Coleman® Spas™

Now you can relax.™

Canyon Ridge™ Series

Owner's Manual

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IMPORTANT SAFETY INSTRUCTIONS

Caution: Risk of electrical shock.
Read and follow all instructions.

When installing and using this electrical equipment, basic safety precautions should always be followed, including the following:

1. **READ AND FOLLOW ALL INSTRUCTIONS.**
2. Warning: To reduce the risk of injury, do not permit children to use this product unless they are closely supervised at all times.
3. A 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 (1.5 m) of the unit.
4. (For cord-connected/convertible units)
   Danger: Risk of Injury.
   a) Replace damaged cord immediately.
   b) Do not bury cord.
   c) Connect to a grounded, grounding type receptacle only.
   d) Never connect unit to a power supply with a load controller.
5. **110 V Cord and plug connected units:**
   Connect only to a grounded, grounding type receptacle. Currently, no Canyon Ridge spas are cord connected. This is for reference only.
   Do not bury the cord.
   Warning: To reduce the risk of electric shock, replace damaged cord immediately.
   Your spa is equipped with a ground fault circuit interrupter (G.F.C.I.) on the end of the power supply cord. Before each use, with the plug connected to the power supply and the unit operating, push the "Test" button. The unit should stop operating and the "Reset" button should appear. Reset the G.F.C.I. by pushing the "Reset" button. The spa should now operate normally. If the interrupter does not perform in this manner, a ground current is flowing indicating the possibility of electric shock. Disconnect the plug from the receptacle until the fault has been identified and corrected.
6. **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.
7. **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 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.
8. **Danger:** Risk of Electrical Shock. Install at least 5 feet (1.5 m) 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 by a minimum No. 8 AWG (8.4 mm^2) solid copper conductor attached to the wire connector on the terminal box that is provided for this purpose.
9. **Danger:** Risk of Electric Shock. Do not permit any electric appliance, such as a light, telephone, radio, or television, within 5 feet (1.5 m) of a spa.
   A licensed electrician should make the final electrical connections.
   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 ANSI/NFPA 70-1987. This disconnecting means must be readily accessible for operation but installed at least 5 feet (1.5 meters) from the spa as required to comply with local code requirements.
   Install to provide drainage of compartment for electrical components.

10. **Warning:** To reduce the risk of injury:
    a) The water in a spa should never exceed 40°C (104°F). Water temperatures between 38°C (100°F) and 40°C are considered safe for a healthy adult. Lower water temperatures are recommended for young children and when spa use exceeds 10 minutes.
    b) 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 38°C (100°F).
    c) Before entering a spa, the user should measure the water temperature with an accurate thermometer since the tolerance of water temperature-regulating devices varies.
    d) The use of alcohol, drugs, or medication before or during spa use may lead to unconsciousness with the possibility of drowning.
    e) Persons suffering from obesity or with a medical history of heart disease, low or high blood pressure, circulatory system problems, or diabetes should consult a physician before using a spa.
    f) 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.

