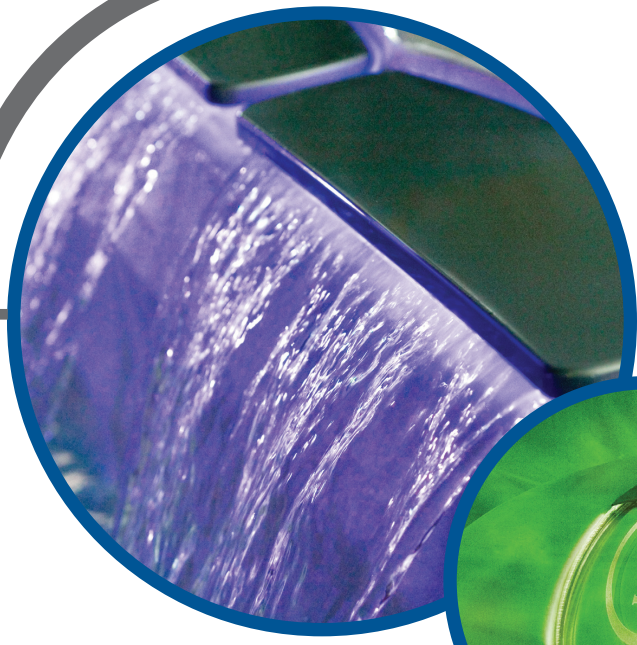
OWNER'S MANUAL

J-400™ Series



J - 460
J - 465
J - 470
J - 480

2530-442U Rev. A

Jacuzzi

Attention New Spa Owner!

Congratulations on the purchase of your new Jacuzzi® spa! The following is a list of automated functions performed by your spa. These functions are listed below in an attempt to suppress any operational concerns you may have during the first 24 hours of ownership! Also listed below are important maintenance recommendations you should observe on a regular basis to protect your new investment.

Automated Spa Operations

Your new spa is equipped with an automated “clean-up” cycle that clears all plumbing lines daily to promote maximum water sanitation. Each day at 12:00 PM (noon), each pump will activate and run for one minute. If either pump has just finished a 20 minute time out, it will not automatically activate for the clean-up cycle. Be aware, the factory programmed clean-up cycle cannot be canceled or altered!

Maintain Healthy Spa Water

Always maintain your spa’s water chemistry within the following parameters as defined by the Association of Pool And Spa Professionals/ USA:

pH	7.4-7.6
Free chlorine	3.0-4.0 ppm
Free bromine	2.0-4.0 ppm
Total Alkalinity	100-120 ppm
Calcium Hardness	150-250 ppm

Always maintain your spa filter as outlined below to ensure healthy spa water. Refer to pages 69-70 (sec. 14.0) for additional information.

Required Filter Maintenance

Your new spa is equipped with an advanced water filtration system that provides unsurpassed water quality! To ensure maximum water quality at all times, you should clean the skimming filter cartridge every three months, or as necessary. See pages 64-66 (sec. 13.0) for detailed filter cartridge cleaning instructions.

Required Water Replacement

You should replace the spa’s water every 3 months. The frequency depends on a number of variables including frequency of use, number of users and attention paid to water quality maintenance. You will know it is time for a change when you cannot control sudsing and/or you can no longer get the normal feel or sparkle to the water, even though the key water balance measurements are all within the proper parameters. See pages 69-70 (sec. 14.0) for additional information.

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1.0 Important Spa Owner Information

Your Jacuzzi® spa is constructed to the highest standards and is capable of providing many years of trouble-free use. However, because heat retentive materials are utilized to insulate the spa for efficient operation, an uncovered spa surface directly exposed to sunlight and high temperatures for an extended period is subject to permanent damage. Damage caused by exposing the spa to this abuse is not covered under warranty. We recommend that you always keep the spa full of water when it is exposed to direct sunlight and that you keep the Jacuzzi insulating cover in place at all times when the spa is not in use. Read and carefully follow the requirements for your spa's support base found in the section 3.0 titled, "Choosing a Location" (page 7).

