

COVANA

LEGEND INSTALLATION MANUAL



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CA 232868

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SAFETY

IMPORTANT SAFETY INSTRUCTIONS

SAVE THESE SAFETY INSTRUCTIONS AND REVIEW THEM REGULARLY.

READ AND FOLLOW ALL INSTRUCTIONS

Safety information

The COVANA cover was designed, tested and certified to be installed over a residential swim spa and under important installation instructions issued by COVANA. Any other type of usage will void the warranty and product certification.

The extra load maximum weight provided in the specification section of this manual is a provision for environmental outcomes, such as some snow or damp leaves that could accumulate on the cover, that are evenly distributed on the surface of the cover.

The COVANA cover was not designed to support any additional load or people walking or standing on it. Failure to observe this instruction will void the warranty and product certification.

The power safety cover meets ASTM F1346-91 requirements.

⚠ DANGER

- ♦ To reduce the risk of injury, do not allow children to use this product unless they are supervised at all times.
- ♦ Failure to follow all instructions may result in injury or even death.
- ♦ Do not allow people to climb or walk on the cover at anytime.
- ♦ Do not allow children to have access to the COVANA cover without supervision.
- ♦ Never operate the COVANA cover until all people and objects are out of the spa.
- ♦ Lower the COVANA cover in extreme wind conditions such as gusts of 20 mph (30 km/h) in the raised position

⚠ WARNING

- ♦ Be sure to keep the key switch and the key out of the reach of children.
- ♦ Do not put any type of fabric or plastic sheet, such as a tarpaulin, on the COVANA cover. This could overheat the cover and result in the deformation or delamination of the cover.

- ♦ Inspect the cover periodically. It should raise smoothly and evenly. Contact your COVANA dealer if any unusual mechanical sound is heard during use.
- ♦ Never use any type of pressure washer or buffer to clean any surface of the COVANA cover. This could result in premature wear or damage.

DO

- ♦ Remove the control key after operating the COVANA cover. Store the key in a secure location when not in use. Users must bring the control key in the spa with them to prevent the unauthorized operation of the cover.
- ♦ Never leave the key in the key switch.
- ♦ Check the cover frequently for signs of deterioration.
- ♦ Have any repairs, adjustments or mechanical work performed by your authorized COVANA dealer as soon as possible should you notice a malfunction.
- ♦ Close the cover when not in use or if the swim spa is not being monitored.
- ♦ A COVANA cover should only be operated by an adult.
- ♦ This appliance can be used by children aged 8 years and above and persons with reduced physical, sensory or mental capabilities or lack of experience and knowledge **ONLY** if they are supervised or have received instructions regarding safe use of the cover. Children must not play with the appliance. Cleaning and user maintenance must not be performed by children without supervision.

DO NOT

- ♦ Operate the unit before all the mechanical and electrical connections are completed.
- ♦ Step on or stack anything on the COVANA control box or AC control box.
- ♦ Operate the COVANA cover while someone is in the swim spa.
- ♦ Climb, walk or stand on the COVANA cover at any time.
- ♦ Leave the COVANA cover open for more than 12 hours. This could cause the cover to warp overtime.
- ♦ Converge or directly reflect sunlight on the cover. This could cause permanent damage.
- ♦ Wash the cover with harsh chemicals or cleaners.
- ♦ Use a pressure washer to clean any component of the COVANA cover. This could result in premature wear or damage.

CAUTION

- ♦ Be sure to follow all instructions in this manual and use only COVANA-approved accessories and tools.
- ♦ Do not roll the COVANA cover onto its side or slide it on its side. This will damage the siding.
- ♦ After removing a part, always place it in a safe place on a clean and level surface to ensure proper functionality.
- ♦ All four posts of the COVANA cover must be properly anchored to the swim spa frame using the tub mounting brackets and arms.
- ♦ This product mainly contains steel, plastic, copper (Cu), fiberglass, foam and aluminum (Al). Please recycle them properly.
- ♦ *For the battery-operated option or the emergency backup option*, both are powered by a rechargeable sealed lead acid battery. Please recycle it properly.

Avoiding the risk of electrocution

ELECTRICAL DANGER

- ♦ Failure to comply with these instructions may result in death by electrocution or serious injury. Disconnect or turn off and secure all power supplies before starting any intervention on the COVANA cover.
- ♦ *For AC operated model*: A disconnect mean needs to be incorporated into the fixed wiring at the time of installation. This mean must be accessible to the user or service technician to turn the power off for future maintenance or repair.
- ♦ Always have a licenced electrician contractor perform any electrical maintenance or repairs on the COVANA cover. The wiring must comply with all applicable electrical codes and regulations.
- ♦ *For AC-operated models*: The COVANA operator must be connected to a circuit that is protected by a dedicated ground fault circuit interrupter (GFCI) that complies with all applicable local electrical codes and regulations.
- ♦ Install the COVANA cover in such a way that drainage directs water away from the electrical components and base mechanical components.
- ♦ Do not connect any auxiliary components to the electrical system of the COVANA cover unless they have been approved by COVANA.
- ♦ Replace electrical components with original components provided or approved by COVANA. Ask your dealer for replacement parts.

- ♦ To reduce the risk of electric shock, replace all damaged cables immediately. Failure to do so may result in death or serious personal injury due to electrocution.
- ♦ Do not bury any electrical cables. A buried cable may result in death or serious personal injury due to electrocution if direct burial-type cable is not used, or if improper digging occurs.

ELECTRICAL WARNING *for AC-operated model*

- ♦ To reduce the risk of electric shock, the green-colored terminal or the terminal marked “g,” “gr,” “ground,” “grounding” or with a \equiv symbol located inside the supply terminal box or compartment must be connected to the grounding means provided in the electric supply service panel with a continuous copper wire equivalent in size to the circuit conductors supplying the equipment.
- ♦ One bonding lug is installed on one non-motor jack. To reduce the risk of electric shock, connect the COVANA cover bounding lug to the local common bonding grid in the area. Use terminals with an insulated or bare copper conductor no smaller than No. 6 AWG (4.11 mm).
- ♦ All field-installed metal components, such as rails, ladders, drains or other similar hardware, within 10 ft (3 m) of the swim spa must be bonded to the equipment grounding bus with copper conductors no smaller than No. 6 AWG (4.11 mm). (NEC art. 680.)

WARNING REGARDING DRUG OR ALCOHOL USE

- ♦ The use of drugs or alcohol while operating the COVANA cover is strictly prohibited. The impairment of judgment, vision or hearing might affect the safety of other people or result in death.

WARNING REGARDING MODIFICATIONS TO THE COVANA COVER

- ♦ Any modifications to the COVANA cover, such as mechanical, electrical or aesthetic ones, may cause the cover to operate in an unwanted or dangerous way. Furthermore, these modifications might void the warranty and certification.

- ♦ The COVANA cover was designed, tested and certified for the sole purpose of covering and securing a spa. Any installation that differs in whole or in part from this purpose will void the warranty and certification.

SAVE THESE INSTRUCTIONS

LABELLING

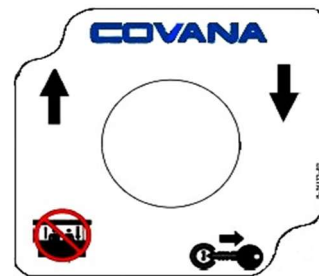
WARNING

- ♦ Removing any labels from the COVANA cover will void product certification. All labels should always remain visible. It is the owners' responsibility to ensure these labels are always visible and should never be removed



Risk of electrocution warning,
located on the AC control box.

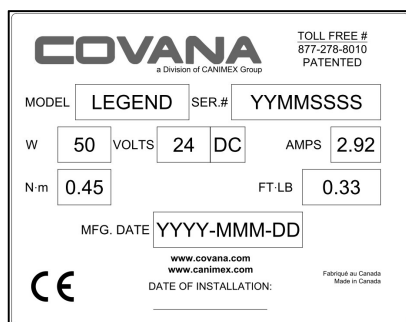
(For AC-operated models only)



Key operating diagram, located
on the key switch.



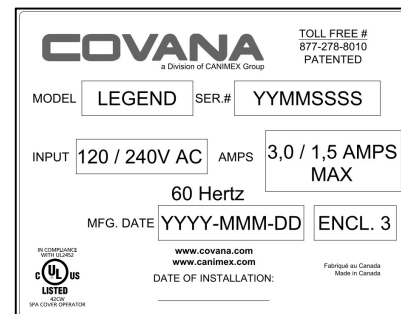
Drowning risk, located on all four sides of the COVANA cover



Specification label, located on the white control box

Note: This label provides the serial number

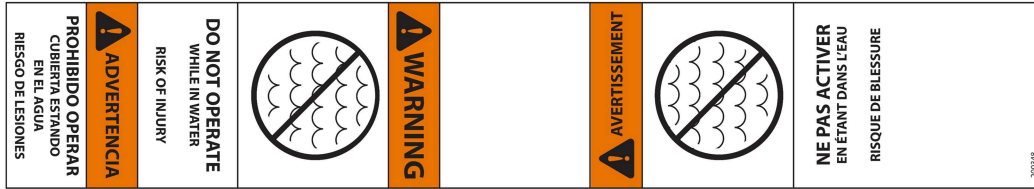
(For Battery-operated models only)



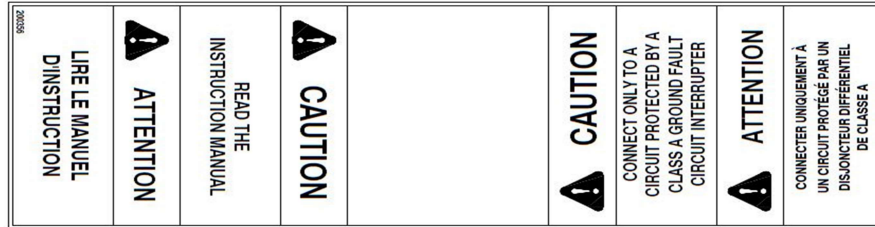
Specification label, located on the AC control box

Note: This label provides the serial number

(For AC-operated models only, North America Only)



Key switch warning, located on the key switch cable



Electrical information, located on the key switch cable



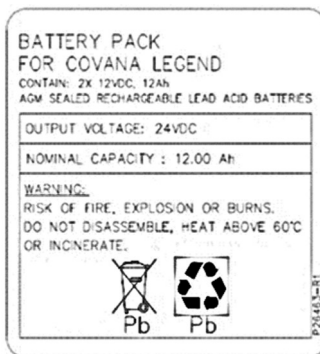
Do not step on cover label, located of end C-Channels of the COVANA cover



Center label, located on 94 9/16in (240 cm) C-Channel
(remove after installation)



Top label, located on I-Beams and Escape hatch opening
(Hidden when assembled)



Battery specification label, located on the
back of the battery pack.














Do not step symbol,
located on AC control box
(For AC operated model only)










Maintenance information, located
on one of the C-Channels.






GLOSSARY



Part	Figure	Function
All-weather seal	 <p>Figure 1</p>	The all-weather seal will help protect sleeves from damage due to weather.
AC control box (AC-operated model only)	 <p>Figure 2</p>	The AC control box powers and controls the lifting mechanism of the COVANA cover.
Battery pack (<i>Battery-operated model and battery backup only</i>)	 <p>Figure 3</p>	The battery pack is a sealed case where the two 12 V batteries are located. The harness that will connect to the charger and control box is on its right.
C-channel	 <p>Figure 4</p>	The C-channel is the outer frame of the cover.
Control box (for battery-operated model only)	 <p>Figure 5</p>	The control box manages the movement of the unit.

Control box housing (for battery-operated model only)	 Figure 6	The control box contains all the electronic parts of the COVANA.
Contour seal	 Figure 7	The contour seal ensures uniform contact between the cover and the swim spa. It prevents excessive water and other contaminants from entering the swim spa. It also reduces heat loss.
Contour seal connector	 Figure 8	The seal connector is used to link both ends of the seal.
Contour seal installation clip	 Figure 9	Contour seal installation clips are used during the installation process to ensure the seal is installed properly.
Corner bracket	 Figure 10	The corner brackets link the C-channels on the side to the ones in front and back.
Corner cover	 Figure 11	The corner cover is an aesthetic aluminum grid fixed to the corner bracket.


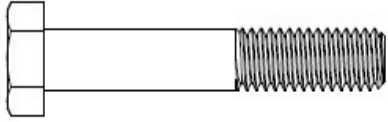


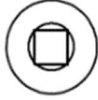
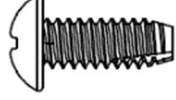

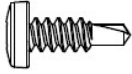
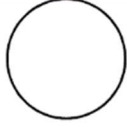
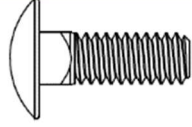
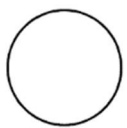
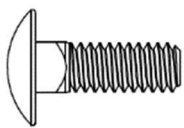
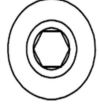
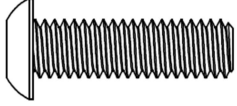
Drive shaft	 Figure 12	<p>The drive shaft transmits the power between the jack assemblies.</p>
Escape hatch	 Figure 13	<p>The escape hatch is a removable panel and part of the cover. Refer to <i>Using the escape hatch</i> section.</p>
Hammer block	 Figure 14	<p>The hammer block is a piece of plastic or wood used during the installation to hit on the panels without causing damage.</p>
I-beam	 Figure 15	<p>The I-beams are the aluminum extrusions installed between the panels.</p>
Foam spacer	 Figure 16	<p>The installation foam is used during the installation process to protect the swim spa from direct contact with the cover.</p>
I to C connection plate (long)	 Figure 17	<p>The long I-to-C connection plate makes the link between I-beam, posts and sleeves.</p>














I to C connection plate (short)	 Figure 18	The short I-to-C connection plate makes the link between I-beam and C-channels.
Jack (motor and non-motor)	 Figure 19	The jack allows the cover to go up and down.
I to C spacer	 Figure 20	The I to C spacer is used to prevent over tightening of the I to C connection plates.
Key switch	 Figure 21	The key switch is used to operate the COVANA cover.
Mount bracket arm	 Figure 22	This mount bracket arm will link the sleeves and swim spa together.
Post mount bracket or Dual side bracket (optional)	 Figure 23 (optional)	Post mount bracket links the sleeves and posts to the cover. Dual side brackets are used for higher or lower swim spas.

Sleeve	 <p>Figure 24</p>	The sleeve is an aluminum case for the lifting mechanism.
Support bracket	 <p>Figure 25</p>	The support bracket strengthens the joint between the center C-channel to the C-channel on either side. It clips and is screwed on the top and bottom.
Top plate	 <p>Figure 26</p>	The top plate is a cover that is installed on the sleeve assembly.
Tub mount bracket	 <p>Figure 27</p>	This bracket links the cover to the swim spa. There is one tub mount bracket located at the top of the outer sleeve for every post.
Extended tub mount bracket (Optional)	 <p>Figure 28</p>	The extended tub mount bracket is optional for swim spas over 54" (137 cm). This bracket will replace the upper tub mount bracket on the swim spa and will allow for better mounting options.

U-frame	 <p>Figure 29</p>	<p>The U-frames protect the drive shaft. They are fastened to the bottom of the posts.</p>
Wiper bracket	 <p>Figure 30</p>	<p>The wiper bracket is adhered under the I-beams. This part is required to ensure the waterproofing of the COVANA cover.</p>

HARDWARE IDENTIFICATION TABLE

Quantity	Visual representation		Description
9x			5/16-18 x 2" This hexagonal bolt is used for the lower U-frame assembly.
17x (33x for model with long support bracket approx. 42" [1,066 mm])			10-24 x 1/2" thread cutting screw. Used on the panel assembly.
25x			#8 x 1/2" Self-tapping screw. Used to fasten the corner brackets.
9x			#8 x 1/2" Self-drilling screw. Used to fasten the top plates.
17x			1/4-20 x 3/4" Carriage bolt. Used for fastening the sleeve to the post mount bracket assemblies.
21x			1/4-20 x 5/8" Carriage bolt. Used for fastening the I-beam assemblies. Note: 13x for models 12' to 15'.
50x			1/4-20 x 1" Button hex drive bolt. Used for mount brackets and roof assemblies.

33x	 	#10-12 x 3/4" Screws used for anchoring the tub mount brackets.
33x	 	1/4" Lock washer used for the mount brackets and sleeve assemblies.
33x	 	1/4" Flat stainless steel washer used for mount brackets and cover assembly.
70x	 	1/4-20 Hex nut. Used for sleeve and mount brackets assemblies. Also used for I-beam assemblies. Note: 62x for models from 12' to 15'.
9x	 	5/16-18 Nylon insert locknut. Used for the U-frame assemblies.
1x		5/32" Hex key. Used for fastening the 1/4-20 x 1" Button hex drive bolts.
1x		#2 x 6" Robertson drive bit.
1x		5/32" drill bit used to drill holes on the support bracket.

INSTALLATION PREPARATION

To ensure the safe use of the COVANA cover, it must be installed on a properly prepared surface. It is important to adequately prepare the foundation and carefully read the following recommendations.

Location considerations

- ♦ Ensure the future location of the COVANA cover is not subject to falling water or debris from another rooftop.
- ♦ Ensure that the base of the cover is not in a flood zone. Any damage caused by flooding or water accumulation will not be covered under the warranty.
- ♦ Ensure that there are no obstacles, such as branches or electrical power lines, in the operating range of the COVANA cover.
- ♦ Refer to *Technical specifications* section for dimensions of cover.
- ♦ Ensure there is safe access to the swim spa, free of obstacles or debris.
- ♦ All the base components of the COVANA cover must be supported by the foundation.

- ♦ Do not converge or directly reflect sunlight on the cover and control box. This could cause permanent damage (i.e.: reflection by a window).
- ♦ Ensure the COVANA cover is installed on a clean surface free of any vegetation, such as grass, branches or roots, and mineral contaminants, such as rocks, dust or sand.
- ♦ The key switch must be permanently mounted and located 5' (1.5 m) away from the swim spa and 5' (1.5 m) above the deck or ground level. Ensure the user has a clear view of the COVANA cover when operating it. Furthermore, the key switch terminal should be located in a place where no water and no debris could fall on it from another rooftop (Figure 31).

⚠ WARNING

- ♦ Failure to permanently install the key switch as indicated could cause serious injury or even death and void the warranty and certification. Only the proper installation of the key switch combined with the suggested procedures and caution will reduce such risks.
- ♦ Do not place the cover in an area prone to snow accumulation or water runoff.

⚠ DANGER

- ♦ Failure to properly install the key switch according to these instructions could result in injury or even death.