11. **SAVE THESE INSTRUCTIONS.**

Do's and Don'ts

Do

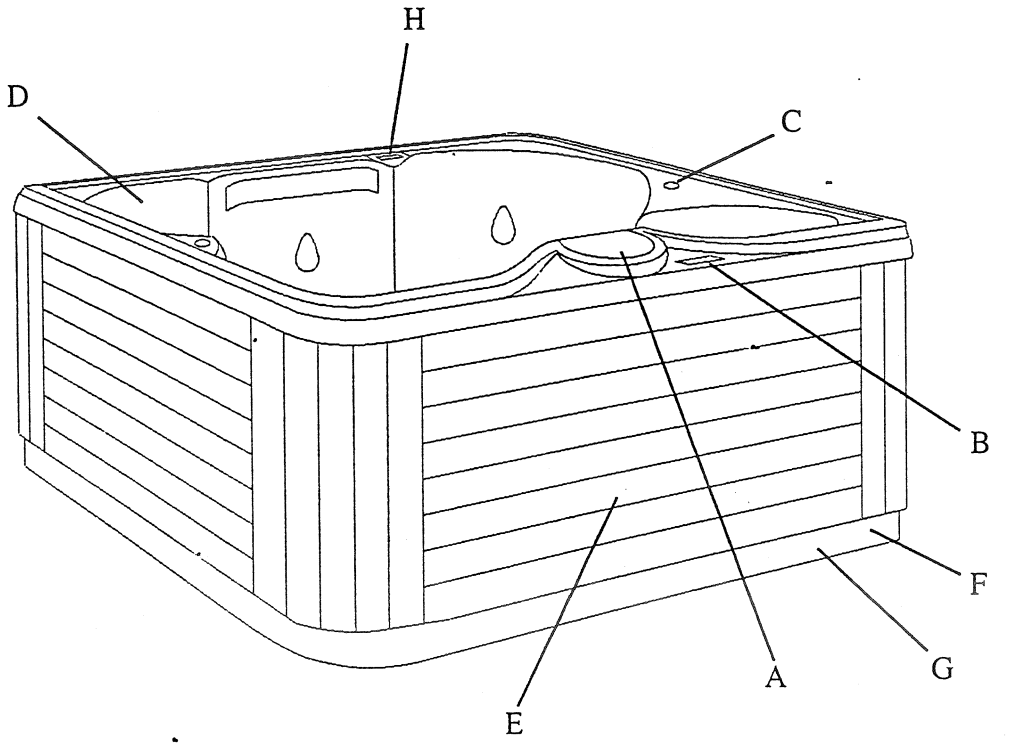
- Replace your cover immediately after use.
- Be aware of the dangers of a wet and slippery surface. Use caution when entering and exiting your spa.
- Have a licensed electrician make all final electrical connections.
- Keep your water chemistry correctly balanced. Untreated spa water will cause problems with your spa and equipment as well as being a health risk.
- Clean your filter monthly.
- Leave access to the equipment area when installing your spa.
- Use a bathing cap with long hair.

Don't:

- Use the spa at 104°F for long periods of time. Do refer to information on hyperthermia below.
- Use an extension cord to power your spa.
- Allow anyone to stand on the spa cover. It is not designed to support weight.
- Power the spa unless it is filled with water to the water level mark on the Weir door.
- Operate the pump for extended periods of time with the cover in place. Extended operation can cause heat build-up and interfere with spa operation.

Hyperthermia

The causes, symptoms, and effects of hyperthermia may be described 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. The symptoms of hyperthermia include an increase in the internal temperature of the body, dizziness, lethargy, drowsiness, and fainting. The effects of hyperthermia include (1) failure to perceive heat, (2) failure to recognize the need to exit spa or hot tub, (3) unawareness of impending hazard, (4) fetal damage in pregnant women, (5) physical inability to exit the spa or hot tub, and (6) unconsciousness resulting in the danger of drowning.
Warning: The use of alcohol, drugs, or medication can greatly increase the risk of fatal hyperthermia.



Canyon Ridge Series

Spa System Components

A. **Filter Skimmer/Weir Door:** Removes floating debris from the water surface, provides a water return path to equipment, and houses water filter element.

B. **Topside Control Panel:** Used to control temperature setting, pump for jets and light.

C. **Air Controls:** Increases or decreases air entering the jets. Close during heating for maximum efficiency.

D. **Coleman Spas Diverta Jet:** Used to direct the flow from the whirlpool jet to the open seating area jets in the spa. (model 303 only)

E. **Equipment Pack Service Panel (no user serviceable parts):** Spa support system consisting of 2-speed pump or pumps, heater, and associated electrical controls (not shown).