Jacuzzi® spas constantly strives to offer the finest spas available, therefore, modifications and enhancements may be made which affect the specifications, illustrations and/or instructions contained herein.

FCC Notice

This equipment has been tested and found to comply with the limits for a Class B Digital Device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

1. Rearrange or relocate the receiving antenna;

2. Increase the separation between the equipment and receiver;

3. Connect the equipment into an outlet on a circuit different from the circuit connected;

4. Consult the dealer or an experienced radio/TV technician for help. (Changes or modifications not expressly approved by the party responsible for FCC compliance could void the user's authority to operate this equipment.)

2.0 IMPORTANT SAFETY INSTRUCTIONS

READ AND FOLLOW ALL INSTRUCTIONS CAREFULLY
WHEN INSTALLING AND USING THIS ELECTRICAL EQUIPMENT, BASIC SAFETY PRECAUTIONS SHOULD ALWAYS BE FOLLOWED, INCLUDING:

1. **WARNING:** To reduce the risk of injury, do not permit children to use this product unless they are closely supervised at all times.

2. **WARNING:** A grounding wire connector is provided on this unit to connect a minimum No. 8 AWG (8.4 mm²) solid copper conductor between this unit and any metal equipment, metal enclosures of electrical equipment, metal water pipe, or conduit within 5 feet (1.5m) of the unit.

3. **DANGER:** Risk of Accidental Drowning. Extreme caution must be exercised to prevent unauthorized access by children. To avoid accidents, ensure that children cannot use this spa unless they are supervised at all times.

4. **DANGER:** Risk of Injury. The suction fittings in this spa are sized to match the specific water flow created by the pump. Should the need arise to replace the suction fittings or the pump, be sure that the flow rates are compatible. Never operate the spa if the suction fittings are broken or missing. Never replace a suction fitting with one rated less than the flow rate marked on the original suction fitting.

5. **WARNING:** Risk of Injury. The suction fittings in this spa are sized to match the specific water flow created by the pump. If it is necessary to replace the suction fittings or the pump, be sure that the flow rates are compatible. Because of the risk of injury:
   - Never operate or use the spa if the filter, filter lid, or skimmer assembly are broken or any part of the skimmer assembly is missing. Please contact your dealer or nearest service center for service.
   - Never replace a suction fitting with one rated less than the flow rate marked on the original suction fitting.

6. **DANGER:** Risk of Electric Shock. Install at least 5 feet (1.5m), from all metal surfaces. As an alternative, a spa may be installed within 5 feet of metal surfaces if each metal surface is permanently connected (bonded) by a minimum No. 8 AWG (8.4 mm²) solid copper conductor attached to the wire connector on the grounding lug, inside the equipment compartment on the equipment box.

7. **DANGER:** Risk of Electric Shock. Do not permit any electrical appliances, such as a lights, telephones, radios, televisions, etc. within 5 feet (1.5m) of a spa unless such appliances are built-in by the manufacturer.

8. **ELECTRICAL SUPPLY:** The electrical supply for this product must include a suitably rated switch or circuit breaker to open all ungrounded supply conductors to comply with section 422-20 of the National Electrical Code/USA, ANSI/NFPA 70. The disconnect must be readily accessible and visible to the spa occupant but installed at least 5 feet (1.5m), from the spa water.

9. **WARNING: To Reduce the Risk of Injury:**

10. The water in a spa should never exceed 104 °F (40 °C). Water temperatures between 100 °F (38 °C) and 104 °F (40 °C) are considered safe for a healthy adult. Lower water temperatures are recommended for young children and when spa use exceeds 10 minutes.

11. Since excessive water temperatures have a high potential for causing fetal damage during the early months of pregnancy, pregnant or possibly pregnant women should limit spa water temperatures to 100 °F (38 °C). If pregnant, please consult your physician before using a spa.

12. Before entering the spa, the user should measure the water temperature with an accurate thermometer since the tolerance of water temperature-regulating devices may vary as much as +/- 5°F (2 °C).