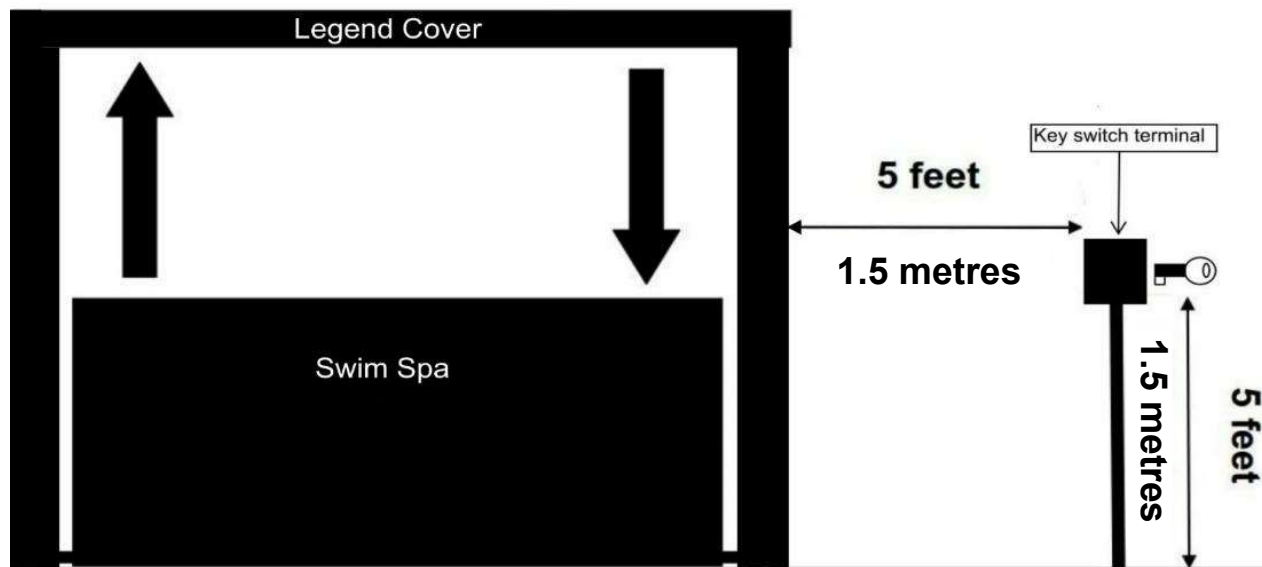


Figure 31

Foundation preparation

- ♦ The COVANA cover requires a clean, flat and level surface, such as an engineered wood deck or a concrete slab.
- ♦ Each of the four jacks of the COVANA cover must be properly fastened to the swim spa frame. It is the installer's responsibility to ensure the COVANA cover is properly fastened and in a safe manner.
- ♦ Just like the swim spa, the COVANA cover requires a solid foundation. The foundation for the COVANA cover must be able to support at least 1,000 lb (454 kg).
- ♦ The foundation must be levelled with a maximum tolerance of 1" (2.5 cm) over a 153" (3.89 m) diagonal section and 112" (2.84 m) by 104 1/4" (2.65 m) rectangle (Figure 32). The annual variation in levelness for the same diagonal section cannot exceed 1/4" (6 mm).
- ♦ A path at least 1" wide all around the perimeter of the swim spa is necessary to properly install the seal.

CAUTION

- ♦ Damage caused by inadequate foundation construction is not covered by the COVANA warranty. It is the responsibility of the owner to provide a proper foundation.
- ♦ Failure to follow these guidelines might cause permanent damage or the improper functioning of the COVANA cover. Such damage might not be covered by the warranty.

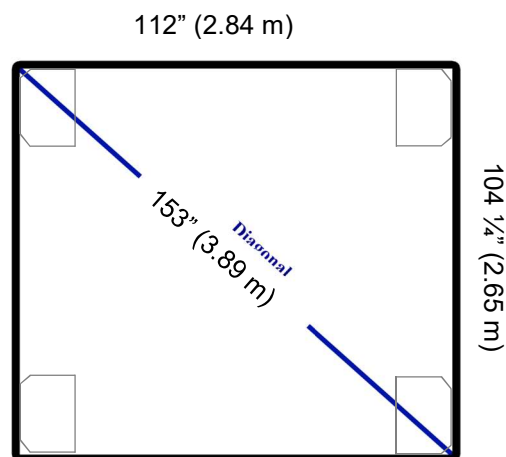


Figure 32

INSTALLATION

Required tools for complete installation

- ♦ Scissors or a retractable utility knife
- ♦ Robertson screwdriver
- ♦ Rubber mallet and sheet metal cutter
- ♦ Hammer
- ♦ Phillips screwdriver
- ♦ 2x 50' (15 m) Ratchet straps

⚠ CAUTION

The COVANA cover should be installed by a certified COVANA installer. Having the COVANA cover installed by someone who is not certified will void the warranty. Ask your local COVANA dealer for information on certified installers.

Uncrating

- 1) Before uncrating the unit, ensure there is no visible damage to the crate. In case of any suspicious damage, take pictures first. If any damage is discovered, please call the COVANA customer service immediately.
- 2) Stand the crate in the vertical position. Ensure wind conditions allow for this to be done safely.
- 3) Use the sheet metal cutter to cut and remove the metal strap around the crate.
- 4) Unscrew the #8-10 x 1.5" Robertson screws holding the front cover – 5 screws per side and 3 on the top. You might need a stepladder to reach the top screws. (Figure 33)
- 5) Remove the front cover and discard. (Figure 33)
- 6) Remove the paper sheet covering parts inside the crate.
- 7) Unscrew the two Robertson #8-10 x 1.5" screws holding the top of the sleeves – four sleeves: eight screws in total. (Figure 34)
- 8) Remove all four sleeve assemblies.

- ♦ 7/16" (11 mm) socket wrench and spanner
- ♦ 1/2" (13 mm) socket wrench and spanner
- ♦ 5/32" (4 mm) Allen key (Supplied)
- ♦ 26' (8 m) measuring tape
- ♦ SAE or metric Socket kit
- ♦ 48" (122 cm) level
- ♦ Stepladder

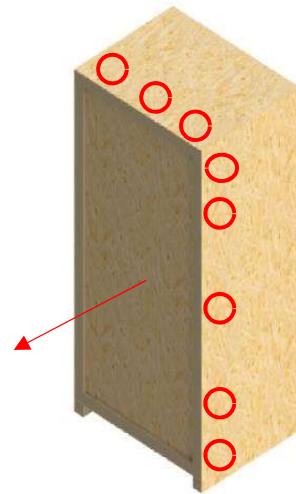


Figure 33



NOTE: For models with long support bracket (approx. 42"[1066mm]), remove the joint bracket from inside the sleeve

Figure 34

- 9) Remove all boxes above the jack box, place them in a safe place (Figure 35).

Note: All the hardware, brackets and other parts are located in these boxes.

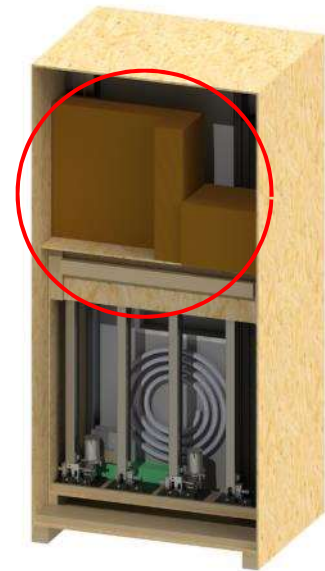


Figure 35

- 10) Unscrew the Robertson #8-10 x 1.5" screws holding the jack box – four screws per side: two screws at the top, two screws at the bottom. The blue circle represents the screw holding the crate, the jack box and the binding blocks. This screw is only on the left side of the crate. Unscrew it as well. (Figure 36)

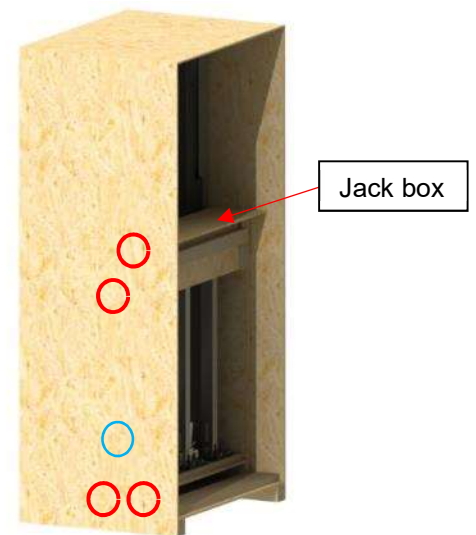


Figure 36

- 11) With the help of another person, remove the jack box from the crate and place it in a safe place. (Figure 37)

⚠ WARNING

- ♦ Carefully slide the jack box out. Some parts can be damaged if the jack box is pulled out too roughly.

- 12) Remove the jack assembly by unscrewing the Robertson #8-10 x 1.5" screws. There are two screws at the bottom of each jack. (Figure 38)

- 13) Unscrew jack assembly tops where they will be fastened with two Robertson #8-10 x 1.5" screws per top. Once completed, place jack in a safe place on the ground. (Figure 39)

⚠ CAUTION

- ♦ Jacks may be greasy; wash your hands after manipulations or use gloves.

- 14) Remove the seal and the foam spacers from the crate and place them in a safe place (Figure 40).

- 15) Remove the C-Channels and the I-Beams from the crate and place them in a safe place (Figure 40).

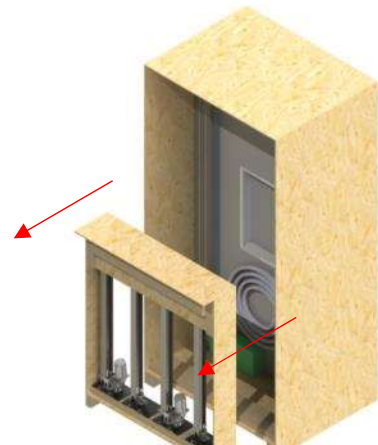


Figure 37

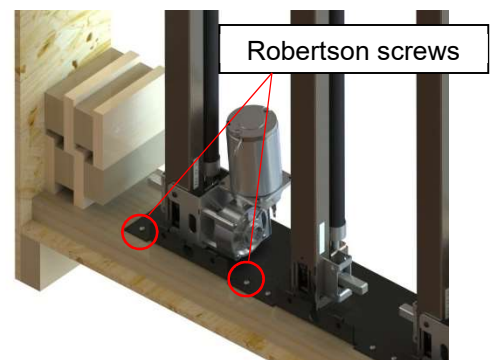


Figure 38



Figure 39

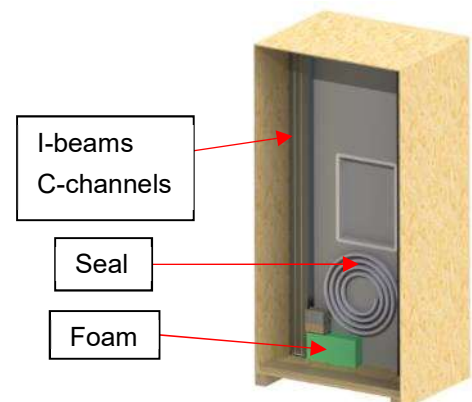


Figure 40

16) With the help of another person, lay the crate horizontally on its back. There should be one person on each side of the crate. (Figure 41)

⚠ WARNING

- ♦ The crate is heavy; you may require a third person for rotating the crate.



Figure 41

17) Unscrew the 11 Robertson #8-10 x 1.5" screws (four on each side and three at the bottom) holding the top of the crate. Then, remove the top of the crate (Figure 42).

⚠ WARNING

- ♦ Do not further dismantle the crate; it will be needed for future installation steps.

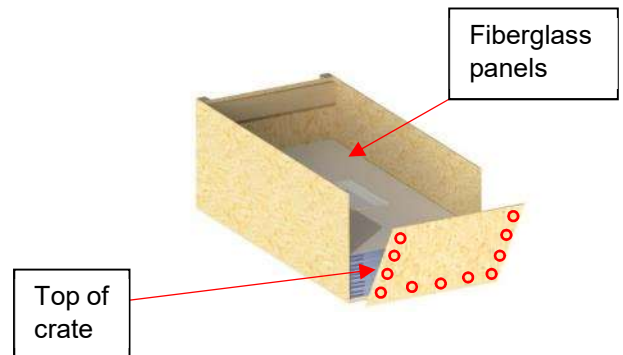


Figure 42

18) Unscrew the blocks that retain the panels. Remove the fiberglass panels from the crate and place them in a safe place (Figure 43).

⚠ WARNING

- ♦ Panels are fragile. Handle with care, they can easily be scratched or damaged.

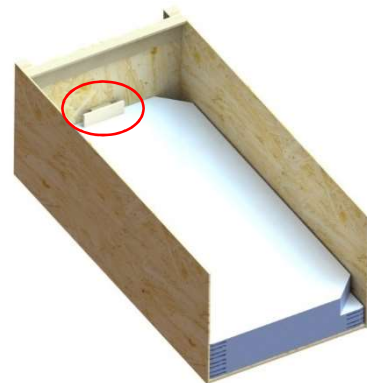


Figure 43

Cover assembly

⚠ WARNING

- Before assembling, keep in mind not to overtighten bolts. Power tools **must not** be used. The bolts will break under too much torque.

Note: The following figures represent the assembly of a 19' model. The number of panels may vary depending on the actual cover size you are assembling.

- 1) Attach the foam spacers to the top of the swim spa near each corner using the masking tape provided in the seal bag. There must be at least four foam spacers on each long side. Do not stack two pieces of foam high (Figure 45).

⚠ CAUTION

- The foam pieces must be placed on the flat top surface of the swim spa.

- 2) Assemble **two I to C-long connection plates per I-beam** as shown in Figure 46-47. Use 1/4-20 x 5/8" carriage bolts, 1/4-20 nuts, 1/4" flat stainless steel washer and 7/16" (11 mm) socket wrench and spanner. Insert the I to C spacer and washer between the I to C connection plate and the bracket. The carriage bolts and nuts can now be properly tightened. (Figure 46 & Figure 48).

Note: The trimmed portion of the I to C-long connection plates must be oriented in the same direction as the bent part of the I to C bracket. Do not forget to place the inserts facing inwards (Figure 46 & Figure 48).

⚠ CAUTION

- Two I to C-long connection plates must be installed per I-beam.
- Pay attention to the orientation of the trimmed portion of the I to C-long connection plate.
- Ensure these bolts and nuts are not overly tight so they don't bend the I to C-bracket and the I to C-long connection plate.
- Ensure the upright position of I-beam by ensuring the top sticker, shown in (Figure 49), is pointed upwards.
- Make sure there is grease in the insert before installing it; if not, apply some anti-seize lubricant for stainless steel in the inserts.
- Make sure the I-beam is free to move in the slots of the I to C long connection plate.

- Make sure the flat stainless steel washers are in place between the I to C spacer and the I to C-long connection plate. (figure 48)

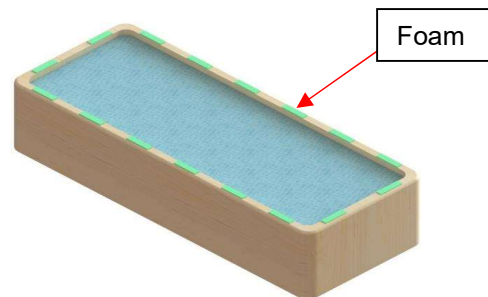


Figure 45

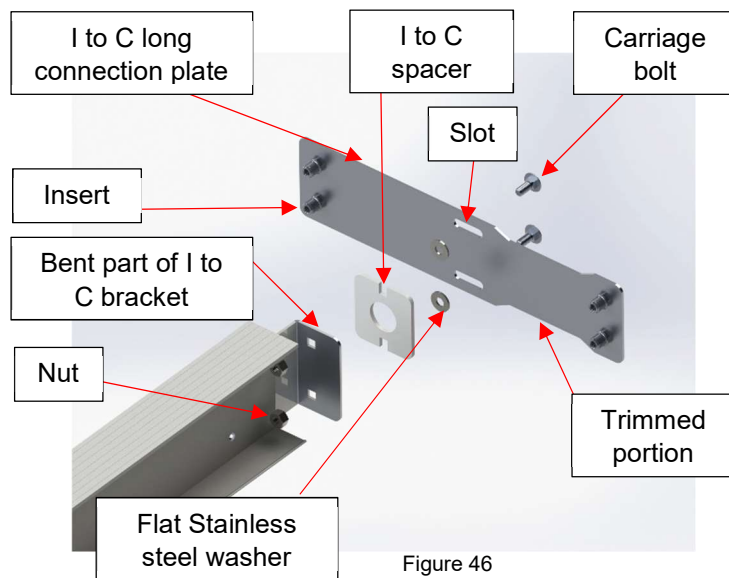


Figure 46



Figure 47



Figure 49

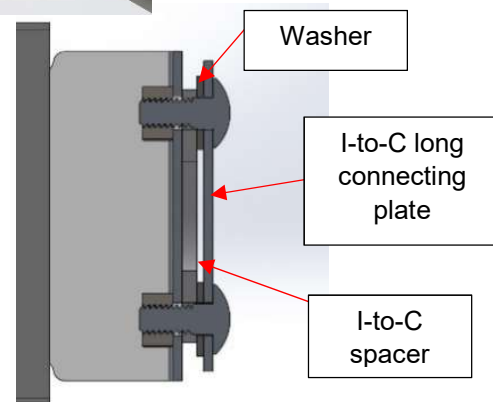


Figure 48

- 3) Repeat step 2 for a second assembly.
- 4) For models ranging from **12' to 15'**, you will need to install **one** I-beam with **two short** I to C short connection plates per I-beam. (Figure 50)

- ♦ Use 1/4-20 x 5/8" carriage bolts, 1/4-20 nuts and 7/16" (11 mm) socket wrench and spanner. Insert the I to C spacer in between the I to C connection plate and the bracket. The carriage bolts and nuts can now be properly tightened. (Figure 50).

⚠ CAUTION

- ♦ Two I to C connection plates must be installed per I-beam.
- ♦ Ensure these bolts and nuts are not overly tight so they don't bend the I to C-bracket and the I to C-short connection plate.

- 5) For models ranging from **16' to 20'** you will need to install **three** I-beams with **two short** I to C connection plates per I-beam (Figure 50).

- ♦ Use 1/4-20 x 5/8" carriage bolts, 1/4-20 nuts and 7/16" (11 mm) socket wrench and spanner. Insert the I to C spacer in between the I to C connection plate and the bracket. The carriage bolts and nuts can now be properly tightened. (Figure 50).

⚠ CAUTION

- ♦ Two I to C connection plates must be installed per I-beam.
- ♦ Ensure these bolts and nuts are not overly tight so they don't bend the I to C-bracket and the I to C-short connection plate.

