limit switch arm?

There MUST be pressure on the spring. If the spring is loose and can be pushed either up into the telescopic mast or back into the square tube, then the motor mount location MUST be adjusted.

Are the motor couplers tight, as well as the couplers grub screws?

IF ANY OF THE ABOVE CHECKS ARE NOT ACCURATE, IT MAY AFFECT THE OPERATION OF THE JACKAJAY LIFT SYSTEM.



Tick here

4.5 INSTALLING CONTROLLER & HARNESSES

4.5.1 JackaJay Controller

- The JackaJay controller is generally installed in the upper passenger side corner of the front boot of the Jayco Camper Trailer. If it is an earlier model with no boot, then mount the JackaJay controller on the vertical foremost wall in the boot located on the passenger side.
- It should be positioned so that you can adequately access the underside plugs and see the screen below the upper edge of the boot lid.
- Position the controller with the plugs facing downward.
- Hold the controller in the desired position and fix to the panel using 4 x M4 x 18mm self-drilling screws.

STOP POINT 15

The JackaJay controller **MUST** be installed in a position where it is readily accessible and not obstructing storage, so that no damage can be caused to the cable harness plugs and touch screen.



Tick here

4.5.2 JackaJay Harness



All color coding **MUST** be matched up correctly.
 i.e. GREEN labelled harness plugs **MUST** connect to the GREEN motor assembly plug and GREEN tube limit switch.
FAILURE TO DO SO WILL LEAD TO IREVERSABLE DAMAGE TO THE LIFT MECHANISM.

- The complete JackaJay harness kit is made up of 3 individual harnesses. i.e. 1 x rear harness (long), 1 x front harness (short) and 1 x power harness (length varies due to position of battery).
- IMPORTANT NOTE: You will need to run the 2 x larger motor harnesses from the Controller, through the 32mm bush and into the camper, as you can not get the 6 pin plug through the 32mm bush. Now, opposite to the above. The 1 x Battery harness will need to be installed from the battery location through the camper, out of the 32mm bush and to the controller. This is because you can't run the inline fuse through the 32mm bush.
- Using a 32mm Hole Saw, drill a hole through a suitable location in the panel boot back walling panelling. Note: sometimes drilling a 32mm hole through the side panel and into the winch winder cavity can be suitable also. It depends on the design of your camper.

VERY IMPORTANT:

Ensure this 32mm hole is hidden inside cabinetry. **DO NOT** drill through exposed internal wall.

- Fit the supplied 32mm conduit bush to ensure that there is no abrasion of harness.
- Feed the small plugs of each motor harness from the JackaJay controller side of the panel

4.5.2.1 FRONT HARNESS – Green & Red

Lay the Front Harness loosely into position. Harness plugs are labelled and have a coloured tab at each end.

- Attach **GREEN** tagged plugs to the **DRIVER'S SIDE Green Motor and microswitch.**

VERY IMPORTANT:

The Motor has a 2-pin Deutsch Plug. The Microswitch harness connection has 2 x individual female spade connectors, they are cut at different lengths to match the limit switch male connection points.

- Attach **RED** tagged plugs to the **PASSENGER SIDE FRONT Red Motor and microswitch.**

STOP POINT 16

Ensure the correct colour plugs are attached to the correct coloured Motor and Microswitch connections.



Tick here

- Ensure the plugs and spade connections are firmly engaged and cannot vibrate loose. If they are loose, you **MUST** tighten the connection by softly squeezing the female spade connector closed.
- Plug the large Front Harness Deutsch Plug into the JackaJay controller and ensure that it is plugged into the correctly label port. Sticker is found on the underside of the controller.

VERY IMPORTANT:

When engaging Deutsch Plugs, you MUST push them together until you hear a light 'click'.

To disengage – gently slide back dust cover, you will see a release trigger on both sides. Depress, and disengage the plug. DO NOT pull on the cable, you MUST pull on the plug housing.

If the Deutsch Plug is hard to push together, you MAY wipe an exceptionally fine layer of grease around the orange silicon seal. These are military grade water resistant plugs and are designed to be tight and of a high quality.