13. The use of alcohol, drugs, or medication before or during spa use may lead to unconsciousness with the possibility of drowning.

14. Persons suffering from obesity or a medical history of heart disease, low or high blood pressure, circulatory system problems, diabetes, infectious diseases or immune deficiency syndromes should consult a physician before using a spa. If you experience breathing difficulties in association with using or operating your spa, discontinue use and consult your physician.

15. Persons using medication should consult a physician before using a spa since some medication may induce drowsiness, while other medication may affect heart rate, blood pressure, and circulation.

16. Always shower before and after using your spa. To reduce the possibility of contracting a waterborne illness, always maintain water chemistry within the parameters listed on the inside cover of this manual. If you or other bathers are affected by such a condition, discontinue use and seek medical attention.

IMPORTANT CSA SAFETY INSTRUCTIONS (CANADA ONLY)
When using this electrical equipment, basic safety precautions should always be followed, including the following:

1. **READ AND FOLLOW ALL INSTRUCTIONS.**
2. A green colored terminal or a terminal marked G, Gr, Ground, Grounding or the ⏚ symbol* is located inside the supply terminal box or compartment. To reduce the risk of electric shock, this terminal 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 that supply this equipment.
   *IEC Publication 417, Symbol 5019.
3. At least two lugs marked “Bonding Lugs” are provided on the external surface or on the inside of the supply terminal box/ compartment. To reduce the risk of electric shock, connect the local common bonding grid in the area of the spa to these terminals with an insulated or bare copper conductor not smaller than No. 6 AWG (10 mm²).
4. All field-installed metal components such as rails, ladders, drains or other similar hardware within 10 feet (3m) of the spa shall be bonded to the equipment grounding buss with copper conductors not smaller than No. 6 AWG (10 mm²).
5. **SAVE THESE INSTRUCTIONS.**

WARNING: Children should not use spas without adult supervision.

WARNING: Do not use spas unless all suction guards are installed to prevent body and hair entrapment.

WARNING: People with infectious diseases should not use a spa.

WARNING: To avoid injury, exercise care when entering or exiting the spa.

WARNING: Do not use drugs or alcohol before or during the use of a spa to avoid unconsciousness and possible drowning.

WARNING: Pregnant or possibly pregnant women should consult a physician before using a spa.

WARNING: Water temperature in excess of 40 °C (104 °F) may be injurious to your health.

WARNING: Before entering the spa, measure the water temperature with an accurate thermometer.

WARNING: Do not use a spa immediately following strenuous exercise.

WARNING: Prolonged immersion in a spa may be injurious to your health.

WARNING: Do not permit electric appliances (such as lights, telephones, radios, televisions, etc.) within 5 feet (1.5m) of this spa unless such appliances are built-in by the manufacturer.

CAUTION: Maintain water chemistry in accordance with manufacturer's instructions.

WARNING: The use of alcohol or drugs can greatly increase the risk of fatal hyperthermia in spas.

SAVE THESE INSTRUCTIONS.

HYPERTHERMIA
Prolonged immersion in hot water may induce hyperthermia. A description of the causes, symptoms, and effects of hyperthermia are as follows:

Hyperthermia occurs when the internal temperature of the body reaches a level several degrees above the normal body temperature of 98.6 °F (37 °C). The symptoms of hyperthermia include drowsiness, lethargy, and an increase in the internal temperature of the body. The effects of hyperthermia include:

- Unawareness of impending hazard;
- Failure to perceive heat;
- Failure to recognize the need to exit spa;
- Physical inability to exit spa;
- Fetal damage in pregnant women; and
- Unconsciousness and danger of drowning.

A warning sign is provided in your warranty packet. Please install it at a location near your spa, where it is visible to the user of the spa. For additional or replacement signs please contact your local Jacuzzi spa dealer and reference item number #6530-082.

CAUTIONS

1. Persons suffering from heart disease, diabetes, high or low blood pressure, and any condition requiring medical treatment, pregnant women, the elderly, or infants should consult with a physician before using a spa.