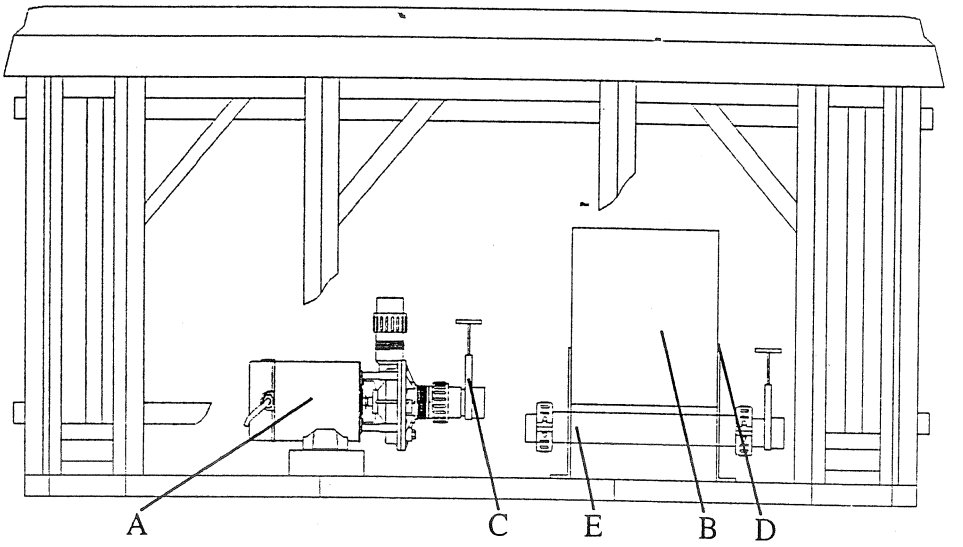
F. **Drain Access (to the right of equipment service panel):** Spa drain faucets.

G. **Manufacturer's Identification Label:** Contains identification information for warranty service.

H. **Auxillary Control:** Used to control the jets from the therapy seat (model 303 only).

Spa Components

Reference only. Equipment is not always as shown.



Note: No consumer serviceable parts.

A. **Pumps:** One on the models 301 and 302 models, two on model 303. Low speed for efficient water circulation during filtration and heating; high speed for maximum action of the jets. The pump functions are activated by topside controls.

B. **Warning and Installation Label:** Contains important safety information and installation instructions.

C. **Slice Valve:** Used to shut off water flow from the spa to the equipment while servicing. It should be open during normal operations.

D. **Electrical Connections:** The electrical plugs for the unit connect here. All existing connections should be intact.

E. **Heater Assembly:** Thermostatically controlled and equipped with an overheat safety shut-off.

Spa Installation

Danger: Risk of electrical shock. Install at least 5 feet from all metal surfaces.

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, ANSI/NFPA70-1987. The disconnecting means must be readily accessible but installed at least 5 feet (1.5 meters) from the spa water.

Site and Positioning

Locate the spa on solid, level foundation or flooring. Keep in mind the weight of the filled spa (in excess of 4,000 lbs. on some models). If you have any doubts about the load bearing ability of your chosen site, contact an architect, your building department or a building contractor. The entire perimeter of the spa cabinet and the spa bottom must be evenly supported.

If your spa is installed outdoors, we recommend that you provide a concrete pad for the spa to rest on (8ft.x8ft.x4" level pad). Failure to provide a level surface could structurally damage your spa and will void the warranty.

Installation must provide for drainage for the electrical compartment. The spa must be installed to allow access for service and maintenance and therefore, below grade level installation is not recommended.

Outdoor Installation

Keep the following additional factors in mind when installing your spa outdoors:

1. Local codes pertaining to fencing.
2. Local electrical and plumbing codes.
3. View from your house.
4. Wind direction.
5. Exposure to sunlight.
6. Location in regard to trees(falling leaves and shade).
7. Dressing and bathroom location.
8. Storage area for maintenance equipment and chemicals.
9. Location to facilitate adult supervision.
10. Landscaping and nighttime lighting.
11. Access to equipment cabinet panels.
12. Power supply location and foot traffic.