4.5.2.2 REAR HARNESS – Yellow & Blue

- Lay the rear Harness across the front wall of the Camper Trailer avoiding any entanglement with the JackaJay lift mechanisms, limit switches, other camper cabling and the Front control harness.
- Check the location of the battery and inspect the required installation practice required to install the Power Harness. It may need to be drawn through some panelling with the rear harness.
- Using electrical tape, bind the Deutsch Plugs and Microswitch plugs in a staggered line to achieve the narrowest diameter possible.
- Locate the draw-wire that was left along the driver's side wall of the Camper Trailer.
- Tightly tape in multiple spots along the cable's Rear wiring harness. Ensure it CAN NOT be pulled off.
- Carefully pull the wire cable to draw through the Rear Harness behind the refrigerator, cabinetry and / or oven. This will involve passing through panelling cut outs, the tube behind the fridge etc. Don't pull too hard if an edge fouls, find the obstruction, and feed the Harness through gently.
- Once the old winch cable has been used, discard afterwards (Careful of grease and dirt).
- Lay rear Harness loosely into position.
- Attach Deutsch Plugs and Microswitch plugs (same method as front BUT different colours).

- Attach **YELLOW** tagged plugs to the **DRIVER'S SIDE REAR Motor and Microswitch.**
- Attach **BLUE** tagged plugs to the **PASSENGER SIDE REAR Motor and Microswitch.**
- Plug the large Rear Harness Deutsch Plug into the JackaJay controller and ensure that it is plugged into the correctly label port.
- Same procedure as front harness.

STOP POINT 17

The Front and Rear Harness **MUST** be installed. Each Colour coding **MUST** be double checked for accuracy at the correct associated lift mechanisms. Tightness of all connections **MUST** be double checked for any looseness. Both Front and Rear Harnesses **MUST** be plugged into the JackaJay controller and ensure that they are completely engaged, i.e., a click should be heard when pushing in.



Tick here

4.5.2.3 Battery / Power Harness

- Physically install the Power harness as required from the battery to the controller.
- Whether it is in the rear or front of the camper, this can range widely across the different models.

VERY IMPORTANT:

DO NOT plug the Power Harness into the JackaJay controller or make the connection to the battery or power supply yet.

- Lay all the harnesses neatly around the lift mechanisms and cabinetry.
- Ensure there is no tension on the Electrical Harnesses and they are free from abrasion.

STOP POINT 18

Ensure that all the last 19 STOP points have been confirmed.

Next, we supply Power to the JackaJay controller. It is a good time now to go back and double check the installation.



Tick here



The power source connection **MUST NOT** be made with the JackaJay controller turned ON. IT MUST BE OFF.

To confirm the controller is turned OFF, the Power Button must be flush with the face of the control box, NOT slightly depressed.

- Connect the Power Harness cores with the power source. Ensure that the correct polarity is observed. RED – Positive 12V DC. BLACK – Negative 0V DC.

VERY IMPORTANT:

At the power source, do not allow harness cores to touch the wrong terminals, OR, allow them to intermittently 'Flicker' on the terminals.

- Dress any remaining cabling in and tie back any slack area to a safe position.
- Plug the small Deutsch Power Harness plug into the corresponding plug on the JackaJay controller.

4.6 Installation clean up.

Note: The following steps could be conducted after the commissioning procedure in Chapter 5 is completed.

- Remove all tools and equipment from inside the camper trailer.
- Clean up any grease or dirt.
- Ensure all cabling harnesses are neat and tidy.
- Check all colour coding for accuracy.
- Attach 'Sticky Pads' to Square Tube and ensure all Harnesses are free of entanglement and fouling of any components, especially the Micro switches and motor couplers.
- Reinstall plastic cable channels over exposed JackaJay harnesses along internal walls where applicable.

5 Commissioning

5.1 Powering up the Controller

- Press the round power button on the face of the JackaJay controller. The touch screen will activate showing the 'JackaJay Logo' (trademark).
- If the touch screen fails to activate, refer to the Troubleshooting section in JackaJay User Guide.
- System information page and Safety instructions will be displayed.
- Press the blue 'ACCEPT' bar to proceed to the HOME screen.

VERY IMPORTANT:

Lift and Lower functions operate in a JOG and AUTOMATIC mode, refer to JACKAJAY User Operation Manual for details.

- Press the 'ROOF DOWN' button 3 x, for only 1 second each time, essentially doing 3 short "jogs". The system should not go into the automatic function, that is, move onto the COMMENCE ROOF LOWER function. If it does, the moment you press the COMMENCE button, PRESS the Red STOP button.
- Once the system has STOPPED or is IDLE.
- Go and check all 4 x corner lift mechanisms. The Bronze block should not be visible near the limit switches. It will have travelled down the square tube.
- If a bronze block is visible near the micro switch, that corner has FAILED to operate, and you will need to investigate before proceeding. Visit the Troubleshooting Guide.
- Press and hold the 'ROOF UP' button. It will JOG and automatically stop after 2 seconds. The next screen will show 'COMMENCE ROOF LIFT' in a blue bar.
- Press the 'COMMENCE ROOF LIFT' bar. You are now in the Automatic function.
- The roof will now lift until the Microswitches are activated in each corner.
- The touchscreen will display that all 4 x corners have LIFT COMPLETE.
- If a motor is still running and a corner is NOT displaying LIFT COMPLETE. Press the STOP button and visit the Troubleshooting Guide.
- If you have an OBSTRUCTION message on one corner, please refer to the Troubleshooting Guide.
- Once all 4 x corners display LIFT COMPLETE, please move on.