2. The Consumer Products Safety Commission/USA has stated that the water temperature in a spa should not exceed 104 °F (40 °C). Immersion in water in excess of 104 °F (40 °C) can be hazardous to your health.

3. Observe a reasonable time limit when using the spa. Long exposures at higher temperatures can cause high body temperature. Symptoms may include dizziness, nausea, fainting, drowsiness, and reduced awareness. These effects could possibly result in drowning.

4. Do not use the spa under the influence of alcohol, narcotics, or other drugs. Use of the spa under these conditions may lead to serious consequences.

5. Always test the spa water temperature before entering the spa. Enter and exit the spa slowly. Wet surfaces can be very slippery.

6. Never bring any electrical appliances into or near the spa. Never operate any electrical appliances from inside the spa or when you are wet unless such appliances are built-in by the manufacturer.

7. Proper chemical maintenance of spa water is necessary to maintain safe water and prevent possible damage to spa components.

8. Use the straps and clip tie downs to secure the cover when not in use. This will help to discourage unsupervised children from entering the spa and keep the spa cover secure in high-wind conditions. There is no representation that the cover, clip tie-downs, or actual locks will prevent access to the spa.

9. This spa is not intended nor designed to be used in a commercial or public application. The spa buyer shall determine whether there are any code restrictions on the use or installation of this spa since local code requirements vary from one locality to another.

Hot Tub Safety Literature

To ensure you have a safe and enjoyable hot tub experience, learn all you can about hot tub safety and emergency procedures. Especially useful are the brochures listed below.

- Children Aren't Waterproof
- Pool and Spa Emergency Procedures For Infants and Children
- Layers of Protection
- The Sensible Way to Enjoy Your Spa or Hot Tub

The Association of Pool and Spa Professionals publishes these brochures. You can acquire a brochure in one of the ways in the list below.

- Ask your hot tub dealer (they may have copies)
- Go to http://apsp.org
- Conduct your own search on the internet
- Write to the following address:
  The Association of Pool and Spa Professionals
  2111 Eisenhower Avenue
  703.838.0083

3.0 Choosing a Location

IMPORTANT: Because of the combined weight of the spa, water and users, it is extremely important that the base upon which the spa rests be smooth, flat, level and capable of uniformly supporting this weight, without shifting or settling, for the entire time the spa is in place. If the spa is placed on a surface which does not meet these requirements, damage to the skirt and/or the spa shell may result. Damage caused by improper support is not covered under warranty. It is the responsibility of the spa owner to assure the integrity of the support at all times. We recommend a poured, reinforced concrete slab with a minimum thickness of 4 inches (10 cm). Wood decking is also acceptable provided it is constructed so that it meets the requirements outlined above.

The spa must be installed in such a manner as to provide drainage away from it. Placing the spa in a depression without provisions for proper drainage could allow rain, overflow and other casual water to flood the equipment and create a wet condition in which it would sit in. For spas

which will be recessed into a floor or deck, install so as to permit access to the equipment, either from above or below, for servicing. Make certain that there are no obstructions which would prevent removal of all side cabinet side panels and access to the jet components, especially on the side with the equipment bay.

3.1 Outdoor Location

In selecting the ideal outdoor location for your spa, we suggest that you take into consideration:

- The proximity to changing area and shelter (especially in colder weather).
- The pathway to and from your spa (this should be free of debris so that dirt and leaves are not easily tracked into the spa).
- The closeness to trees and shrubbery (remember that leaves and birds could create extra work in keeping the spa clean).
- A sheltered environment (less wind and weather exposure can result in lowered operation and maintenance costs).
- The overall enhancement of your environment. It is preferable not to place the spa under an unguttered roof overhang since run-off water will shorten the life expectancy of the spa cover.

3.2 Indoor Location

For indoor installations many factors need to be considered before installing a spa indoors.