Indoor Installation

Keep the following additional factors in mind when installing your spa indoors:

1. Indoor spas promote high humidity, so a means of decreasing this humidity must be provided. This can be accomplished by using either ventilation fans or oversized de-humidifiers. Consult your dealer.
2. Floor drains should be provided to drain off water splashed from the spa which may cause walking hazards and /or water damage.
3. Floor area should be flat and non-skid.
4. Walls, ceilings, woodwork should be of materials capable of withstanding high humidity(redwood, cedar).
5. Be sure floor load bearing capacities are adequate to support the concentrated spa weight.
6. Spas should be double checked for leaks before installing to avoid possible water damage.
7. Indoor sunrooms are capable of maintaining high ambient temperatures which may effect the spa water temperature. It is not recommended that you operate your filter cycles for longer than 6 hours under these conditions.

Electrical Information

Caution: Risk of electrical shock. Read and follow all instructions.

Ground-Fault Circuit-Interrupter

A qualified licensed electrician shall connect the spa to a circuit protected by a GFCI. This is a requirement by the National Electric Code, ANSI/NFPA 70 and is also in compliance with Underwriter's Laboratories, INC.

Important Safety Instructions

Prior to performing any service to the spa equipment, turn off all primary electrical power at the main circuit breaker or disconnect panel. All field electrical connections can be made by removing the front panel of the electrical control box. To gain access to the control box you must remove the equipment access panel.

All electrical connections to this spa package must be accomplished by a qualified licensed electrician in accordance with the National Electrical Code and in accordance with local electrical codes in effect at the time of installation.

All connections should be made in accordance with the wiring diagram in the control box.

This equipment is designed to operate on 60Hz alternating current only, at a voltage of 120 or 240 volts as required.

Connections should be made using copper conductors only. The connecting wire and circuit breakers or fuses must all be sized to accommodate the Total Ampere load as specified on the equipment label.

ALL UNIONS MUST BE HAND-TIGHT AND ALL SLICE VALVES MUST BE IN THE "OPEN" POSITION BEFORE FILLING THE SPA!

Installation Options

Canyon Ridge Series - Model 302 / 303

240 Volt Installation (only)

Electrical Requirements:

- 240 Volts, 60Hz, Single Phase, 50 amp. GFCI, 3 wire service, including ground.

Units to be operated at 240 volts must have all electrical connections made by a qualified electrician in accordance with the National Electric Code and in accordance with all local electrical codes in effect at the time of installation.

Do not run conduit through the vent holes below the side panel. A hole can be drilled in the pedestal or base of the unit to bring the conduit to the equipment compartment.

Coleman recommends using copper line for all electrical connections.

Coleman spas installed for 240 volt operation require a 3 wire, 50 amp., 240 volt subfeed in non-metallic pipe to the spa equipment compartment (line 1, line 2, and ground). Refer to wiring diagrams on page 26. A green colored terminal (or wire connector marked "G", "GR", "Grounding") is provided in the control box. To reduce the risk of electrical shock, connect this terminal or connector to the grounding terminal of your electrical service or supply panel with a continuous green insulated copper wire equivalent to the circuit conductor supplying this equipment, but no smaller than No. 12 AWG. In addition, a second pressure wire connector is provided on the surface of the control box for bonding to local ground points. To reduce the risk of electrical shock, this connector should be bonded with a No. 8 AWG copper wire to any metal ladders, water pipes, or any metal within 5 feet of the spa.

Canyon Ridge Series - Models 301

The model 301 is convertible to either 120 volt or 240 volt electrical service.

120 Volt Installation

Permanently Connected

Electrical Requirements:

- 120 Volts, 60Hz, Single Phase, 30 amp., 3 wire service, including ground.
- Canyon Ridge spas installed for 120 volt operation require a 3 wire, 30 amp., 120 volt subfeed in non-metallic pipe to the spa equipment compartment (line 1, neutral, and ground). Refer to wiring diagram on page 27. A green colored terminal (or wire connector marked "G", "GR", "Grounding") is provided in the control box. To reduce the risk of electrical shock, connect this terminal or connector to the grounding terminal of your electrical service or supply panel with a continuous green insulated copper wire equivalent to the circuit conductor supplying this equipment, but no smaller than No. 12 AWG. In addition, a second pressure wire connector is provided on the surface of the control box for bonding to local ground points. To reduce the risk of electrical shock, this connector should be bonded with a No. 8 AWG copper wire to any metal ladders, water pipes, or any metal within 5 feet of the spa.