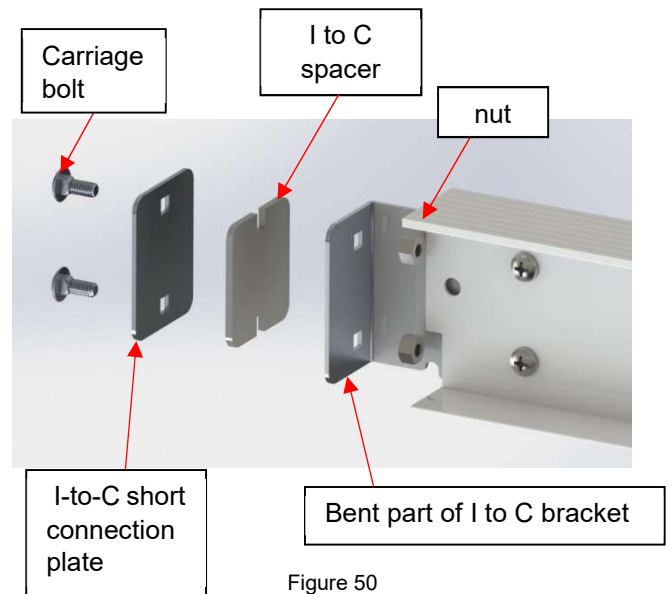


Figure 50

- 6) It is recommended to use a table or the shipping crate as a base to build the middle top section of the cover, and later transfer it to the swim spa once it is assembled.

⚠ CAUTION

- ♦ If there is limited space, please follow the next steps while assembling **directly onto the swim spa**. Avoid scratching the spa or any components of the cover.

- 7) Place the escape hatch panel (approx 47" x 96" [119 cm x 244 cm]) onto the middle of the installation surface. **Ensure the seal around the escape hatch opening is on top (Figure 51) and the top sticker located in the panel's hole is properly oriented (Figure 52).**

- 8) Assemble the long C-Channels, 94 9/16" (240 cm), over the previously placed panel so that the middle of the C-Channel, premarked with a center sticker (Figure 53), is aligned with the edge of the panel (Figure 51).

⚠ WARNING

- ♦ When assembling the C-channel onto the foam panel, be careful not to delaminate the fiberglass.

- 9) Slide one I-beam with short I to C connection plates in the C-channels. Place the I-beam in such a manner where the bent portion of I to C bracket is pointing inwards (Figure 54). Ensure it fits snug with the foam panel. Ensure the sticker in the I-beam is pointing upwards (Figure 52).

⚠ CAUTION

- ♦ Ensure the upright position of I-beam.
- ♦ Ensure the proper insertion of the short I to C connection plate in the C-channel (Figure 55).
- ♦ When inserting the I-beam into the fiberglass foam panel, ensure not to chip the fiberglass.
- ♦ Make sure the I-beam has cleared bottom and top section.
- ♦ While inserting the I-beam in the C-channel, make sure is it always square with the C-channel.

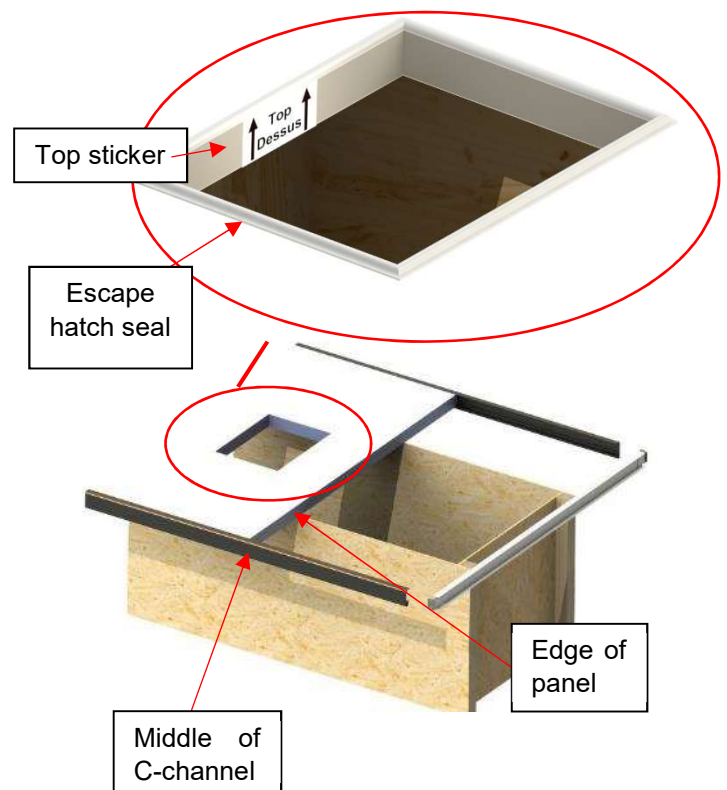


Figure 51



Figure 52



Figure 53

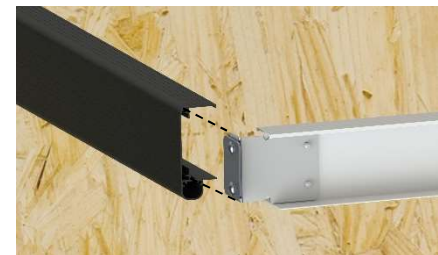


Figure 54



Figure 55

- 10) Slide the large (approx. 47" x 96" [119 cm x 243 cm]) panel into the C-channels. Ensure the I-beam has slid over the panel on both the bottom and top side (Figure 56).

⚠ CAUTION

- Ensure that the panel is pushed as far as possible by hand and is completely inserted in the I-beam.
- If you have a color panel, make sure the colored side is on top.

- 11) Install the I-Beams with the long I to C connection plates. Ensure the trimmed portion of the I to C connection plate faces toward the end of the cover (Figure 57 and Figure 58).

⚠ WARNING

- Ensure I-beam is oriented toward the top as indicated by the sticker (Figure 52).
- When assembling the C-channel onto the foam panel, be careful not to delaminate the fiberglass.
- Make sure the I-beam has cleared the bottom and top section.

- 12) Align by hand the C-channels (left and right sides) in such a manner that the I to C connection plate holes are visible (Figure 58).

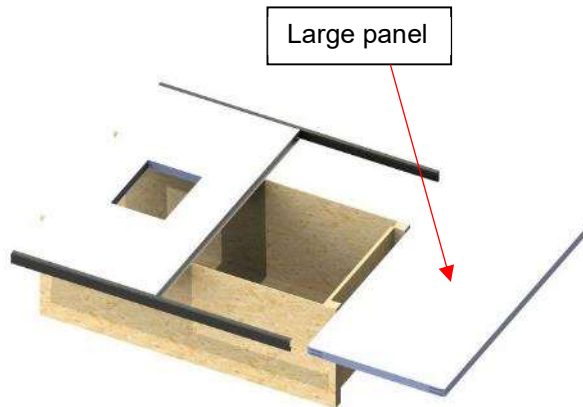


Figure 56

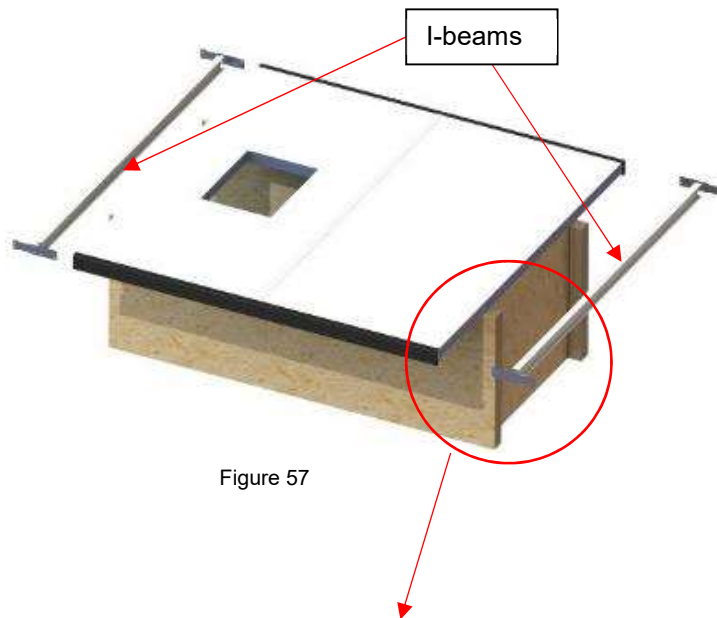


Figure 57

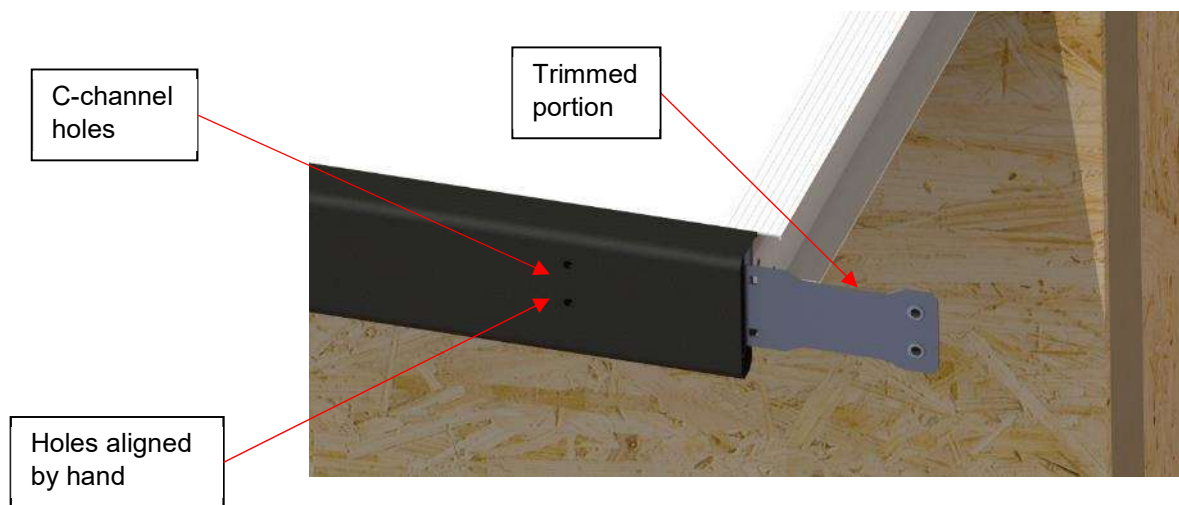


Figure 58

- 13) Align the holes of the support bracket, the post mount bracket and the C-channel by hand. Assemble them with the 1/4-20 x 1" hex drive rounded head screws (5/32" [4 mm]) (5 ft-lb torque). **DO NOT** install the bolts on the other end of the brackets yet (Figure 59).

⚠ WARNING

- Make sure the I-beam is still free to move in the I to C slots (Figure 59).

Note: For some spa, optional dual side brackets are needed to mount the cover to the posts. The installation of these brackets is made the same way as for the post-mount brackets described at step 13 (Figure 60).

- 14) Repeat step 13 for the opposite side of the cover (Figure 61).

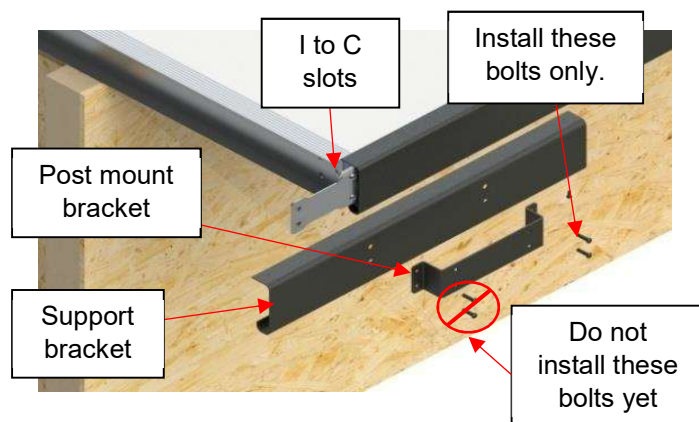


Figure 59

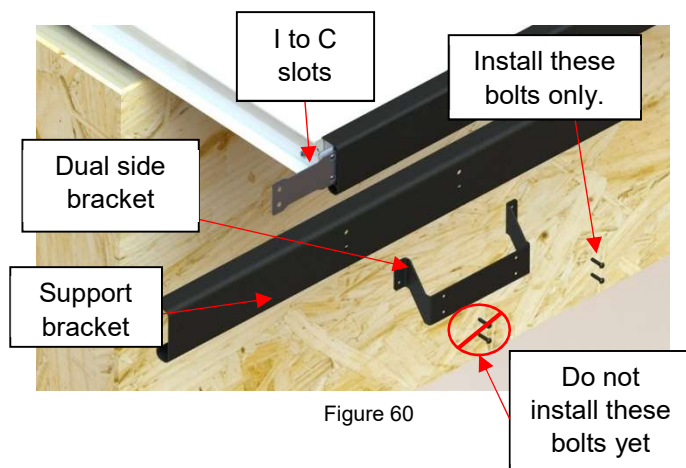


Figure 60

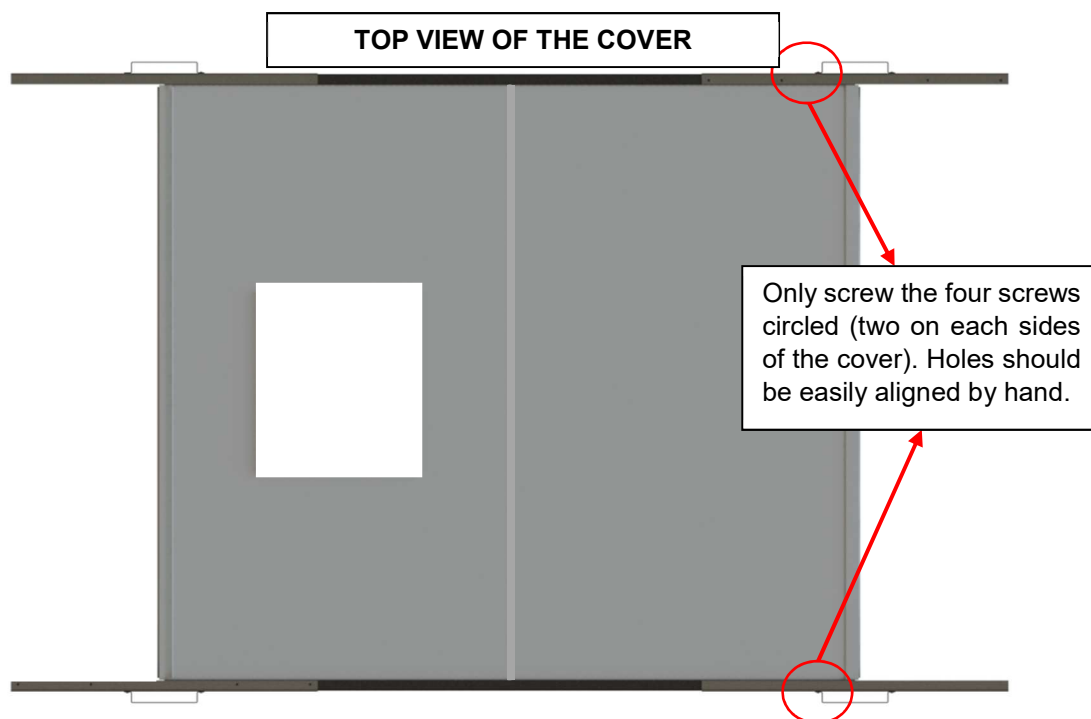


Figure 61

15) Assemble the support bracket at the other end of the cover (Figure 62).

16) Align the holes of the support bracket, the post mount bracket and the C-channel by hand. Assemble them with the 1/4-20 x 1" hex drive rounded head screws (5/32" [4 mm] [5 ft-lb torque]). Figure 62).

⚠ WARNING

- ♦ Make sure the I-beam is still free to move in the I to C slots (figure 64).

Note: For some spa, optional dual side brackets are needed to mount the cover to the posts. The installation of these brackets is made the same way as for the post-mount brackets described at step 13 (Figure 60).

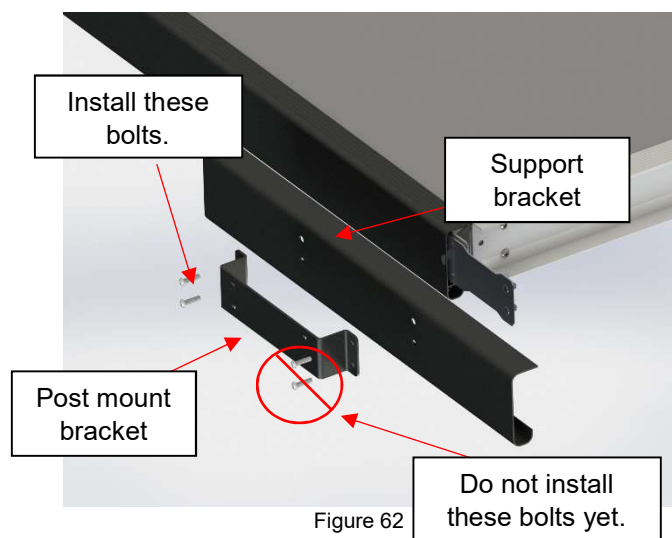


Figure 62



Figure 63

17) Repeat steps 15 and 16 for the opposite side of the cover (Figure 64).

18) Remove only the center stickers on the C-channels (Figure 63).