- **Proper Foundation:** Consult a Structural Engineer when considering a foundation that will adequately support the spa the entire time it is in place. Proper support is critical especially if the spa is to rest on a second story or higher. For spas that are to rest on balconies, roofs or other platforms not specifically tied into the main structural support, you should consult a professional Structural Engineer with experience in this type of application.
- **Proper Drainage:** It is extremely important to have in place measures to sufficiently handle excessive water spillage. Be sure the flooring in which the spa rests on has adequate drainage and can handle the entire contents of the spa. Be sure to make provisions for ceilings and other structures that may be below the spas installation. Areas around your spa can become wet or moist so all flooring and subsequent furniture, walls and adjacent structures should be able to withstand or resist water and moisture.
- **Proper Ventilation:** Proper ventilation should be discussed with an Engineer or authority competent enough to understand the necessary provisions needed to vent moist or heated air and air associated with chemical odors outdoors. When the spa is in

use considerable amounts of moisture will escape, potentially causing mold and mildew over time which can damage certain surfaces and/or surroundings.

- **Sufficient Access:** In the unlikely event that you should ever need to access or gain entry to any portion of the spa for servicing, it is highly recommended that you plan your indoor installation to provide full access to the entire spa.
- **Warranty:** Damage caused by not following these guidelines or any improper installation not in accordance to local codes or authorities is not covered under the spas warranty. Please consult your local state or city building ordinances.

WARNING: In addition to maintenance of filters and water chemistry, proper ventilation is recommended to reduce the risk of exposure to viruses and bacteria that could be present in the air or water. Consult a licensed architect or building contractor to determine your specific needs if installing your spa indoors.

4.0 General Electrical Safety Instructions

Your new Jacuzzi® spa is equipped with the J-1000™ system. It contains the most advanced safety and self-protective equipment in the industry. Nonetheless, this spa must be installed properly to ensure dependable usage. Please contact your local Jacuzzi dealer or local building department should you have any questions regarding your installation. Proper grounding is extremely important. Jacuzzi spas are equipped with a current collector system. A pressure wire connector is provided on the surface of the control box, located inside the equipment door (Figure-B, page 12) to permit connection of a bonding wire between this point and any ground metal equipment, metal water pipe or conduit within 5 feet (1.5m) of the spa, or copper clad grounding rod buried within 5 feet (1.5m) of the spa. Bonding wire must be at least No. 8 AWG (8.4 mm²) solid copper wire. This is a most important safety assurance feature.

Before installing your spa, check with your local building department to ensure installation conforms to local building codes.

5.0 Electrical Installation Instructions (240V Service)

IMPORTANT NOTICE: The electrical wiring of this spa must meet the requirements of the National Electrical Code/USA (NEC) and any applicable state or local codes. The electrical circuit must be installed by a qualified electrician and approved by a local building/electrical inspection authority.

1. This spa must be permanently connected (hard-wired) to the power supply. **No plug-in connections or extension cords are to be used in conjunction with the operation of this spa.** Supplying power to the spa which is not in accordance with these instructions will void both the independent testing agency listing and the manufacturer's warranty.

2. The power supplied to this spa must be a dedicated circuit with no other appliances or lights sharing the power provided by the circuit.

3. To determine the current, voltage and wire size required, refer to section 6.0 "Power Requirements" (page 14) for your specific spa model.
   - Wire size must be appropriate per NEC and/or local codes.
   - We recommend type THHN wire.
   - All wiring must be copper to ensure proper connections. **Do not use aluminum wire.**
   - When using wire larger than #6 (10 mm²), add a junction box near the spa and reduce to short lengths of #8 (8.4 mm²) wire to connect to the spa.

4. The electrical supply for this product must include a suitably rated switch or circuit breaker to open all ungrounded supply conductors to comply with Section 422-20 of the National Electrical Code/USA, ANSI/NFPA 70. The disconnecting means must be readily accessible to the spa's occupant but installed at least 5 feet (1.5m) from spa water.

5. The electrical circuit supplied for the spa must include a suitable ground fault circuit interrupter (GFCI) as required by NEC Article 680-42/USA.