240 Volt Installation

Electrical Requirement:

- 240 Volts, 60Hz, Single Phase, 50 amp., 4 wire service, including ground.

Units to be operated at 240 volts must have all electrical connections made by a qualified electrician in accordance with the national electric code and in accordance with all local electrical codes in effect at the time of installation.

A hole can be drilled in the pedestal or base of the unit to bring the conduit to the equipment compartment.

Canyon Ridge spas installed for 240 Volt operation require a 4 wire, 50 amp., 240 volt subfeed in non-metallic pipe to the spa equipment compartment (line 1, line 2, neutral and ground). Refer to wiring diagram on page 27. A green colored terminal (or a wire connector marked "G", "GR", "Ground", or "Grounding") is provided in the control box. To reduce the risk of electrical shock, connect this terminal or connector to the grounding terminal of your electrical service or supply panel with a continuous green insulated copper wire equivalent to the circuit conductor supplying this equipment, but no smaller than No. 12 AWG. In addition, a second pressure wire connector is provided on the surface of the control box for bonding to local ground points. To reduce the risk of electrical shock, this connector should be bonded with a No. 8 AWG copper wire to any metal ladders, water pipes, or any metal within 5 feet of the tub.

Start Up Procedures

Follow recommendations for site location and electrical connection. The water line on the weir door(see skimmer, page 4) is the level at which

Note: Never operate the spa when the water level is below water level mark on weir door. It can damage the pumps and heater and is potentially dangerous.

the water should be maintained.

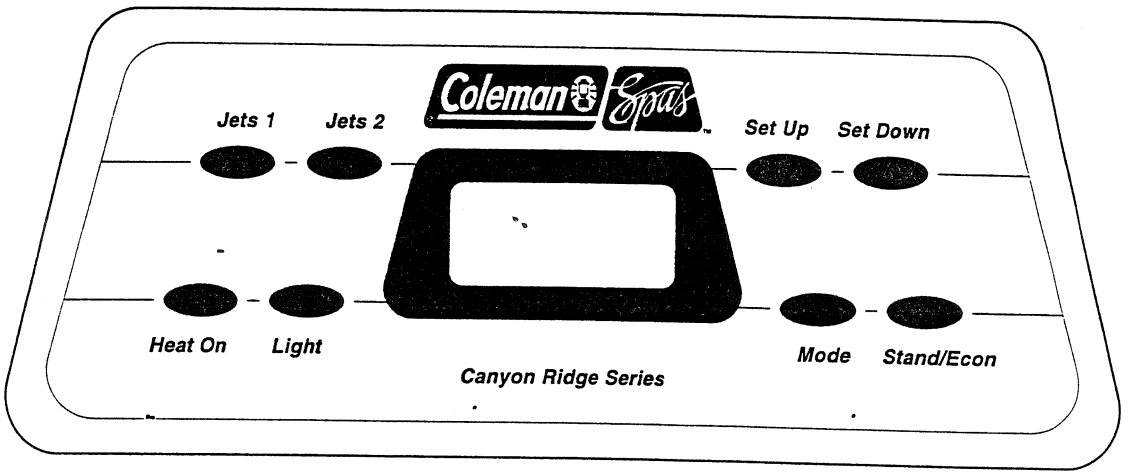
1. Fill the spa through the filter hole to the water line on the weir door with tap water. Never use "softened" water in your spa.
2. Turn power on to unit at circuit breaker or disconnect.
3. Open the air controls and press the Jets button twice. Water should come from the therapy jets. If water flow is not established, turn off jets and see Priming, page 20.

Important: Do not operate the spa without full water flow.