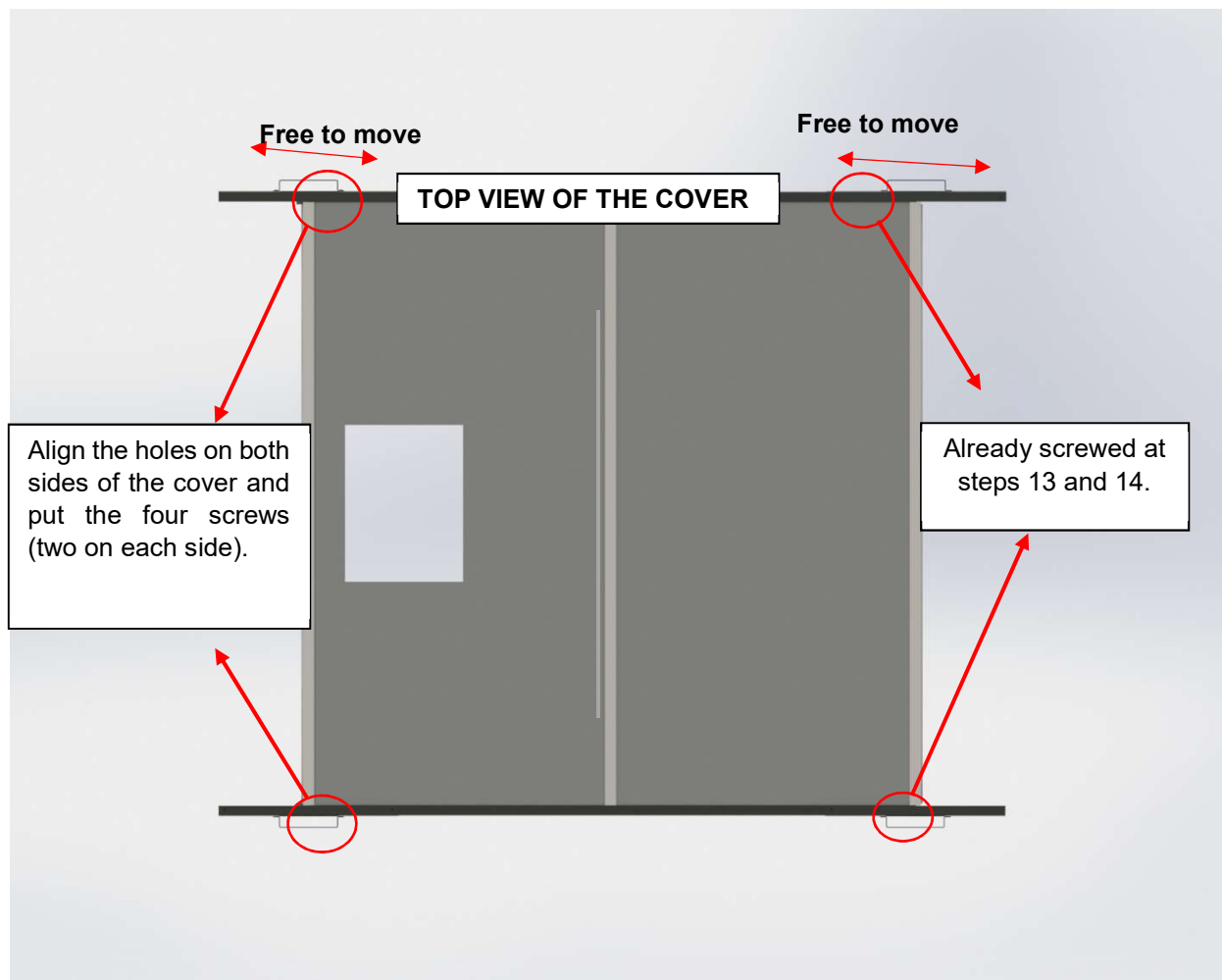


Figure 64

- 19) Carefully position the assembled center section of the cover onto center of the swim spa. Try to align the cover as best as possible.

⚠ CAUTION

- ♦ Failure to gently position the cover onto the swim spa could result in scratching the acrylic of the spa or damaging the cover.
- ♦ Ensure foam spacers are correctly positioned under the I-beams to simulate seal height.

- 20) Insert the shortest C-Channel inside the support bracket. **Note:** There are **only** two slots at the end of these parts. The slots must go inwards toward the cover (Figure 65, Figure 66, Figure 67 and Figure 69).

Note: Ensure that the long I to C connection plate is well inserted into the short C-channel (Figure 67).

- 21) Install in the remaining Hex drive 1/4-20 x 1" rounded head screw on the support bracket. (5/32" [4 mm] drive) (Figure 68 and Figure 69). **DO NOT** tight those screw yet. The C-Channel must be free to move in its slots

Note: Ensure that the bolts go through the end C-channel slots.

⚠ WARNING

Make sure the short C-Channel is free to move in its slots.

- 22) Repeat steps 20 and 21 for all four corners

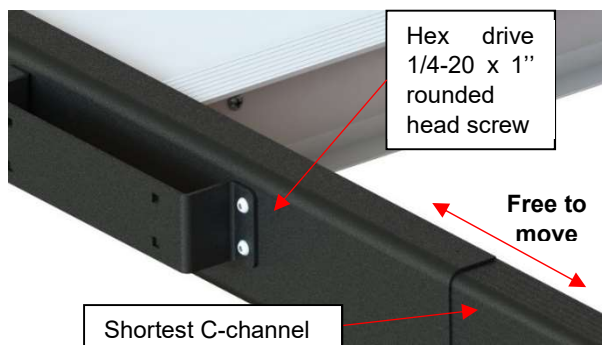


Figure 68

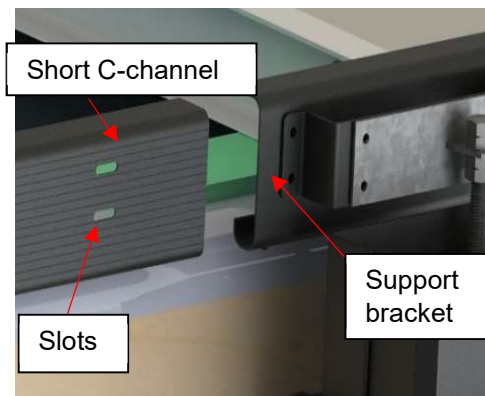


Figure 65

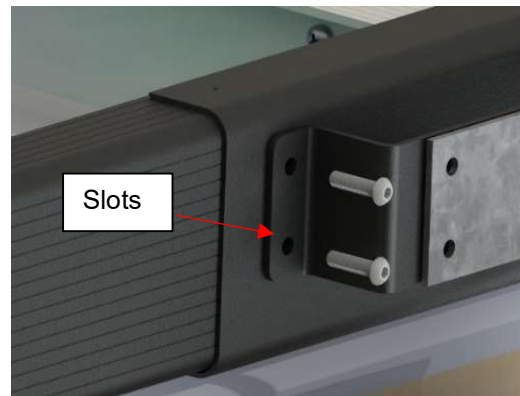


Figure 66

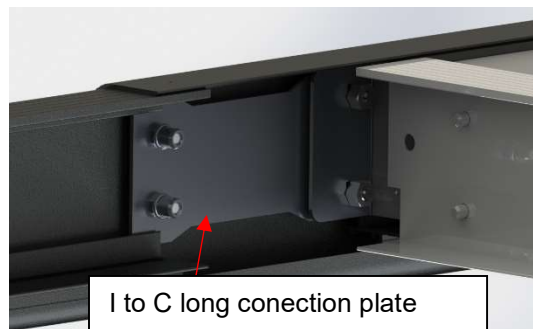


Figure 67

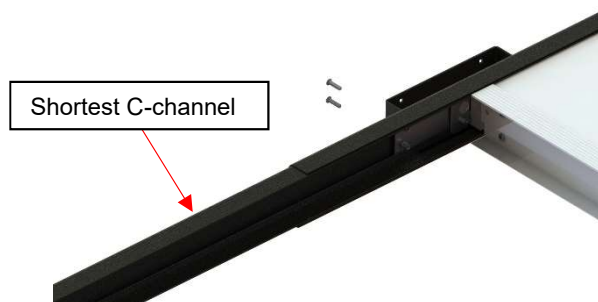


Figure 69

For models 12' to 15' only, go to step 26.

23) Slide in one of the remaining rectangular panels into the C-channels. (Figure 70)

⚠ CAUTION

- It is very important to check if the I-beams have locked in properly into the foam panels.
- If you have a color panel, make sure the colored side is on top.

⚠ WARNING

- When assembling the C-channel onto the foam panel, be careful not to delaminate the fiberglass.
- Ensure the I-beam has cleared the bottom and top section.

24) Use the hammer block to ensure the panel is fully engaged in the I-beam. Gently strike the **center** of the block and ensure the block is continuously in contact with the panel edge (Figure 71). Strike the hammer block on each side of the panel for a better fit on the I-beam (Figure 71).

⚠ WARNING

- Ensure the hammer block is properly fitted to the foam panel before striking. Failure to use the hammer block properly could break the lamination of the fiberglass panel (Figure 71).

25) Slide the I-Beam with the short I to C connection plates in the C-Channels with the bent portion pointing inwards (Figure 72).

26) Insert one of the end panels with the tapered end toward the end of the cover. The end panels are tapered with a 45-degree cut. (Figure 73).

⚠ CAUTION

- It is very important to check if the I-beams have locked in properly into the foam panels.
- If you have a color panel, make sure the colored side is on top.

⚠ WARNING

- When assembling the C-channel onto the foam panel, be careful not to delaminate the fiberglass.
- Ensure the I-beam has cleared the bottom and top section.

27) Use the hammer block to ensure the panel is fully engaged in the I-beam. Gently strike the **center** of the block and ensure the block is continuously in contact with the panel edge. (Figure 71) strike the hammer block on each side of the panel for a better fit on the I-beam.

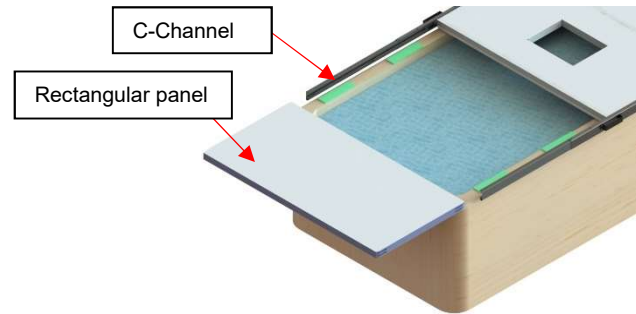


Figure 70

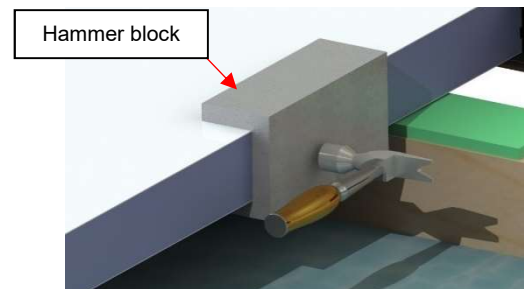


Figure 71

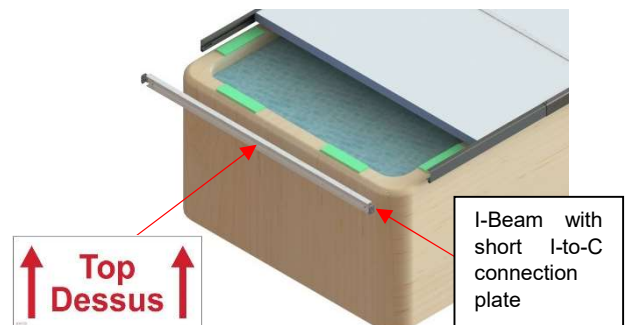


Figure 72

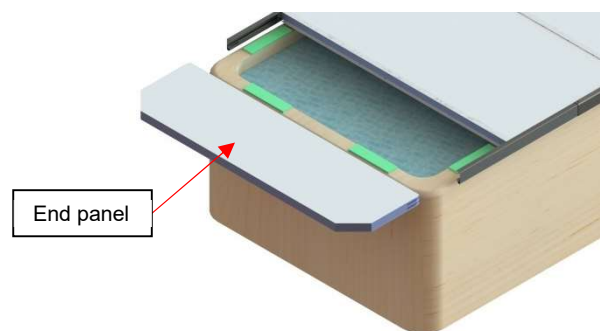


Figure 73

28) For models **12' to 15'**, repeat steps 26 to 27 on the other side.

For models **16' to 20'** repeat step 23 to 27 on the other side.

29) Insert the corner bracket on the tapered part of one end panel. Use the provided Robertson sheet metal #8 x 1/2" screws on the inside hole. **The two remaining holes will be used later** (Figure 74).

⚠ WARNING

- ♦ Do not overtighten the screws as they might break.

30) Snap on the remaining side C-channels, 83" (210 cm) at one end of the cover. It is recommended to slightly engage the top flange before the bottom when sliding the C-channel onto the foam panel (Figure 75).

31) Screw in the Robertson sheet metal #8 x 1/2" screw in the inner hole of the corner bracket reinstall the (Figure 75).

⚠ WARNING

- ♦ Do not overtighten the screws as they might break.

32) Orient the corner cover piece and screw it in completely with the last two screws on the side toward the center of the cover. Use the Robertson sheet metal #8 x 1/2" screws. (Figure 76)

⚠ WARNING

- ♦ Do not overtighten the screws as they might break.

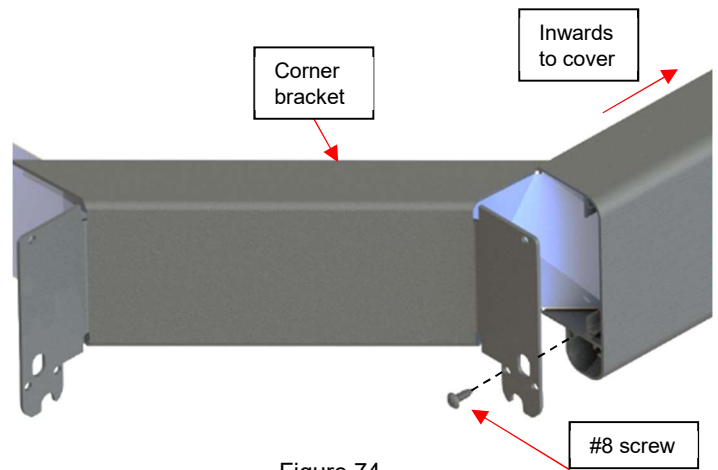


Figure 74

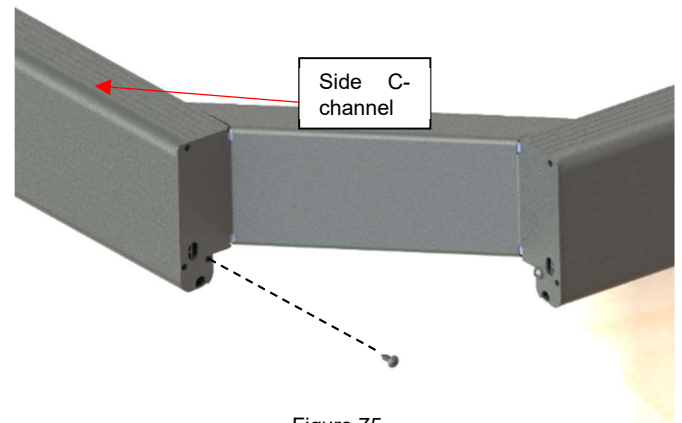


Figure 75

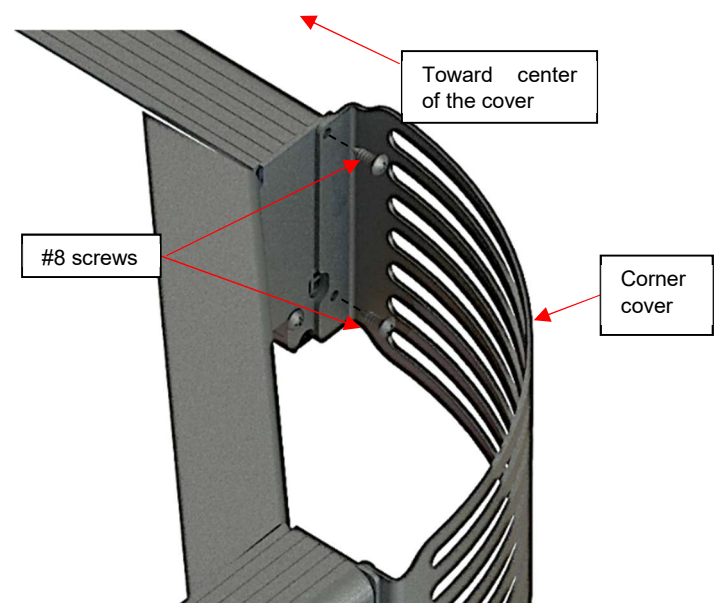


Figure 76

33) Fasten the Robertson sheet metal #8 x 1/2" screws that hold the side C-channel (Figure 77).

Note: If the gap between the corner bracket and side C-channel is too large, try bringing the two parts closer by hand before fully screwing.

⚠ WARNING

- ♦ Do not overtighten the screws as they might break.

34) Repeat steps 29 to 33 for all four corners.

Note: The Side C-channel will be already in place from the opposite sides when installing the other corner brackets.

35) Use the ratchet straps to compress the entire cover assembly (Figure 78). Until you are left with a gap between the short C-channel and the middle C-channel between 1/16" and 3/16" (Figure 79 and 80).

While you are compressing the cover make sure it stays as straight as possible by tightening both sides at the same time and is safely resting on the foam bumpers.

⚠ CAUTION

Use cardboard or a non-abrasive material to protect panels while using ratchet straps.

⚠ WARNING

- ♦ Do not over tightening the straps. Over tightening might permanently damage the sealing components of the I-Beams and allow for water infiltration. Tighten slowly and stop when the gaps are between 1/16" and 3/16". (Figure 79 and Figure 80)
- ♦ Make sure both end c-channel and all corner brackets are in place before tighten the straps

36) When you are satisfied with the required gap and the straps are secured, tighten the two bolts (5 ft-lb torque) (figure 81) Repeat for all four posts assemblies

⚠ WARNING

DO NOT remove or loose straps until the assembly is final.

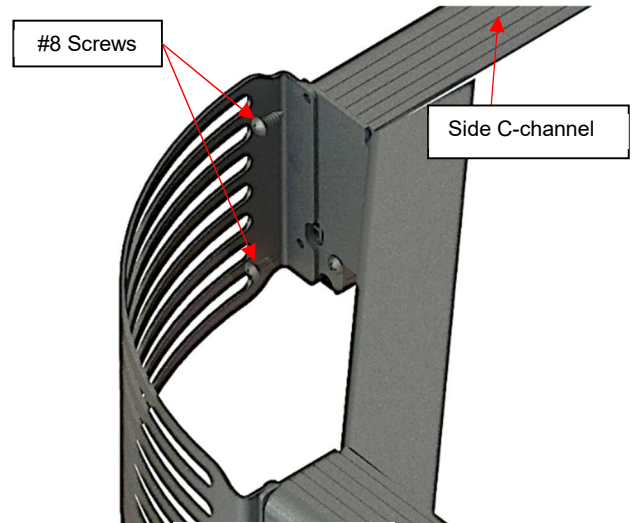


Figure 77

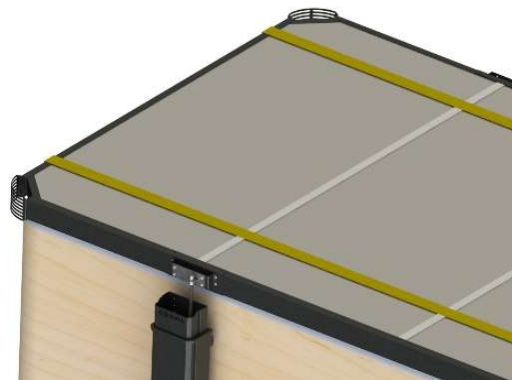


Figure 78



Figure 79

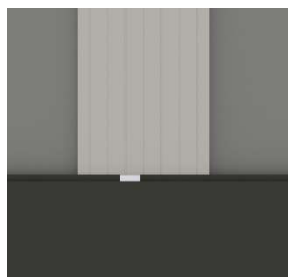


Figure 80



Figure 81

37) Use the provided 5/32" drill bit to drill the holes on the top and bottom of the support bracket (four holes per bracket) (Figure 83 and Figure 84). Use the pre-drilled holes in the support bracket as guidance.