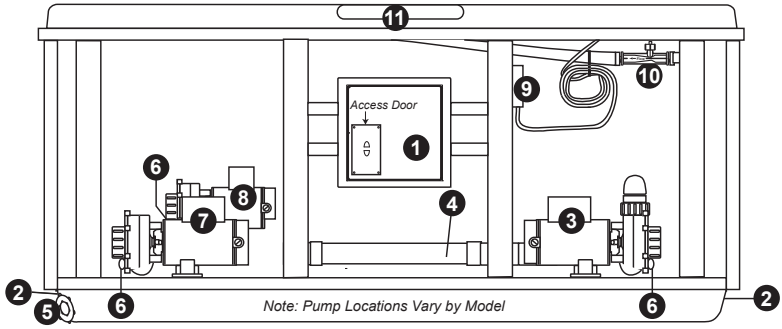
6. To gain access to the spa's power terminal block, remove the screws securing the cabinet panel on the side of the spa under the controls. Then remove the four door screws for the small access door on the control box (Figure A).

7. Select the power supply entrance you want to use (Figure A) and remove the short cabinet panel from the front of the spa. Then, feed the cable through the large opening provided in the bottom of the control box.

8. Connect wires to the Green terminal block (Figure B-E, pages 12-13). ALL WIRES MUST BE SECURELY CONNECTED or equipment damage could result!

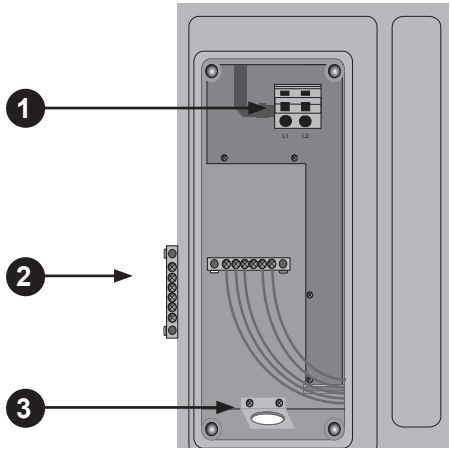
9. Install control access box door and reinstall the cabinet side panels.

Figure A
Equipment Area



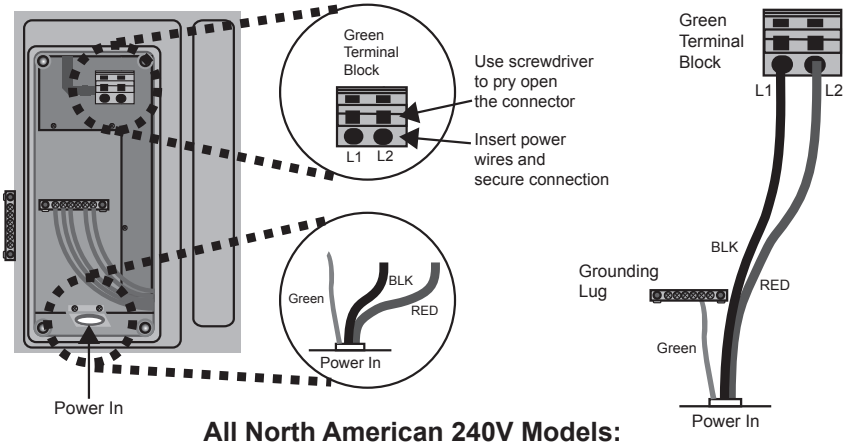
1. J-1000™ Control Box
2. Power Supply Entrance(s)
3. Jet Pump #1
4. Heater
5. Spa Drain Valve
6. Pump Drain Plugs(s)
7. Jets Pump #2
8. Filter/Circulation Pump
9. Optional CD Ozonator (Purchase Separately)
10. Factory Installed Ozone Injector
11. Control Panel

Figure B
Terminal



1. Green Terminal Block
2. Bonding Lug/Grounding Terminal
3. Power wires Entrance

Figure C
Terminal Connection
(North American 240VAC Connection Shown)



All North American 240V Models:
240 VAC, 3-Wire Connection 60 Hz

Note: All Export 230V Models: 230 VAC, 3-Wire Connection 50 Hz (Wire colors may vary)

Figure D

1. Obtain a flat head screwdriver.
2. Place it flush against the middle slot of the terminal block (diagram 1), at almost a 90º angle.