4. Add chemicals. See Chemical treatment and Water Maintenance section (page 17).

Follow Operating Instructions for your particular model and set the spa to heat to the desired temperature. Initially you may find that the spa requires 12 to 14 hours on 240 Volt installations to reach temperature or up to 18 hours on 120 installations. Keep your thermal cover on the unit and close the air controls to help the heating process.

Operating Instructions



Powerworks Canyon Ridge Series Control System - Model 303

The Canyon Ridge Powerworks Control offers you the ultimate in spa control. The backlit, Liquid Crystal Display (LCD) displays current temperature and time of day. Each feature is actuated through the control panel pad. Simply touch the appropriate button to activate desired function.

At start up, when power is supplied to spa, the factory pre-set is Economy Mode, 100 °F., and filter between 12 AM-3 AM and 12 PM-3 PM.

User's Pads

Mode Pad

Switches the spa from economy to standard mode and vice-versa. This pad is also used for the time feature and other programming features covered later in this section. The mode pad also resets the control in the rare instance of an overheat.

Mode

Set Up Temperature

The set temperature may easily be increased or decreased at any time. Both the current and set temperature will be displayed on the Liquid Crystal Display (LCD). The set temperature is differentiated by an arrowhead next to the number on the display. When the heater is operating, the

Set Down

"HEAT ON" LED will light up.

Heat On

Jets 1 Jets 1

The sequence of jet action is:
1–Low whirlpool jets
2–High whirlpool jets
3–Off

Jets 2 Jets 2

The sequence of jet action is:
1–Low therapy jets
2–High therapy jets
3–Off

The low speed whirlpool is timed to automatically turn off after four hours of operation. The high speed whirlpool and therapy jets are timed to turn off automatically after thirty minutes of operation.

Note: The low speed whirlpool jets will be automatically activated whenever the spa calls for filtration or heat. Whenever this automatic activation occurs, the low speed whirlpool jets cannot be turned off; however, the other jet functions may be activated.

Light

Light

The spa light may be turned on or off by touching the "LIGHT" pad. The spa light will automatically turn off after 60 minutes of use.

Mode

Standard/Economy Mode

The spa may be switched from Standard to Economy mode and vice versa by touching the "MODE" pad twice. In the Standard mode the heater will come on as necessary to maintain 100 or the set temperature at all times. In the Economy mode, the heater will only operate during the filter cycles. The selected mode will be indicated by the lighted LED on the topside control.The RED LED indicates Standard mode. The YELLOW LED indicates Economy mode.

Stand/Econ

Time and Filtration Cycles

This control has been specifically designed so that by simply connecting the spa to its properly grounded source and touching the mode pad, the spa will function properly and safely at 100°F. In this mode, all user pads will be completely functional. However, to fully utilize the unique capabilities of this control, it is important to set the time of day properly.

Setting The Time

Touch 

Mode

Set Up ***Set Down***

Then  **or** 

After either pad is touched once, time will advance or decrease in one minute increments. Press either pad again to stop the display's time setting cycle.

Touch  To exit "Set Time" procedure.

Mode

Viewing the Time

To view the time of day:

Touch 

Mode

The display will revert back to the temperature within 5 seconds.

Inversion Feature

This feature allows the user to invert the LCD display for easy viewing while in the spa. To invert the LCD display:

Set Up ***Set Down***

Touch  **or** 

Jets 1

Then 

Preset Filter Cycles

Now that the time has been set correctly, your spa will automatically filter itself for a 3-hour period every 12 hours.

The first filter cycle is automatically activated at 12:00 a.m. and operates the low-speed pump until 3:00 a.m. The heater will operate in the economy mode.

The second filter cycle is automatically activated at 12:00 p.m. and operates the low-speed pump until 3:00 p.m. Again, the heater will operate in the economy mode.