STOP POINT 19

Once the LIFT COMPLETE is achieved on all 4 corners, The roof is now sitting at the LIFTED position. This position is where the camper roof will always lift to during an Automatic lift operation. Refer to clause 5.2 for roof height adjustment procedure.



Tick here

- Remove the Timber Props and framing spaces if you are satisfied.

VERY IMPORTANT:

Please check canvas tension and side door operation. If you are happy, proceed, if the roof height needs adjusting see the following clause 5.2

5.2 Roof Height Adjustment.

- If the finished roof height needs to be adjusted, the JackaJay system has the capacity for -7mm or + 20mm adjustment. If a larger adjustment is required, you will need to revisit clause 4.4.2 to reset the roof height and refix the drive mechanism.
- As you familiarised yourself with in clause 4.3. you can now make the necessary adjustment. The technique for adjustment is as follows:
- For a fine adjustment, slightly loosen both upper and lower bolts (do not un-bolt), and adjust the limit switch arm (small roller) in the direction that you require. For higher lift swing towards the wall of the camper. For Lower lift, swing towards the drive motor. This will give only 1-4mm of adjustment.
- For Larger adjustment. Loosen the lower bolt (do not un-bolt / remove), then, un-bolt the upper bolt and reinstall in a new hole. As above for higher lift, use a new hole towards the wall of the camper, for Lower lift, use a new hole towards the drive motor. This will give 5mm of adjustment per next hole used.

5.3. Conduct a Full travel LIFT and LOWER sequence

- You now need to conduct a full travel operations check.
- Put the side door back up to the camper trailer roof.
- Inside the camper trailer, remove any obstructions that may hinder a full travel of the roof coming down.
- Side the end beds away as though you are packing the camper away.
- Once you are happy the camper trailer is ready to lower the roof, then proceed.
- Touch the touchscreen if it has timed out and conduct an Automatic ROOF LOWER function. Press and HOLD the ROOF LOWER button.



DO NOT place hands or any other body parts in any pinch points or positions that may cause injury whilst the roof is coming down.

If you need to tuck away canvas in the last ¼ of the lower cycle, **PRESS** the **STOP** button, tuck away the canvas and activate another **ROOF LOWER** function.

- Check the prompts and press the **COMMENCE ROOF LOWER** button.
- As the roof comes down, walk around the camper trailer, and tuck the canvas away inside the camper, check for any other obstructions.
- When all 4 corners are fully down, the touchscreen will display **ROOF LOWER COMPLETE**.
- You have completed a **ROOF Lower** function.
- Conduct A **ROOF LIFT** automatic function and put the roof back up.
- You have now conducted the full operation of the JackaJay lift system. If you have any issues or concerns, please refer to the Troubleshooting Guide or contact your nearest supplier or Jacka Industries Pty Ltd for direction.
- Replace all panels, cabinetry, and upholstery. And untie curtains.
- Remove the plastic hatch cover where the old winch handle was used to wind up the roof. Replace the plastic hatch with the 'JackaJay' Plaque. Place a line of clear silicon around the outer edge of the plaque and secure it to the Camper Trailer with 4 x black screws. Clean up excess silicon.
- **YOU ARE NOW READY TO USE YOUR NEW JACKAJAY SYSTEM.**
- **REFER TO JACKAJAY USER GUIDE** supplied with this system.

Custom Installation

During the above sections of the Installation Guide, if you have any questions and queries that you feel as though your camper trailer has an issue that is not addressed or differs from our directives, please contact your nearest supplier or Jacka Industries for direction.

6 Post Installation Care and Maintenance

The JackaJay lift system has been designed to be mostly sealed and reasonably maintenance free, with self-test and operation checks.

Maintenance checks that can be conducted are as follows:

6.1 Yearly Checks

- Ensure all electrical connections are tight and secure.
- Check all Deutsch plugs at the bottom of the controller and confirm they are secure and dust covers are adequately positioned.
- Check the touch screen for any impact damage and functionality.
- Check the Motor – Shaft coupling grub screws are tight and secure.
- Check for build up dirt or dust in lift mechanism cavity.
- Confirm that the telescopic masts are not bent / soiled. Apply a dry rub lubricant to ensure easy mast section operation.
- Check all Cable harnesses are secure and not damaged.
- Check limit switch operation is sure and not fouled by cables.