NOTE: Models with long support brackets (approx. 42" [1,066 mm]) have eight holes per support bracket.

⚠ CAUTION

- Do not drill the foam panel; only drill through the metal.
- Be careful while cleaning holes; metal chips might scratch the painted parts.
- The paint on the aluminum frame is fragile.

⚠ WARNING

Make sure the cover is perfectly straight and sitting on the foam spacer before drilling.

38) Screw in the painted Phillips 10–24 x 1/2" thread cutting screws at the bottom and top of the support bracket (four screws per bracket) (Figure 85).

NOTE: Models with long support brackets (approx. 42" [1,066 mm]) have eight screws per support bracket

39) Repeat steps 37 and 38 for all four support brackets.

40) Remove the straps, once all screws are in place.

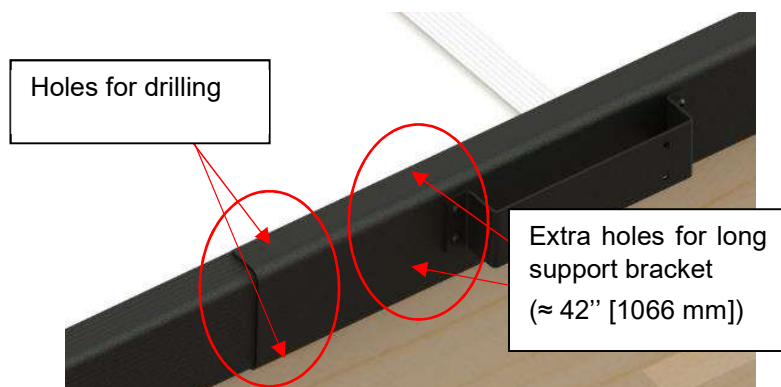


Figure 83



Figure 84

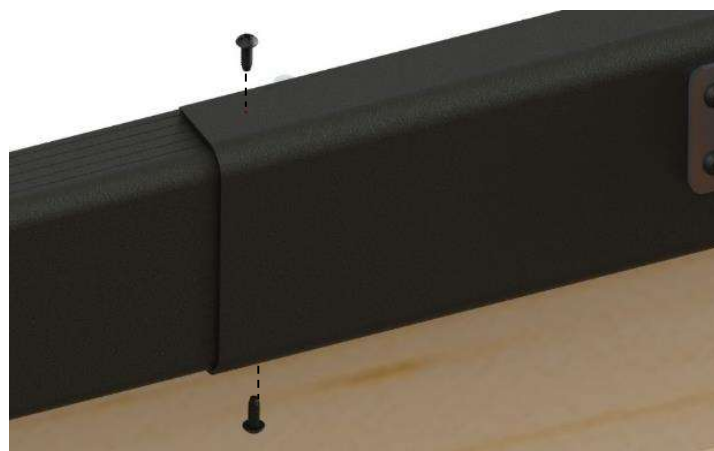


Figure 85

- 41) Turn the escape hatch handle to retract the arms and install it into the escape hatch opening of the center panel (Figure 86)

⚠ CAUTION

- ♦ Verify the functionality of the escape hatch's release mechanism prior to installation and before use. Please ensure that the hatch's arms are retracted when open and non-retracted when closed (Figure 87).

⚠ WARNING

- ♦ Failure to install the escape hatch properly may impede the performance of the COVANA cover, such as vapor leakage, water infiltration and unwanted access to swim spa.
- ♦ All security risks such as drowning, injury or undesired entry due to an open COVANA cover without an escape hatch installed are not approved by COVANA and product certification will be void.

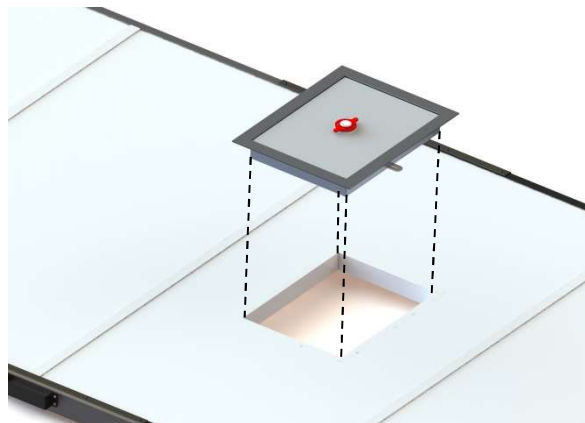


Figure 86

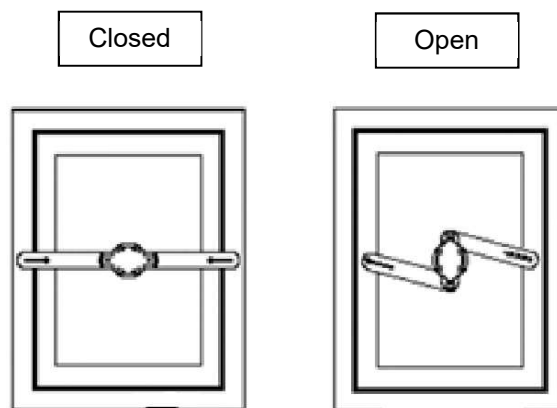


Figure 87

Lifting mechanism assembly

- 1) Ensure that the cover is centered on the swim spa. The use of a measuring tape is required to reference your measures on all four sides.
- 2) Install the top and bottom mount bracket arms on one of the sleeves (Figure 90). Gently place the sleeve on the ground so it's in contact at the top with the post mount bracket (Figure 91). Make sure it is straight. With the sleeve and its arms, choose the position of the tub mount bracket. Put the top tub mount bracket 1/4" from the acrylic of the swim spa. Position the bottom one so the arms are as horizontal as possible.

- 3) Fasten the tub mount brackets properly and strongly to the swim spa's frame (Figure 88). If the swim spa is over 54" high (137 cm), install the extended tub mount bracket (Figure 89). Use the provided Phillips #10 x 3/4" screws for fastening.

Note: Use measuring tape to center the tub mount brackets and/or extend tub mount bracket with the post mount bracket (Figures 88 and 89).

⚠ WARNING

- ♦ Fastening the tub mount brackets and/or extended tub mount brackets to soft/fragile engineered wood, MDF panels, plastic skirting or any composite siding is not approved by COVANA and is not safe for operation.
- ♦ Improper fastening to the swim spa's frame can result in serious injury or even death when the cover operates. COVANA is not responsible for any improper fastening.
- ♦ Ensure the screws of the tub mount brackets (and/or extended tub mount bracket) are installed on a solid part of the swim spa's frame.

Note: If the swim spa has a metal frame, the provided screws for the mounting brackets will need to be replaced with self-tapping screws.

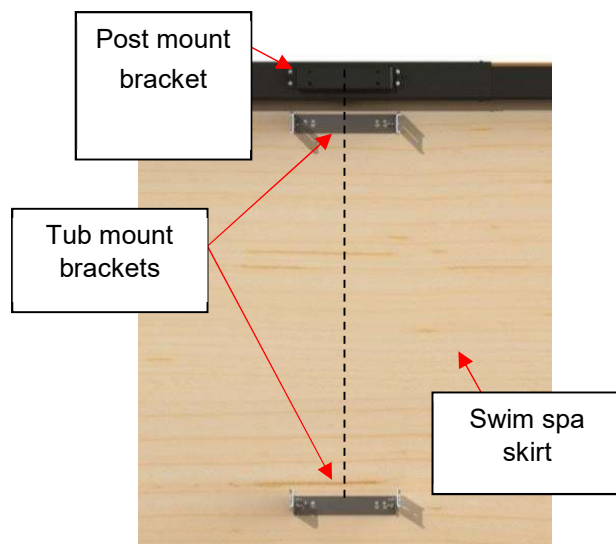


Figure 88

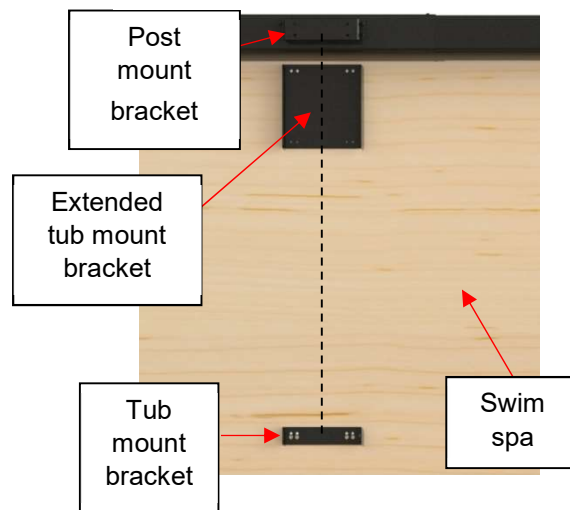


Figure 89

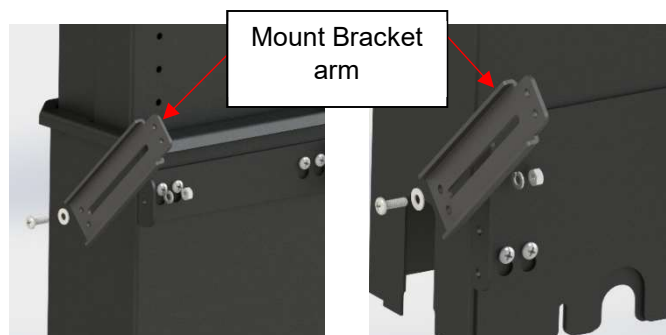


Figure 90

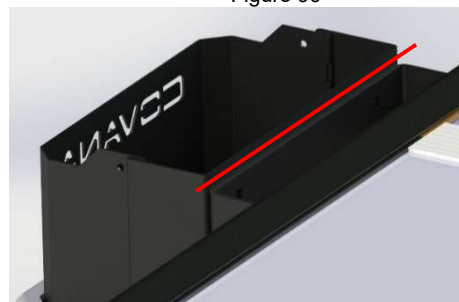


Figure 91

- 4) Position the jacks in their locations. Motorized jacks should always be on the left side when looking at the swim spa. (Figure 92)

NOTE: Position the non-motor jack with the bonding lug (Figure 94) on the same side where the control box will be installed. Refer to the "Wiring Diagram" in the appendix.

- 5) Slide the drive shaft over the square shaft of one motor-side jack (Figure 93)

- 6) On the same swim spa side, install the drive shaft onto the non-motorized jack's shaft (Figure 95)

Note: If drive shaft does not line up with non-motorized jack's shaft, the use of a 3/4" (19 mm) wrench or adjustable wrench can help. Slightly rotate the shaft as shown in Figure 95.

⚠ WARNING

- While installing the drive shaft, check if it has not been pulled out from the opposite side when manipulating the part.
- Do not twist the motorized jack with the wrench. This jack contains a gearbox which could break when stressed from the output.

- 7) Repeat steps 5 to 6 for the opposite side.

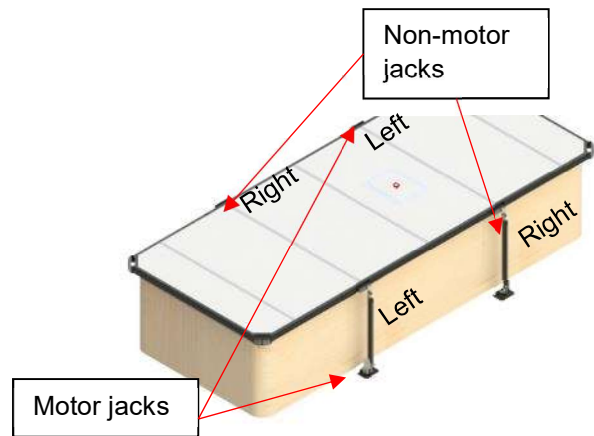


Figure 92

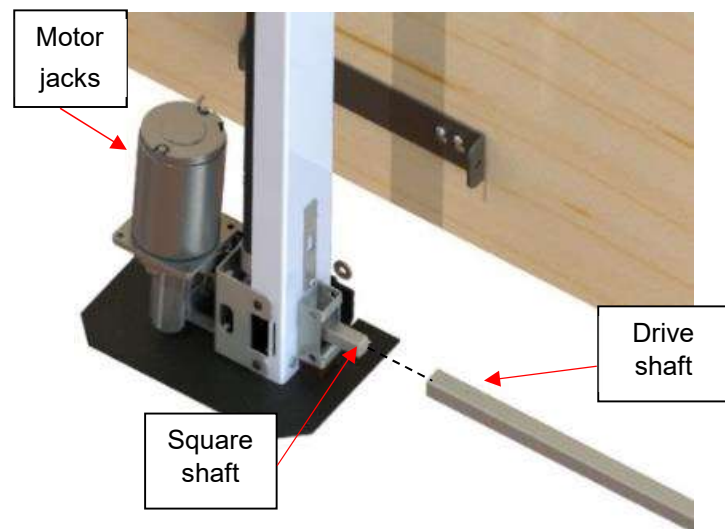


Figure 93

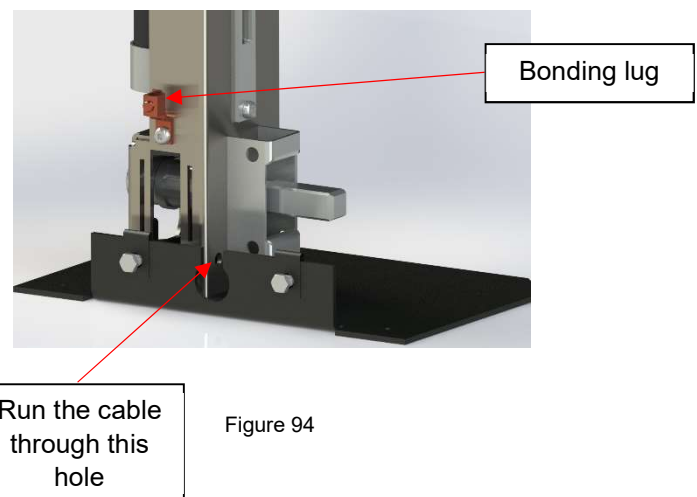


Figure 94

- 8) Install the aluminum U-frame over the drive shaft. The U-frame will bolt on top of the post bracket of the motor and non-motor jacks. Fasten in place using the hardware provided: four hexagonal 5/16-18 x 2" bolts and 5/16-18 nylon insert locknuts. Use a 1/2" (13 mm) socket wrench and spanner (Figure 96).
- 9) Repeat step 8 for the opposite side.
- 10) Check if the drive shaft is still engaged at both ends. Slip your fingers under the U-frames to do this operation.
- 11) Once the U-frames are installed, the jack lock bracket located at the top of non-motor side jacks can now be removed safely. Remove the M8 x 35 mm bolt and **reinstall it in the hole next to it so you don't lose it**. Remove the screw on both non-motor jack. You can remove the red tags on the non-motor jacks (Figure 97).

⚠ WARNING

- ♦ Failure to properly engage the drive shaft will cause the non-motor jack to elevate by itself.
 - ♦ Failure to remove this part will break the lifting mechanism.
- 12) For both motorized jacks, locate electric cables that are found in the parts boxes.

Note: The shortest cable goes on the side where the control box will be located. *For the AC-operated model*, position the AC control box so it's protected from direct sunlight.

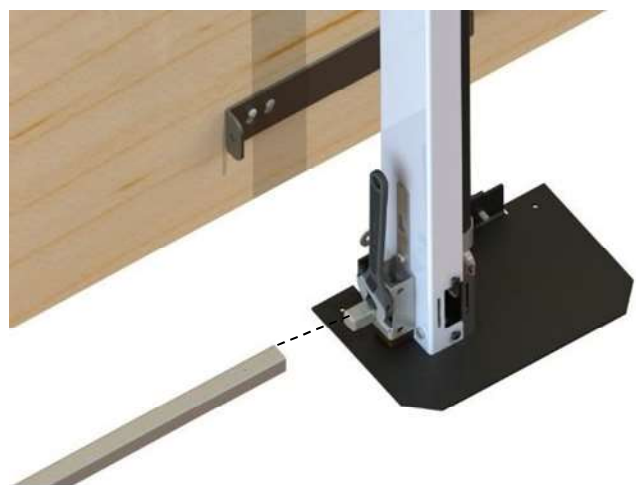


Figure 95



Figure 96

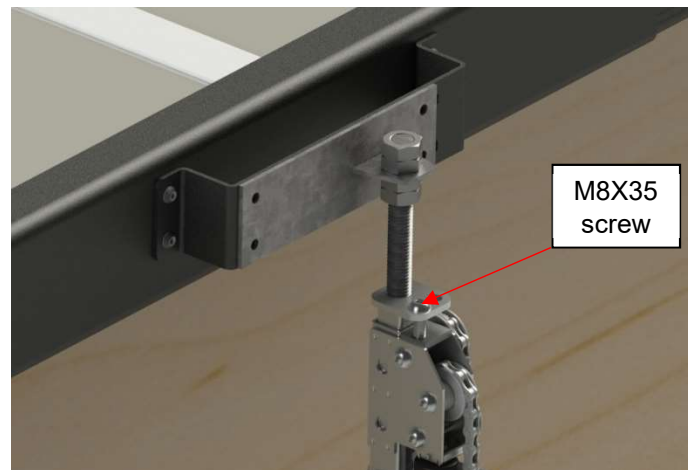


Figure 97

13) Locate the short end of the cable, which can be identified from the metal compression connector near the end of the cable. Make the connector go through the center hole on the back of the motor jack's base plate. Connect the cable to the motor harness and tighten the screws of the compression connector onto the base. **The screws of the compression connector should be oriented horizontally.** You might have to rotate the connector as shown on Figure 98. Let the remainder of the cable pass near the U-frame. The electrical hook-up will be explained further. When connecting the motor harness, you must hear a *CLIC* from the connector to confirm you have properly installed it.

⚠ WARNING

- ♦ Ensure the proper orientation of harnesses when trying to plug in the motor. Failure to properly clip on harness will cause damage to electrical circuit.