Changing Filter Cycles

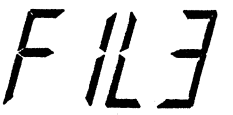
Adjust the filter cycle duration to the desired time (3, 4, 5 or 6 hours) by using the following procedure:

Touch ***Set Up*** ***Set Down***

 **or** 

Then **The center display will read:**

Mode



Adjust the cycle duration by pushing the set up or set down pad. Each press of the pad will display which filtration cycle you have chosen:

FIL 3	3 Hours
FIL 4	4 Hours
FIL 5	5 Hours
FIL 6	6 Hours

The change will begin immediately if the spa is in a filtration cycle or starting with the next filtration period, if it is changed outside of a filtration cycle.

To exit the filter-set procedure:

Touch 

Mode

and the LCD will display the current set temperature.

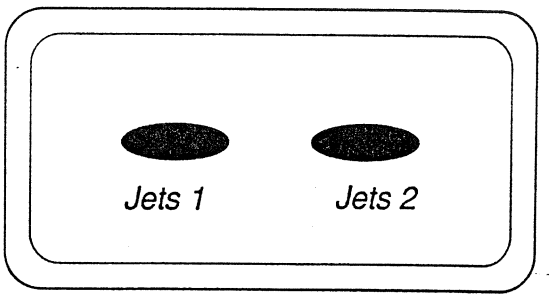
Clean Up Cycle

After periods of heavy use, turn the jets on to "low whirlpool" for a four-hour Clean Up Cycle.

Ozone Operation

Spas equipped with the Coleman Powerworks® Ozonator will produce ozone whenever the spa is in a timed filtration cycle. Activation of the low whirlpool jets via the "jets" pad will initiate filtration, but not ozone production. Activation of other functions during timed filtration cycles will stop ozone production for thirty minutes from the time a pad was last touched.

Remote Panel



The remote panel controls the two jet pumps from the therapy seat. Touch each pad to control the pumps in the following sequence:

Jets 1

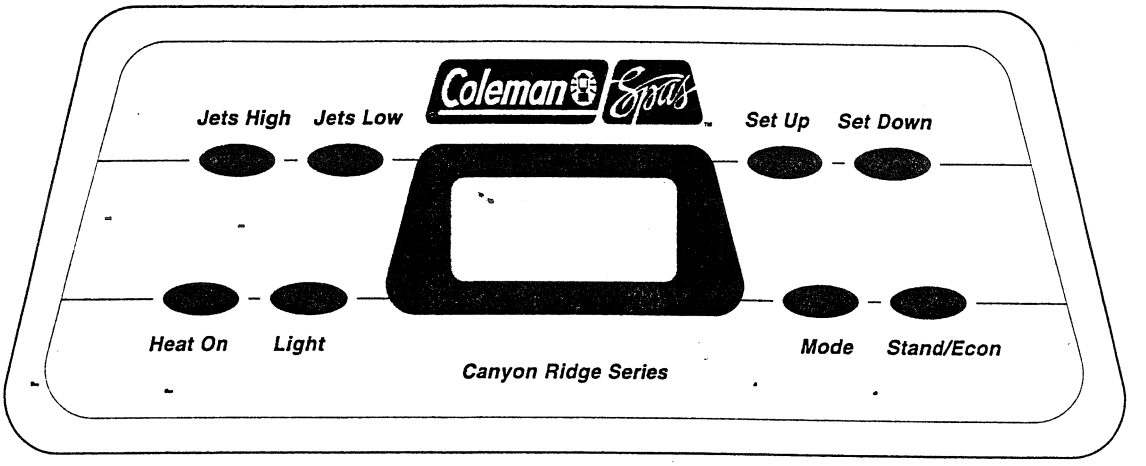
This pad controls the jet action in the following sequence:
1–Low whirlpool
2–High whirlpool
3–Off

Jets 2

This pad controls the jet action as follows:
1–Low therapy jets
2–High therapy jets
3–Off

Check your water temperature before you enter the spa

Operating Instructions



Powerworks Canyon Ridge Series Control System - Models 301/302

The Canyon Ridge Powerworks Control offers you the ultimate in spa control. The backlit, Liquid Crystal Display (LCD) displays current temperature and time of day. Each feature is actuated through the control panel pad. Simply touch the appropriate button to activate desired function.