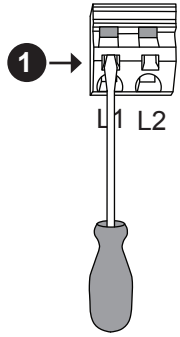
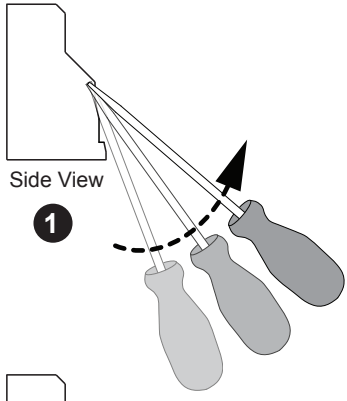
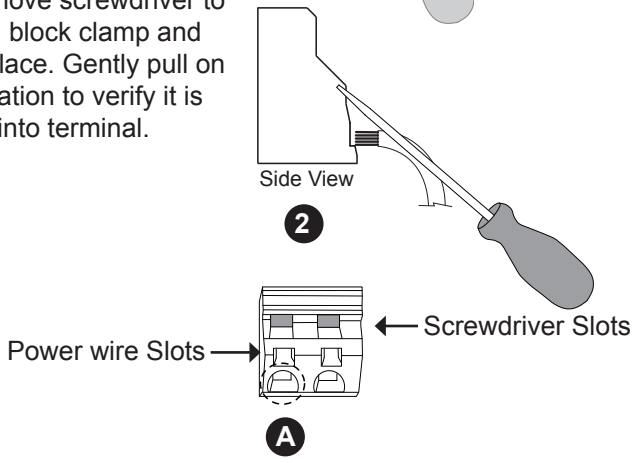


Figure E

1. Lightly press inward and upward on screwdriver blade, then pivot upward to open underlying wire clamp. Hold this position for step 2.



2. Insert power wire into slot A as shown, then remove screwdriver to release terminal block clamp and secure wire in place. Gently pull on wire after installation to verify it is clamped tightly into terminal.



6.0 Power Requirements

Jacuzzi® spas are designed to provide optimum performance and flexibility of use when connected to their maximum electrical service. They are configured at the factory. The most common electrical connections are listed below:

- All North American 60 Hz Models: 240VAC/50A**
- All Export 50 Hz Models: 240VAC/30A**

If you prefer, your qualified technician can perform a minor circuit board modification that allows the spas to operate on a different electrical service (see table footnotes below).

North American J-460/J-465/J-470/J-480 Models (60 Hz)			
Voltage:	240VAC	240VAC	240VAC
Max. Current Draw:	23A	36A	45A
Frequency:	60 Hz	60 Hz	60 Hz
Number of Wires:	3	3	3
Circuit Breaker (2-Pole):	30A*	50A**	60A***

* In 30A configuration, the heater **will not operate** while either jets pump is running.
** In 50A configuration, the heater **will not operate** while both jets pumps are running. ***This is the factory setting.***
*** In 60A configuration the heater **will operate** while both jets pumps are running.

Export J-460/J-465/J-470/J-480 Models (50 Hz)			
Voltage:	240VAC	240VAC	240VAC
Max. Current Draw:	16A	21A	29A
Frequency:	50 Hz	50 Hz	50 Hz
Number of Wires:	3	3	3
Circuit Breaker (2-Pole):	20A*	30A**	40A***

* In 20A configuration, the heater **will not operate** while either jets pump is running.
** In 30A configuration, the heater **will not operate** while both jets pumps are running. ***This is the factory setting.***
*** In 40A configuration the heater **will operate** while both jets pumps are running.