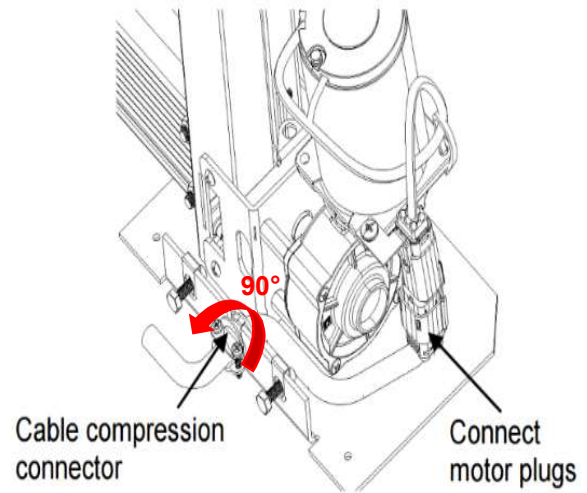


Figure 98

- 14) Repeat step 13 for the second motorized jack.
- 15) The jack adapter located at the top of the jack can be adjusted by turning the large threaded rod. Adjust the height so that they match the cover mount bracket holes. Use the adjustable wrench 15/16" (24 mm) head. Repeat this step for all four jacks (Figure 99).

⚠ WARNING

- ♦ The threaded rod must not be unscrewed more than **14 inches (35 cm)**. (Measure the length from the top of the threaded rod nut to the top of the bottom nut (Figure 99).)
 - ♦ Further unscrewing is not considered safe and is not recommended by COVANA.
 - ♦ Failure to follow these guidelines could cause serious injury.
- 16) Slide the sleeves over the top of the jacks and fasten them using the 1/4"-20 x 3/4" carriage bolts at the top with 1/4" lock washers and 1/4-20 nuts. Use a 7/16" (11 mm) socket and spanner. Repeat this step for all four jacks (Figure 100).

⚠ CAUTION

- ♦ When sliding the sleeves over the jacks, ensure the slot at the bottom of the outer sleeve is going to slide over the U-frame that covers the drive shaft. There are right and left models for sleeves (Figure 101)
 - ♦ Handle the sleeves with care to prevent them from being scratched otherwise damaged.
- 17) Tighten 1/4-20 hexagonal bolts at the bottom of all the sleeves bases. (7/16" (11 mm) socket wrench) ensure that the washer is outside of the outer sleeve. This will ensure the sleeve is held correctly (Figure 101). Repeat this step for all four jacks.

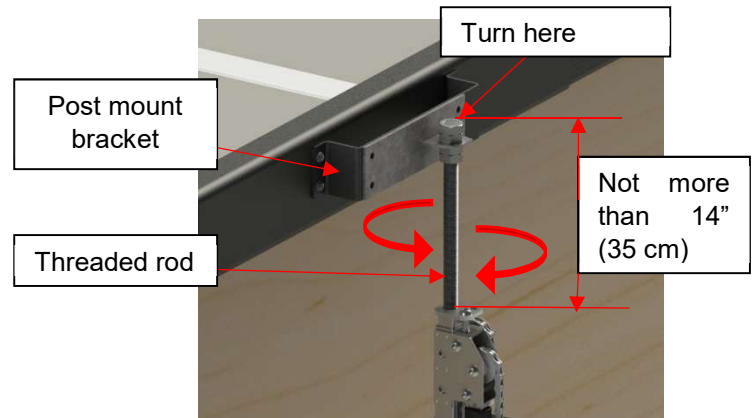


Figure 99

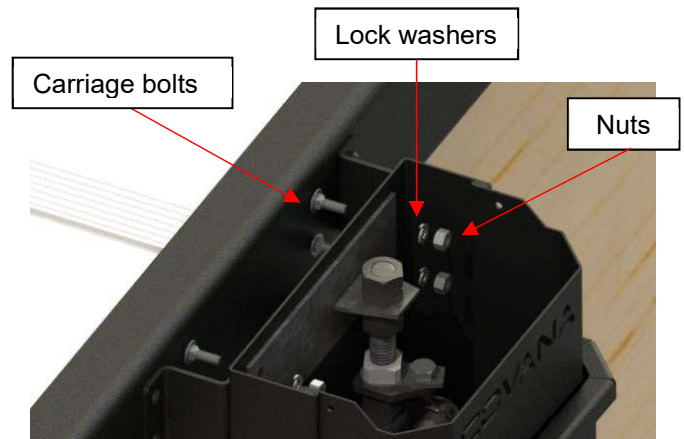


Figure 100

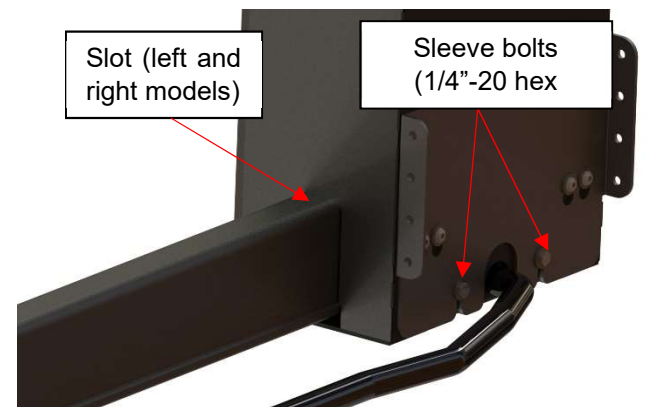


Figure 101

18) Use a level to ensure that the four posts are vertically level. (Figure 104)

19) Attach the **top** mount bracket arms to the tub mount brackets using the 1/4-20 x 1" hex drive bolt, 1/4" flat washer on the outside. Use a 1/4 lock washer and 1/4-20 nut on the inside. Use a 5/32" (4 mm) drive and 7/16" (11 mm) spanner (Figure 102 and Figure 103)

⚠ CAUTION

- The rounded section of the bracket should always be mounted on the swim spa side. (Figure 103)

20) Just as with the top brackets, attach the **bottom** mount bracket arms to the tub mount brackets using the 1/4-20 x 1" hex drive bolt, 1/4" flat washer on the outside. Use a 1/4" lock washer and 1/4-20 nut on the inside. Use a 5/32" (4 mm) drive and 7/16" (11 mm) spanner (Figure 102 and Figure 103)

21) Repeat steps 19 to 20 for all four posts.

22) Check if the posts are still level on both axes. If not, unscrew the mount arms and reposition the sleeves. Use the outer sleeve as a reference. Use the 48" (122 cm) level (Figure 104).

⚠ WARNING

- Failure to properly level the posts could cause aesthetic damage, even mechanical damage or malfunction.

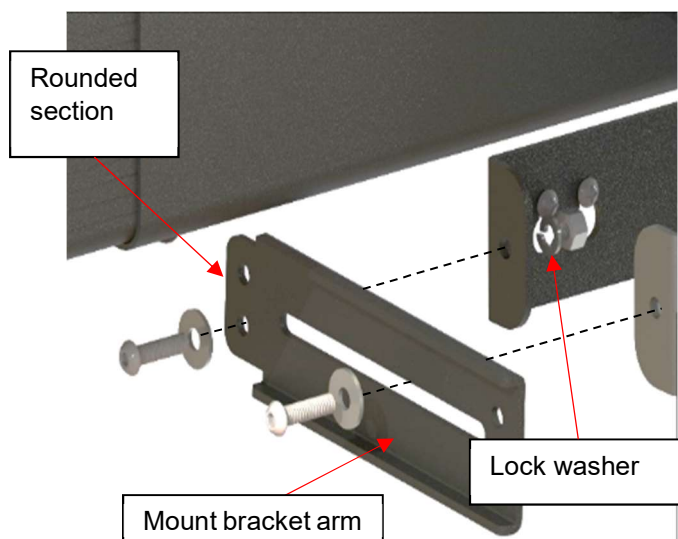


Figure 102

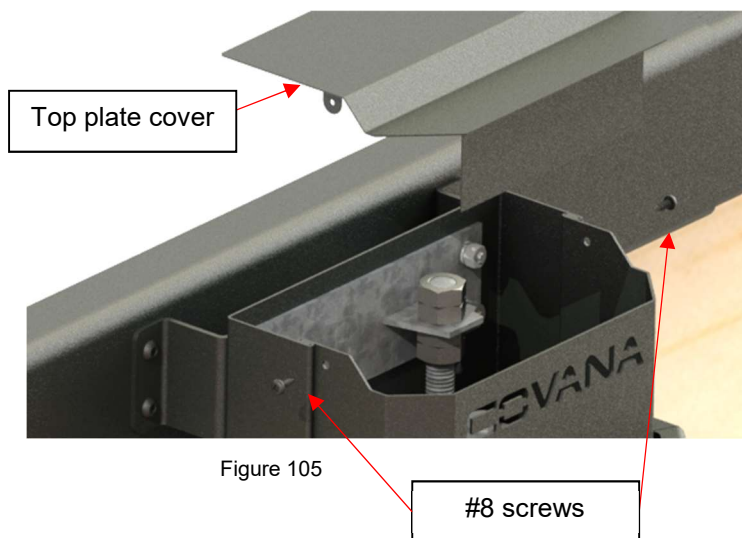


Figure 103



Figure 104

- 23) Attach the top plate cover for all four posts. Use the provided Robertson #8 self-drilling screws x 1/2" (2 screws per post) (Figure 105)



- 24) For all four posts, slide the all-weather seals down. Ensure they are properly seated on the outer sleeves' base. Push down on the seal as shown (Figure 106)

⚠ WARNING

- ♦ Improper installation of the all-weather seal could result in unwanted performance and reduce the lifespan of the mechanical lifting components.
- ♦ Improper installation of the all-weather seal might cause damage to the lifting mechanism.

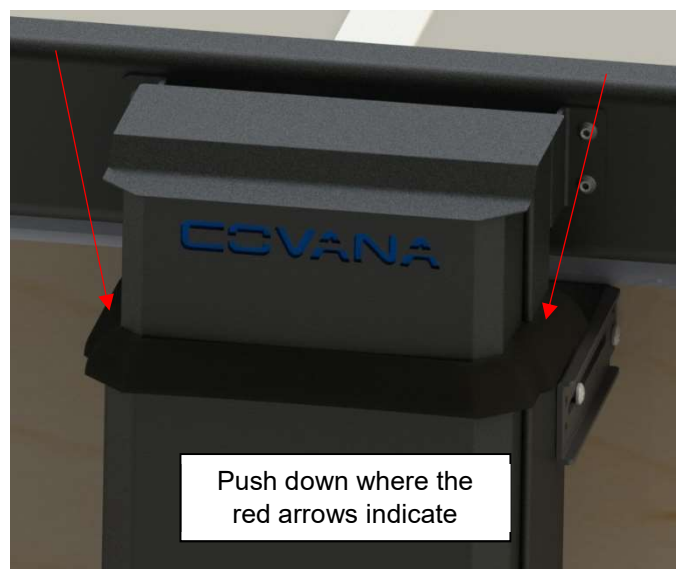


Figure 106

ELECTRICAL HOOK-UP

Avoiding the risk of electrocution

CAUTION

- ♦ All electrical work should be done by a qualified electrician, otherwise the certification and warranty will be voided. Furthermore, any modifications to the electrical components will also void the warranty.

ELECTRICAL DANGER

- ♦ Failure to comply with these instructions may result in death by electrocution or serious injury. Disconnect or turn off and secure all power supplies before starting any intervention on the COVANA cover.
- ♦ For *AC-operated model*: A disconnect mean needs to be incorporated into the fixed wiring at the time of installation. This mean must be accessible to the user or service technician to turn the power off for future maintenance or repair.
- ♦ Always have a licensed electrician contractor perform any electrical maintenance or repairs on the COVANA cover. The wiring must comply with all applicable electrical codes and regulations.
- ♦ For *AC-operated model*: The COVANA AC control box must be connected to a circuit that is protected by a dedicated Ground Fault Circuit Interrupter (GFCI) that complies with all applicable local electrical codes and regulations.
- ♦ Install the COVANA cover in such a way that drainage directs water away from the electrical components and base mechanical components.
- ♦ Do not connect any auxiliary components to the electrical system of the COVANA cover unless they have been approved by COVANA.
- ♦ Replace electrical components with original components provided or approved by COVANA. Ask your dealer for replacement parts.
- ♦ To reduce the risk of electric shock, replace a damaged cable immediately. Failure to do so may result in death or serious personal injury due to electrocution.
- ♦ Do not bury any cables. A buried cable may result in death or serious personal injury due to electrocution if direct burial-type cable is not used, or if improper digging occurs.

ELECTRICAL WARNING *for AC-operated model*

- ♦ To reduce the risk of electric shock, the green-colored terminal or the terminal marked “g,” “gr,” “ground,” “grounding” or with a \equiv symbol located inside the supply terminal box or compartment must be connected to the grounding means provided in the electric supply service panel with a continuous copper wire equivalent in size to the circuit conductors supplying the equipment.
- ♦ One bonding lug is installed on one non-motor jack. To reduce the risk of electric shock, connect the COVANA cover bonding lug to the local common bonding grid in the area. Use terminals with an insulated or bare copper conductor no smaller than No. 6 AWG (4.11 mm).
- ♦ All field-installed metal components, such as rails, ladders, drains or other similar hardware, within 10' (3 m) of the swim spa must be bonded to the equipment grounding bus with copper conductors no smaller than No. 6 AWG (4.11 mm). (NEC art. 680.)

AC Control box

(for AC-operated model only. If you are installing a battery-operated model, skip to "battery and solar panel" section)

- 1) Place the pre-assembled control box and its holding bracket on one of the U-frames between the two sleeves. (Figure 107)

⚠ WARNING

- ♦ Choose a side of the swim spa that will allow any maintenance to the box to be easily done but that will also avoid direct and constant sunlight exposure. In some region, the heat from the sun could impede the performance of the controller.
 - ♦ The AC control box must always be out of reach of anyone in the swim spa. It should be placed at a minimum distance of 4' [1.2m] away from any position in the swimspa.
 - ♦ The AC control box must be installed in its vertical position. The connectors must face the ground (Figure 107).
 - ♦ The AC control box connector must be placed at a minimum distance of 5" [127 mm] from ground level.
- 2) Once in place, a certified electrician should connect the AC control box to a power source following instructions from the Wiring Diagram in the *Appendix* section of the manual.

⚠ WARNING

- ♦ A certified electrician must install a conduit connector that will be type 3 enclosure rated (*not included*). The hole diameter on the box is 22 mm (Figure 109). Refer to the *Wiring Diagram* in the *Appendix* section
- 3) Start by connecting the two motor jack harnesses to the AC control box (Figure 108). **Use the wires that were connected in step 13-14 in the *lifting mechanism assembly* section.** Put the exceeding wires as close to the swim spa as possible to hide and protect the wires. (Figure 107)
 - 4) Unpack the key switch and plug the harness into the AC control box. (Figure 108)

Optional Emergency battery backup

Note: If you have purchased the optional emergency battery backup kit, it will be in one of the parts boxes. Place the charger in a safe, indoor place. The charger will stop using power once the battery is fully charged so you can leave the battery on the charger.

⚠ ELECTRICAL WARNING

The charger must always be indoors, away from water. Damage, injury or death may occur if this instruction is not followed

⚠ WARNING

- ♦ The optional emergency battery backup must only be connected when needed. If the battery is left connected to the AC control box, damage to the battery and AC control box may occur.



Figure 107

AC control box

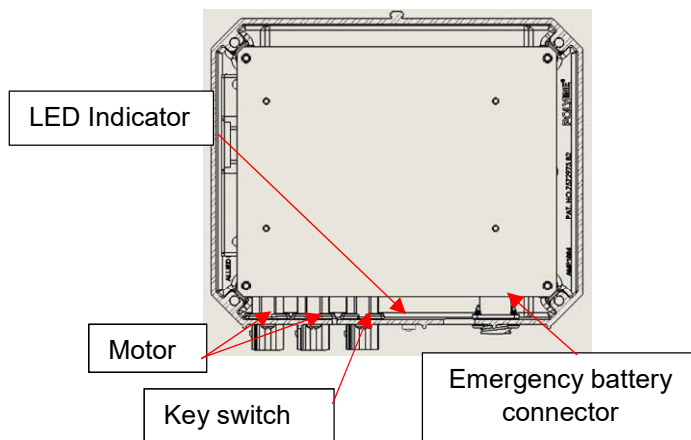


Figure 108

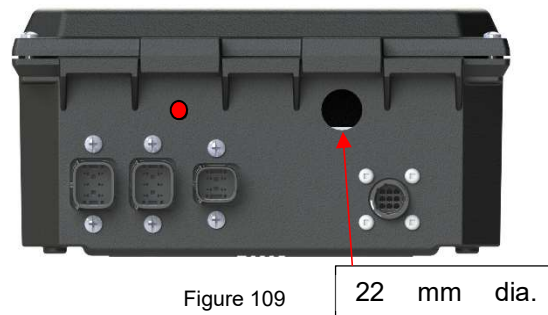


Figure 109

22 mm dia.

Battery and solar panel

(For battery-operated models only. If you have the AC-operated model, skip to the next section.)

- 1) Locate the control box housing and control box (Figure 110-111)
- 2) Start by connecting the two motor jack harnesses to the control box. **Use the wires that were connected in step 13 in the lifting mechanism section.** Put the exceeding wires as close to the swim spa as possible to hide the wires (Figure 111-112)
- 3) Unpack the key switch and plug the harness into the control box (Figure 111)
- 4) Unpack the solar panel kit from boxes and connect the solar panel harness (Figure 111)
- 5) Install the solar panel on the side of the swim spa that is most exposed to sun, directly onto the panneling of the swim spa, under the acrylic edge.

ELECTRICAL WARNING

- ♦ Do not place the solar panel on the COVANA cover since the wire will hang above water and might cause electrocution.
- 6) Slide the control box housing onto the U-frame (Figure 112)
 - 7) Place the remainder of the wires as near as possible to the swim spa to hide these cables.
 - 8) Open the control box housings' top and connect the battery harness. The battery is found in the parts boxes. Place the battery inside by opening the top and closing the control box.

Note: A second battery and a charger will also be in the parts boxes. Place the charger in a safe, indoor place. The charger will stop using power once the battery is fully charged, so you can leave the battery on the charger.

ELECTRICAL WARNING

- ♦ The charger must absolutely be indoors, away from water. Damage, injury or death might occur if this instruction is not followed.