7 Troubleshooting

Ensure that you have attempted to return to the associated installation section and attempted to locate the reason / cause of the fault that you are experiencing.

Furthermore, please refer to the list below for some troubleshooting checks, if you are unable to solve the issue and for any major troubleshooting issues or queries, kindly contact your local provider or Jack Industries for additional direction.

Issue Experience	Cause	Remedy
Controller will not turn ON.	Incorrect polarity connection at the battery.	Check that the Positive and negative connections at the battery are correct. It may also have damaged an internal protection fuse. Contact Jacka Industries.
	Power supply plug is not pushed in completely at the controller.	Unplug the power lead from the controller and reinsert it until it clicks.
Camper roof lifts and the controller trips out on Low Battery voltage.	The campers battery is discharged and / or aged and faulty.	Replace the battery, provide external 240V supply to BMS system for charge or use the supplied emergency jumper cable to connect the JackaJay controller to an external 12V supply (car battery).
During commissioning, 3 motor drives go the correct way and one backwards.	Incorrect polarity of the motor connection will cause reverse drive.	Remove the motor cover and check the connections. Connection with the RED dot should have the RED core on it. If incorrect, change them over and ensure a tight connection.
Keeping getting Fault indication on one corner, after initial installation.	Incorrect motor or limit switch coloured connections on corner drive actuators.	Check the connections and colours, correct them if need found to be wrong, be advised that this error may damage the drive mechanism, if loud knocking (not tapping) is heard during lift sequence a replacement drive tube will need to be purchased.
	The drive block is not stopping when it should, it is overdriving, bending the limit switch arm and striking the emergency stop bracket.	
	Incorrect coloured connections.	

Issue Experience	Cause	Remedy
The Roof or a corner is too low, or the side door is at the incorrect height.	Drive mechanism did not have adequate pressure applied towards the corner guide during fixing to the floor, or the initial roof set height was incorrect from section 3.5.	Put the roof back up with the JACKAJAY controller and refer to section 5.2 to adjust the finished roof height
Controller keeps on Tripping out on Fault / Obstruction during Automatic Lift sequence, and all colouring and connections have been confirmed to be correct.	Controller is sensing additional strain on the system and is stopping the operation. Can be caused by the roof being too heavy, bent / sticky telescopic masts segments etc. Can also be caused by the canvas being stretched too tight and the controller is protecting against tearing.	Attempt to find the cause of the additional strain on the system. Contact Jacka Industries to discuss. Roof height may have been set too high initially.
The end of the coloured drive actuator once installed and pushed up against the pushrod is greater than 50mm away from black corner guide tube.	The pushrod is too long.	Once confirmed that the pushrod is fully engaged into the coloured drive tube and the other end up the telescopic mast and the roof height is correct. With a grinder cut the pushrod down to the correct length, ensure that any metal burs are filed out and will foul on the drive thread once engaged.
	The push rod is not located all the way up against the bronze block inside coloured tube actuator.	
Motor is not driving.	Loose 8pin plug connections at the controller and / or motor.	Check connections.
	Loose electrical connection at the limit switch.	
	Loose electrical connection on the motor under the cover.	
Motor is driving but not lifting.	Loose connection on the drive coupler.	Ensure the drive coupler between the motor and drive tube is sufficiently tight.

Issue Experience	Cause	Remedy
Uneven roof heights when lifting.	Motors will drive at the same speed if each corner has similar weights. Hence heavier corners will drive slightly slower. This is okay if the system is still operating, and the roof height will level out at the top.	Ensure that the roof weight is evenly distributed across all 4 corners where possible.
Inadequate material to mount coloured drive actuator and or Motor drive unit.	Rot or camper manufacturing style doesn't allow for adequate secured installation.	The Installer must ensure that an adequate means of securing the motor and drive tube to the floor is achieved. Additional material may need to be installed or damage repaired.
Controller displays WAITING on 3 corners but one corner will not.	Loose connection on the drive coupler. Slipping drive force.	Identify the corner, gain access to the Drive motor, Tighten the drive coupler.

8 Documentation Feedback

If you are reading Jacka Industries product documentation and have any queries or questions, you can submit your comments through email to enquiries@jackaindustries.com

We appreciate your comments and feedback.

Thank you from
Mal & Stu
and families.

**Happy
caravanning**



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