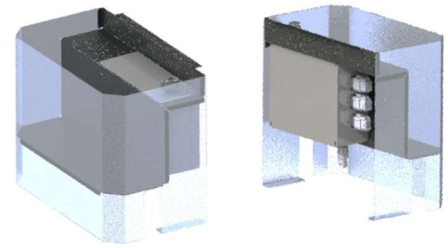


Figure 110

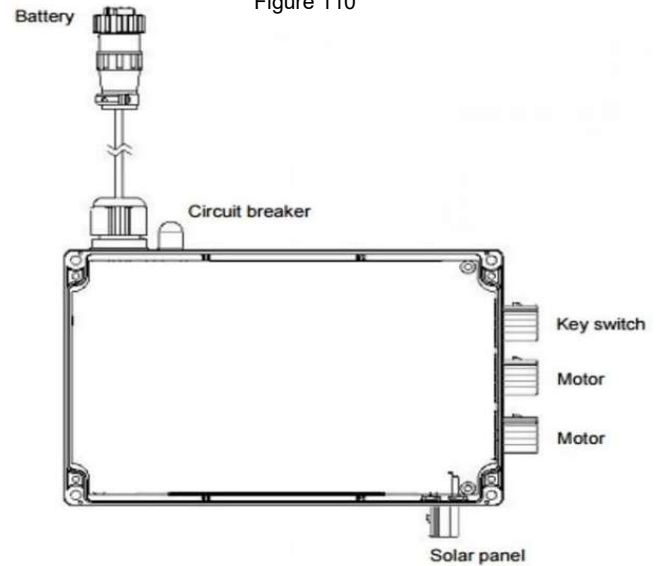


Figure 111



Figure 112

Testing the COVANA cover

- ♦ Test the COVANA cover by following the next steps.

CAUTION

- ♦ If the COVANA cover is in an area with limited clearance, never completely lift the COVANA cover while performing this test sequence.

WARNING

- ♦ For AC-operated models, all electrical connections must be done by a certified electrician.

- 1) Ensure there are no objects directly above or in the path of the cover opening while performing this test. If there is, do not fully lift while performing the start-up procedure.
- 2) Use the key switch to lift it by approx. 8" (20 cm). Make sure the cover is lifted evenly (there are no corners higher than the others).
- 3) Bring the cover down again and ensure the cover is evenly seated on the pieces of foam all around the swim spa perimeter.
- 4) Lift the cover halfway up.
- 5) Check if the middle sleeves are free by sliding them up and down by hand. Test if the middle sleeve slides without scratching or interfering with inner or outer sleeve. If all seems to function properly, lower the cover and check if the sleeves are level using the 48" (122 cm) level on both sides of the sleeves as shown in Figure 104.
- 6) Lift the cover all the way up (or as high as possible without objects obstructing cover) and pay attention to any abnormal sound (metal grinding or knocking). If so, stop any movement, consult the *Troubleshooting* section and inspect all the systems.
- 7) Lower the cover and ensure it stops at the zero position and the cover is evenly seated on all pieces of foam around the swim spa.
- 8) Permanently mount the key switch at least 5 feet (1.5 m) away from the swim spa and 5 feet (1.5 m) above the deck or ground level. Ensure the user has a clear view of the COVANA cover when operating it. (See Figure 31). **Cut the power when installing the key switch.**

WARNING

- ♦ The key switch must be permanently mounted and located 5 ft (1.5 m) away from the swim spa and 5 ft (1.5 m) above the deck or ground level. This ensures the user has a clear view of the COVANA cover when operating it. Furthermore, the key switch terminal should be located in a place where no water downpour or debris could fall on it.
- ♦ Failure to properly install the key switch according to these instructions will void the warranty and product certification.

CAUTION

- ♦ When operating, the user must have a clear view at all time of the COVANA cover and its surroundings.

DANGER

- ♦ Failure to properly install the key switch according to these instructions could result in injury or even death.

Wiper brackets installation

Lift the cover halfway up to proceed to the next steps. The next steps are important for minimizing water intrusion.

⚠ CAUTION

- ♦ For COVANA covers between 12' and 15', there will be 6 wiper brackets. For models 16' to 20', there will be 10 wiper brackets. The number of wiper brackets is determined by the number of I-beams used to assemble the cover.
- ♦ Ensure the I-beams are dry and clean.
- ♦ Ensure ambient temperature is between 70°F to 100°F (21°C to 38°C) for the ideal application temperature.

- 1) Locate the wiper brackets that are provided in the plastic bag (Figure 113).
- 2) Peel back siding of the double-sided tape of one wiper bracket (Figure 113).
- 3) Under the cover locate an I-beam and orient the wide flap of the wiper bracket outwards of cover (Figure 114).
- 4) Stick the wiper bracket on the middle of the I-beam by holding it in place with pressure for at least 60 seconds. This ensures a proper bond to the I-beam. **Make sure you place the wiper bracket flap at the edge of the I-beam directly into the gap between the I-beam and the C-channel** (Figure 115)

⚠ WARNING

- ♦ Failure to properly install the wiper bracket impedes performance.
 - ♦ Failure to install each wiper bracket properly can result in excessive cover leakage.
- 5) Repeat steps 1 to 4 for all I-beams on the left and right sides.

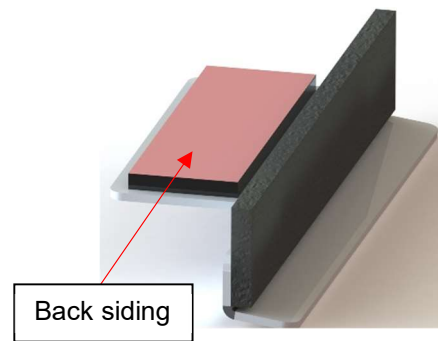


Figure 113

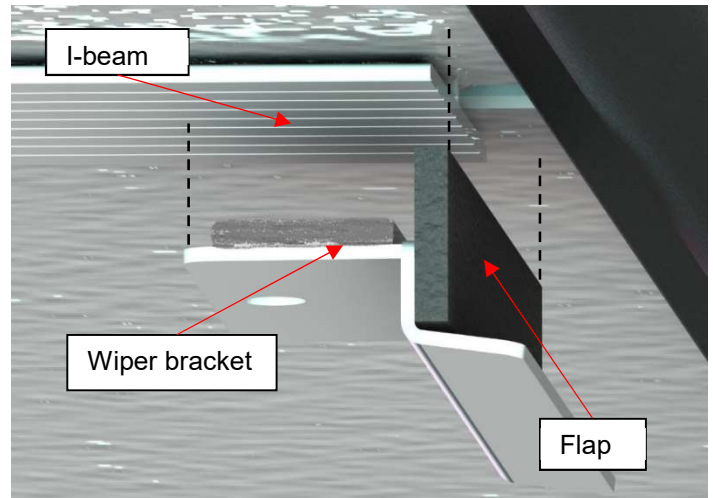


Figure 114

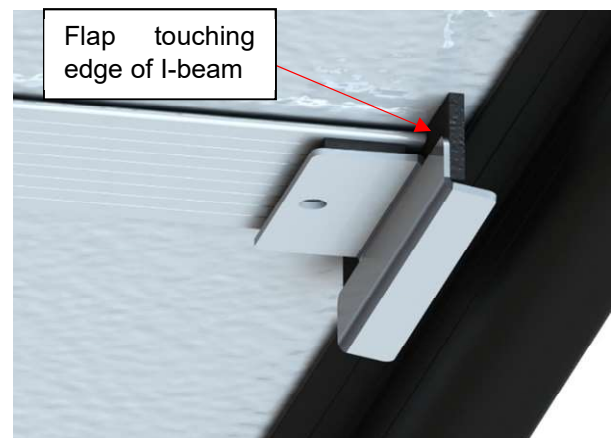


Figure 115

Seal application

- 1) Once the COVANA cover has been fully assembled, raise the cover and remove the foam spacers and tape. Lower the cover and walk around the entire perimeter of the spa, observing where the inside surface of the cover will make contact with the spa. This will determine the best location to apply the seal.

CAUTION

- ♦ It is recommended to perform the seal installation when the ambient temperature is above 50°F (10°C).
- ♦ Before installing the seal joint, it is strongly recommended to reduce the water vapour generated by the spa. To do this; stop the agitation of the water by stopping the recirculation pump, and then set the temperature of the spa water to be between 2 and 5 degrees above ambient temperature.

- 2) Dry the spa edge and the underside of the cover with a clean cloth.
- 3) Apply the provided masking tape around the spa where the seal will be installed. The masking tape will ensure the seal is straight when pulled corner to corner. The ideal location for the seal is closer to the spa's interior edge, but on a flat surface (Figure 116). The minimum turn radius for the seal is 4" (10 cm).

WARNING

- ♦ The use of masking tape is recommended since it will protect the acrylic tub from the clips' glue. Furthermore, pulling the masking tape from one corner to the next will ensure straightness.
- 4) Apply the provided seal clips parallel to the masking tape around the spa and make sure there is more in the corners and in any tight turns (around filters, etc.). Keep in mind that a limited number of clips are provided. Install two clips where the seal joint connector will be located (Figure 116-117-118).
 - 5) Start installing the seal joint on the opposite side from the entrance of the spa (where the two clips were installed for the seal joint connector), with the adhesive layer facing up toward the cover (Figure 117 and Figure 118)

CAUTION

- ♦ Do not install the seal joint near a control system or the critical components of the spa.

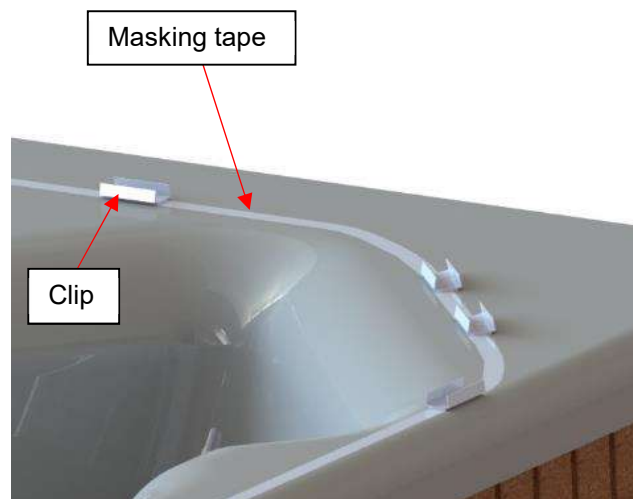


Figure 116



Figure 117

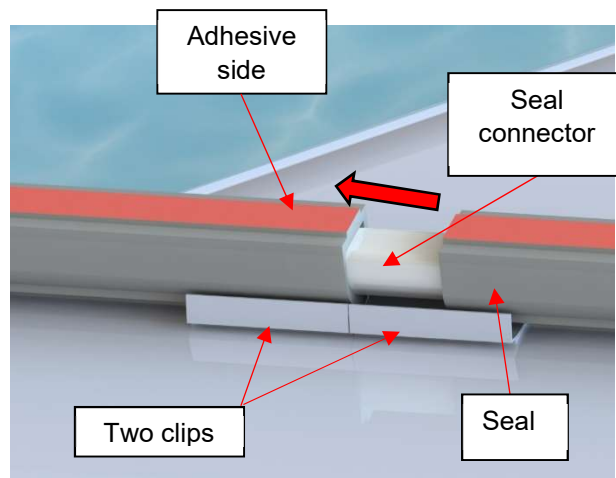


Figure 118

- 6) Once the seal is installed around the entire spa, you must cut the extra length as straight as possible for the best joint finishing results.
- 7) Use the supplied seal connector and insert it in both ends of the seal. The use of masking tape to hold the two ends tightly together is recommended (Figure 118).

WARNING

- ◆ At this point, if there is no water in the spa and the ambient air temperature is below 50°F (10°C), a temporary heater must be placed inside the spa for about 10 to 15 minutes. Once the heater is in the spa, lower the cover until it touches the seal to increase the air temperature. While generating heat, regularly check interior air temperature and do not let it reach temperatures above 40°C. After 10 to 15 minutes, remove the heater and continue with the seal installation. The rubber seal should not be overheated. Do not directly heat the acrylic or seal, as this may cause permanent damage. Do not place the heater too close to the acrylic surface, as the surface could melt or catch fire. Place the heater on a pedestal or spacers so it will not rest directly on the acrylic tub. The heater can be put back in place after step 15) and used if necessary during the curing period specified in step 16).
- ◆ Ensure that the air temperature in the spa is still between 20°C and 40°C before proceeding to step 13).
- ◆ Remove all dirt, oil residues and moisture from the underside of the cover for proper seal adhesion, especially in wet spa installations. The use of mild detergent can help clean the surface.
- ◆ Ensure the seal stays tight in the clips to ensure its proper positioning.

- 8) Test the seal placement by lowering the cover about 1/4" (6 mm) over the seal to ensure that the entire perimeter **will make contact** with the seal. If you are satisfied, raise the cover and remove the red plastic backing off the seal.
- 9) Completely lower the cover onto the seal. Leave the cover in this position for **at least 5 minutes** to ensure proper seal-to-cover adhesion.
- 10) Slowly raise the cover no more than a 1/4" (6 mm) and leave the cover in this position for about 10 seconds, as this will allow the seal to slowly and fully release from the seal clips. You can also use a non-abrasive plastic tool or your fingers to help release the seal.
- 11) Once satisfied that the seal is released, raise the cover 36" (91 cm) high. Apply pressure on the seal to properly bond the adhesive to the underside of the cover. To apply pressure to the seal, simply push it against the COVANA cover with your hands.
- 12) Remove the seal clips and tape from the tub's edge.
- 13) Lower the cover again at approx. 6" (15 cm) from the spa and stop.
- 14) Ensure the cover is flat and there are no corners higher than the others.
- 15) Lower the cover again, and ensure the seal is touching the spa all around it.
- 16) Completely lower the COVANA cover and leave it closed for **at least 24 hours**. This will ensure the seal is properly bonded to the cover surface.
- 17) The seal installation is completed.

Upper limit reset of posts

Should there be an object that will obstruct the COVANA cover during operation, please follow the next steps to reset the maximum height of the cover.

If not, please skip to step 17 in the section below.

- ♦ Use the key switch to perform the following steps without interruption during the sequences.

WARNING

- ♦ When following the next steps, the cover will ignore its upper limit. This means the mechanism can break if elevated too high.

- 1) The cover must be lowered to zero position. (Seal touches equally around swim spa perimeter.)
- 2) Disconnect both motors (remove motor plug harness from the control box).
- 3) Disconnect the battery. *If you are installing the AC-operated model*, wait until the LED turns off to proceed to the next step.
- 4) Reconnect battery. *(Ignore the step if you have a AC-operated model)*
- 5) Using the key switch, turn UP (counter clockwise) and hold for at least 10 seconds.
- 6) Release the key.
- 7) Turn the key UP (counter clockwise) 10 times within 10 seconds.
- 8) Look at the control box's LED. If the LED is flashing about once every 3 seconds, the reset process was successfully initiated.

- 9) You have 30 seconds now to reconnect the motors and set the upper height limit of the cover. Use the key switch to raise the cover.

Note: Every time that the height of the cover is changed, the 30-second countdown will restart. If that period of time is exceeded, you will exit reset mode.

- 10) Raise the cover to the desired height.

WARNING

- ♦ Do not exceed 120" (3 m) from the bottom of the sleeve to under the cover. Refer to *Side elevation* section for more information.

- 11) Once satisfied with the cover height, disconnect the battery again. *If you have a AC-operated model*, leave it there until the LED turns off. This is required to save the upper limit position.
- 12) Reconnect the battery. This is required to reboot the system. *(Ignore the step if you have an AC-operated model)*
- 13) Lower the cover to its zero position.
- 14) The initialization process was completed for the cover. This memorizes the upper limit of the COVANA cover.
- 15) Test the system by raising the cover. Check if the cover has saved the upper limit height.
- 16) Lower the cover to zero position.
- 17) **Please consult the last pages of this manual. There will be a checklist for the installer and the customer. Please check the sections to ensure everything was done properly. It is very important to sign both copies and tear off the installer's copy.**

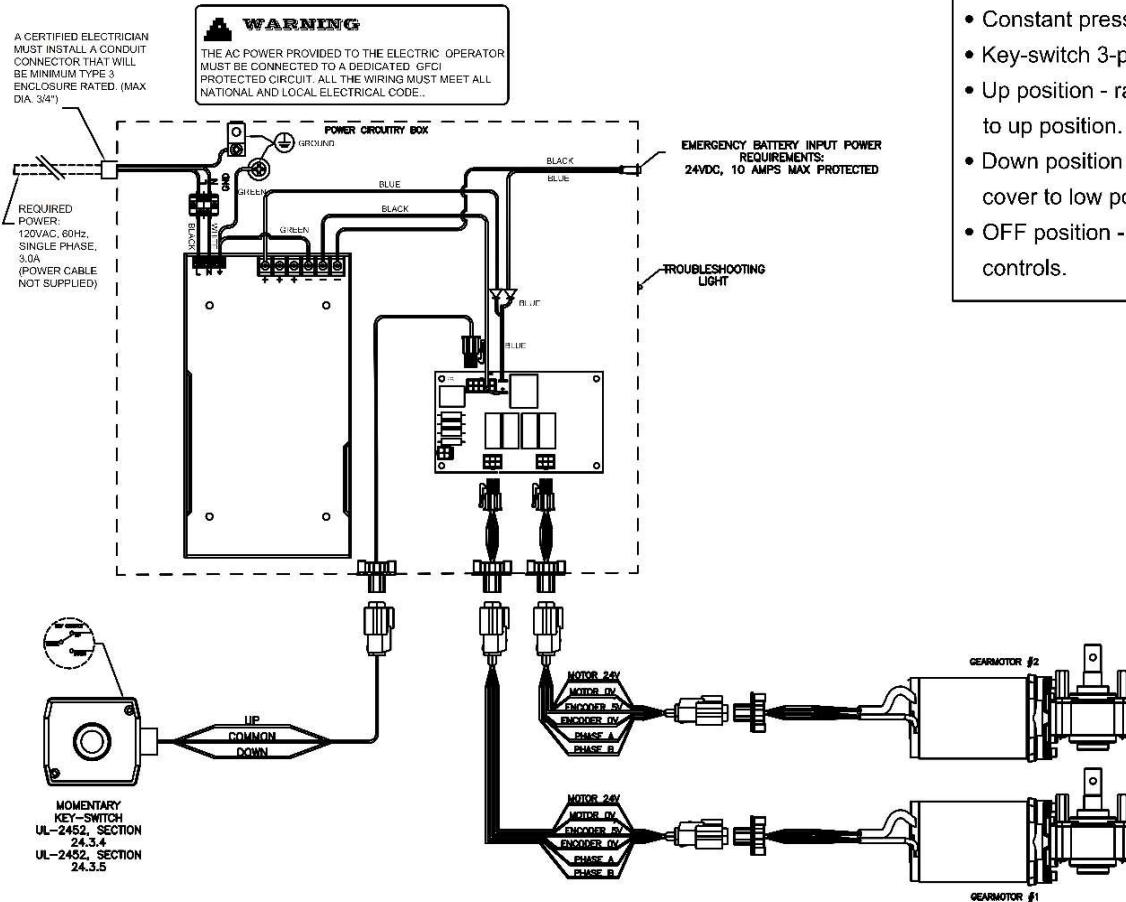
APPENDIX

Wiring & Schematic Diagram - 120VAC, 60Hz AC Control Box (North America)

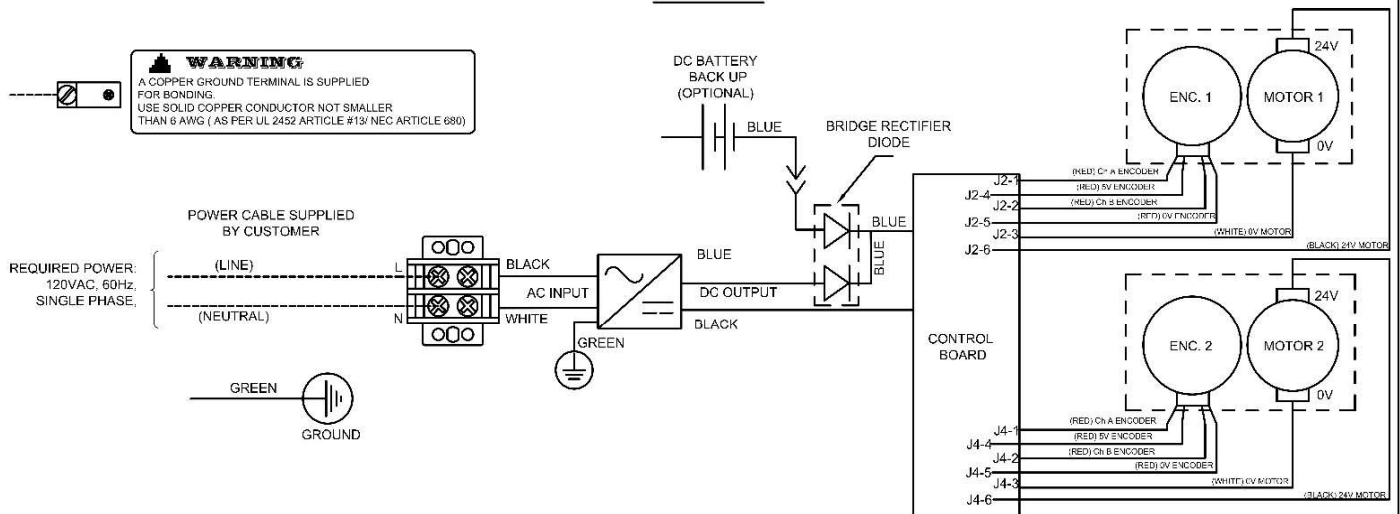
Operating and circuit logic operation

- 120 VAC, 60Hz control circuit.
- Constant pressure on UP and DOWN.
- Key-switch 3-position.
- Up position - raises the spa cover to up position.
- Down position - lowers the spa cover to low position.
- OFF position - disables the controls.

KEY SWITCH ACTION		
STOP/OFF	UP	DOWN
WHITE GREEN BLACK-LINE	WHITE GREEN BLACK-LINE	WHITE GREEN BLACK-LINE



SCHEMATIC



The control circuit operates at 120VAC, 60Hz. Due to the resistance in the wire used to carry the control circuit voltage, it is important to use the appropriate wire size between the AC control box and the main power supply. If wire gage is not suitable for the distance, problems in AC control box will be encountered such as motor humming, premature wear of the power supply and possible tripping of it's thermal protection.

The Covana AC control box connections should be performed by a qualified electrician. The conduit size selection, the power wires selection and their installation must be done in accordance with all local regulation and National Electric Code (NEC), Article 430.

TECHNICAL SPECIFICATIONS

Side elevations

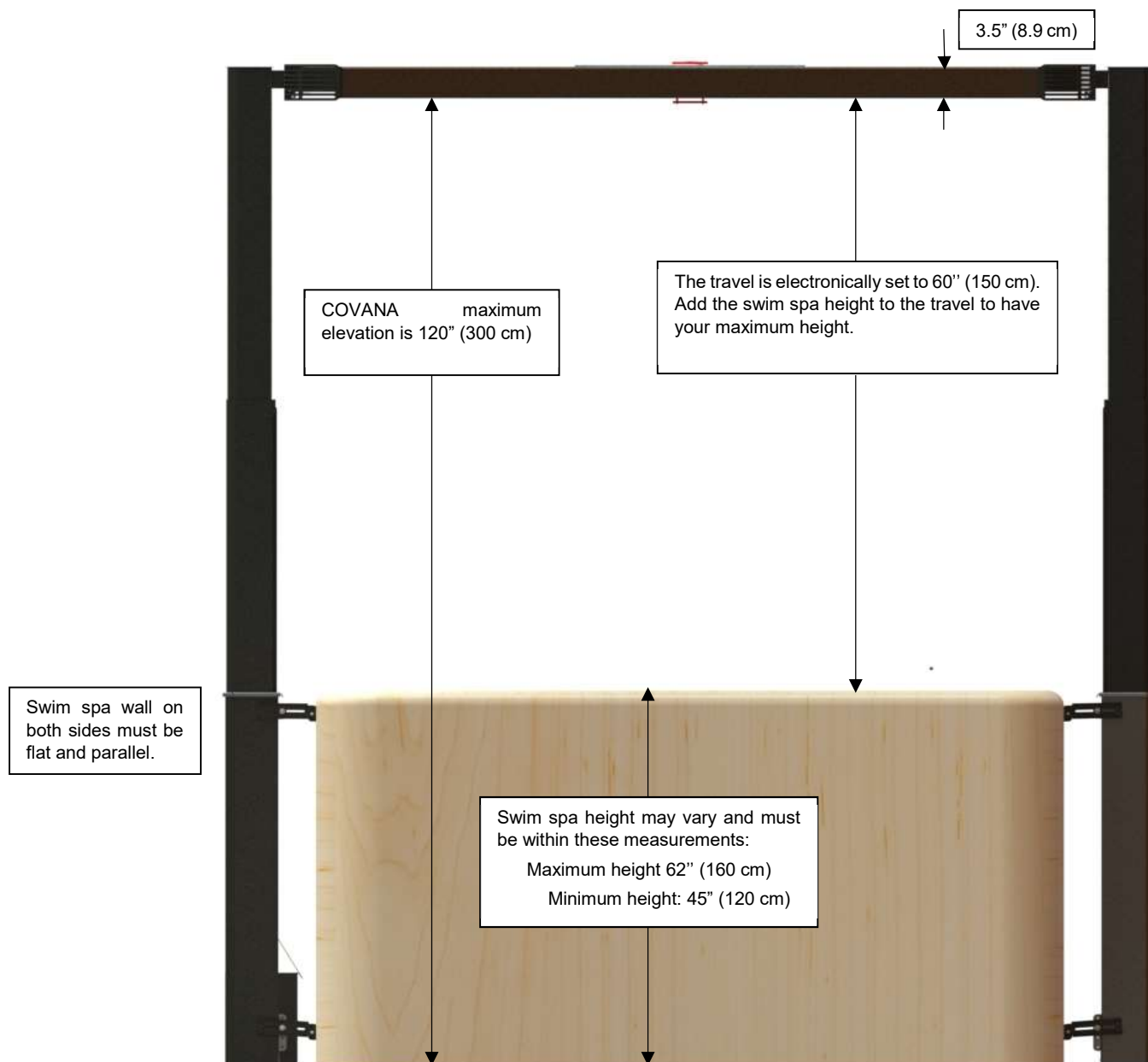


Figure 47

Frame and footprint

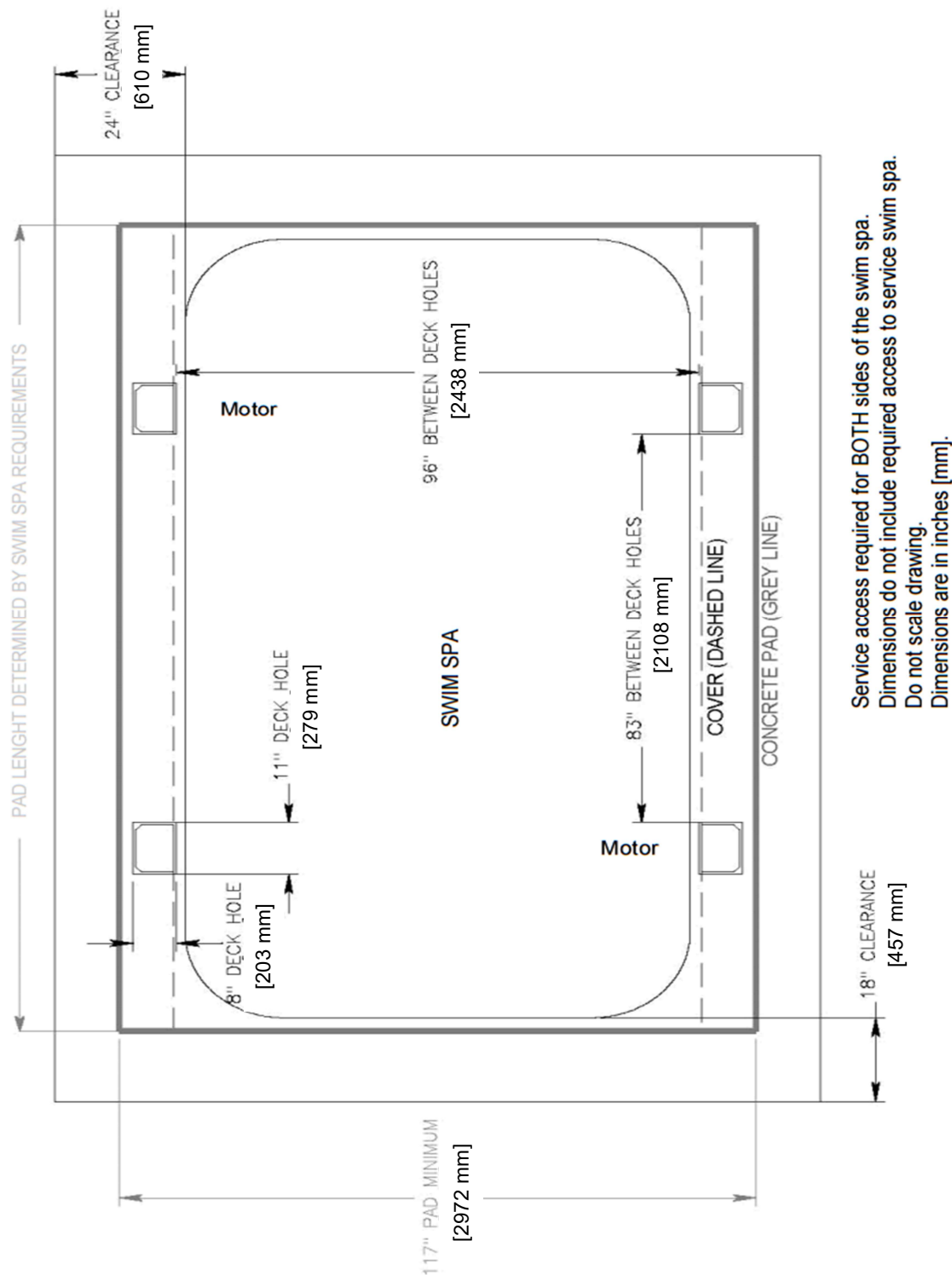


Figure 48

Electrical specifications *(For AC-operated model)*

- ♦ The cover requires a dedicated single-phase 115 VAC (North America) or 220 V AC (Europe) hard-wired power supply.
- ♦ The cover must be installed in accordance with and comply with all applicable local codes and regulations. All wiring and connections should be performed by a qualified electrician.
- ♦ Wires and conduits should be sized according to local codes and regulations.

North American requirements:

Voltage	115 V, 60 Hz (1 hot, 1 neutral, 1 ground)
GFCI	15 A single-pole GFCI <i>(not included)</i>
Continuous current draw	3 A

⚠ WARNING

- ♦ COVANA does not allow any modifications of the electrical system. COVANA reserves the right to void the warranty if any modification is done without its specific approval.

Electrical specifications *(For Battery-operated model)*

Required voltage:	24 V DC System
Required wall outlet:	115 V AC for charger North America (220 V AC European model)
Battery:	24 V DC, 12 Ah, AGM sealed lead-acid battery

⚠ WARNING

- ♦ COVANA does not allow any modifications of the electrical system. COVANA reserves the right to void the warranty if any modification is done without its specific approval.

Operating limitations

WARNING

- ♦ The COVANA cover should never be used if the following conditions are reached.

Maximum wind	Gusts of 25 mph (40 km/h) while in the raised position and 37 mph (60 km/h) when completely lowered onto the swim spa.
Maximum weight on the cover (evenly distributed)	200 lb (90 kg)

* The load specification for the LEGEND cover is a provision for environmental outcomes, typically some snow or damp leaves that could accumulate on the cover.

General specifications

Lifting speed	2.5"/sec (6.35 cm/s)
Total weight	920 lb (417 kg) (20' models)
Stock key switch cable	25 ft (7.6 m)

Battery charging *(For Battery-operated models and Emergency-Battery backup only)*

The COVANA Cover includes two 24 V DC battery packs. Since the COVANA cover operates with these batteries, it is essential to maintain and charge your battery packs

- 1) Use the battery charger provided and plug it in the regular wall power outlet. (110 V North America) (220 V Europe) (Figure 49 below).
- 2) Plug the battery charger harness into the battery.
- 3) A red light should appear to indicate that it is charging.
- 4) Wait for green light to appear to indicate that the charging process has been completed. (Time may vary for charging.)

⚠ WARNING

- ♦ Only use the provided charger to charge the batteries.
- ♦ Do not charge the battery when connected to the COVANA cover. Completely remove the battery and replace it with the provided second battery.

Note:

You can leave the battery connected to the charger since it will stop charging automatically when the battery is fully charged.



Figure 49

(North America shown)

TROUBLESHOOTING

Problem	Probable Causes	Solutions
COVANA cover does not raise or lower. (Silent motor and no movement)	<ul style="list-style-type: none"> ♦ The GFCI is tripped. ♦ The power source is disconnected. ♦ Battery has low power. ♦ Controller is in "lockout" mode. 	<ul style="list-style-type: none"> ♦ Reset the GFCI. ♦ Check if the power source is enabled. ♦ Disconnect the battery for 60 seconds to reset the COVANA controller. ♦ Charge battery. ♦ Check if any electrical cables are damaged or pinched. ♦ Check the breaker panel.
COVANA cover does not raise or lower. (Motor humming and some visible movement)	<ul style="list-style-type: none"> ♦ Posts are frozen. ♦ Cover is obstructed. ♦ Jack assemblies are jammed. ♦ Posts are obstructed. ♦ Power source is disconnected. 	<ul style="list-style-type: none"> ♦ Remove all debris from top of COVANA cover. ♦ Check if any posts are obstructed. ♦ Use methanol to free ice buildup on posts. ♦ Grease the post assemblies. ♦ Check the relative position of the posts. (See <i>Foundation preparation</i> section on installation manual) ♦ If all previous attempts failed, contact your local authorized COVANA dealer.
Posts are not equally positioned.	<ul style="list-style-type: none"> ♦ A drive shaft has fallen off. ♦ Chain skipped during operation. ♦ A spring pin is missing or broken. ♦ Controller does not calculate the height properly. ♦ Excessive weight on one side of COVANA cover. 	<ul style="list-style-type: none"> ♦ Re-install any fallen drive shaft. ♦ Replace any broken chain. ♦ Replace any missing or broken spring pin. ♦ Remove all debris from top of COVANA cover. ♦ If all previous attempts failed, contact your local authorized COVANA dealer.
Middle sleeve has dropped.	<ul style="list-style-type: none"> ♦ The middle sleeve froze on the inner sleeve. ♦ The stopper kit is broken/missing. 	<ul style="list-style-type: none"> ♦ Check the position of the all-weather seal. While cover is closed, it must be sitting on the top of the outer sleeve. ♦ Check whether the stopper kit is broken/missing. ♦ If all previous attempts failed, contact your local authorized COVANA dealer.
Escape hatch doesn't open/close	<ul style="list-style-type: none"> ♦ Mechanism is jammed. ♦ Verify the position of the locking mechanism. 	<ul style="list-style-type: none"> ♦ Refer to the <i>USING THE ESCAPE HATCH</i> section (User manual) ♦ Remove the escape hatch from the underside of the cover and clean it to free the mechanism. ♦ If all previous attempts failed, contact your local authorized COVANA dealer.
Cover raises unevenly	<ul style="list-style-type: none"> ♦ A chain is broken. ♦ A spring pin is broken. ♦ A drive shaft has fallen off. 	<ul style="list-style-type: none"> ♦ Contact your local authorized COVANA dealer for technical support immediately. ♦ Do not operate the COVANA cover.
Cover seal turned black.	<ul style="list-style-type: none"> ♦ Seal has accumulated mold. 	<ul style="list-style-type: none"> ♦ Clean the affected areas with bleach and a soft brush. Rinse well with water.

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See next page)

INSTALLATION CHECKLIST (Customer copy)

To ensure proper installation, you must carefully read this checklist and check that you have completed every step of the installation. The customer must receive a completed copy of this checklist.

(Please check each box when verified)

- ☐ The foundation preparation steps were done correctly. **(Location and foundation preparation sections)**
- ☐ The installation steps were done correctly. **(Uncrating, cover assembly, lifting mechanism and electrical hook-up sections)**
- ☐ The seal was properly installed and there is no steam leaking out around the cover. **(Seal application section)**
- ☐ The wiper brackets are properly installed to ensure the cover is watertight. **(Applying the wiper brackets section)**
- ☐ The key switch is **permanently installed** 5 ft (1.5 m) away from the swim spa and 5 ft (1.5 m) from the ground.
- ☐ All the parts that came with the COVANA cover were installed.
- ☐ The start-up procedure is completed. **(The key sequence responds correctly and Testing the COVANA cover section is performed.)**
- ☐ The all-weather seal functions properly. **(The cover raises and lowers properly.)**
- ☐ The middle sleeves slide freely. **(Manually slide the middle sleeve up and down when the cover is half open.)**

Serial number: _____

Installer's name: _____

Installer's signature: _____

Customer's name: _____

Customer's signature: _____

Customer's address: _____

Date (YYYY/MM/DD): _____

Dealer's name: _____



Contact your authorized COVANA dealer for all service-related issues.

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CANADA 2,532,429
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UK 0515168.3
AUSTRALIA 2006200251

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This image shows a single sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

This image shows a full page of blank, lined paper. It features approximately 28 horizontal black lines spaced evenly across the page, typical of notebook paper. The lines are thin and extend from the left edge to the right edge. There are no margins, text, or other markings on the page.