At start up, when power is supplied to spa, the factory pre-set is Economy Mode, 100 °F, and filter between 12 AM-3 AM and 12 PM-3 PM.

User's Pads

Mode

Mode Pad

Switches the spa from economy to standard mode and vice-versa. This pad is also used for the time feature and other programming features covered later in this section. The mode pad also resets the control in the rare instance of an overheat.

Set Up

Set Down

Temperature

The set temperature may easily be increased or decreased at any time. Both the current and set temperature will be displayed on the Liquid Crystal Display (LCD). The set temperature is differentiated by an arrowhead next to the number on the display.

Heat On

When the heater is operating, the "HEAT ON" LED will light up.

Note: Models 301/302 spas that are wired 120/30 amp will not heat when the high pump is on.

Jets High

Jets Low

Jets

Both the low-speed and high-speed pump may be activated by touching the "JETS" pad. The low speed jets are timed to go off automatically after 4 hours. The high speed jets will go off automatically after 30 minutes. Touch the pad to reactivate.

Note: The low-speed pump will operate automatically whenever the heater is on, when a filter cycle is activated or when a freezing condition is detected. When this automatic activation occurs, the low-speed pump cannot be deactivated by the "JETS" pad; however, the high-speed pump may be started.

Light

Light

The spa light may be turned on or off by touching the "LIGHT" pad. The spa light will automatically turn off after 60 minutes of use.

Mode

Standard/Economy Mode

The spa may be switched from

Standard to Economy mode and vice versa by touching the "MODE" pad twice. In the Standard mode the heater will come on as necessary to maintain 100 or the set temperature at all times. In the Economy mode, the heater will only operate during the filter cycles. The selected mode will be indicated by the lighted LED on the topside control. The RED LED indicates Standard mode. The YELLOW LED indicates Economy mode.

Stand/Econ

Time and Filtration Cycles

This control has been specifically designed so that by simply connecting the spa to its properly grounded source and touching the mode pad, the spa will function properly and safely at 100°F. In this mode, all user pads will be completely functional. However, to fully utilize the unique capabilities of this control, it is important to set the time of day properly.

Setting The Time

Touch

Mode

Then ***Set Up*** **or** ***Set Down***

After either pad is touched once, time will advance or decrease in one minute increments. Press either pad again to stop the display's time setting cycle.

Touch

To exit "Set Time" procedure.

Mode

Viewing the Time

To view the time of day:

Touch

Mode

The display will revert back to the temperature within 5 seconds.

Inversion Feature

This feature allows the user to invert the LCD display for easy viewing while in the spa. To invert the LCD display:

Touch ***Set Up*** **or** ***Set Down***

Then ***Jets High***

Preset Filter Cycles

Now that the time has been set correctly, your spa will automatically filter itself for a 3-hour period every 12 hours.

The first filter cycle is automatically activated at 12:00 a.m. and operates the low-speed pump until 3:00 a.m. The heater will operate in the economy mode.

The second filter cycle is automatically activated at 12:00 p.m. and operates the low-speed pump until 3:00 p.m. Again, the heater will operate in the economy mode.

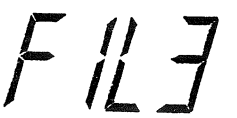
Changing Filtration Cycles

Adjust the filter cycle duration to the desired time (3, 4, 5 or 6 hours) by using the following procedure:

Touch ***Set Up*** **or** ***Set Down***

Then **The center display will read:**

Mode



Adjust the cycle duration by pushing the set up or set down pad. Each press of the pad will display which filtration cycle you have chosen:

FIL 3	3 Hours
FIL 4	4 Hours
FIL 5	5 Hours
FIL 6	6 Hours

The change will begin immediately if the spa is

in a filtration cycle or starting with the next filtration period, if it is changed outside of a filtration cycle.

To exit the filter-set procedure:

Touch 

Mode

and the LCD will display the current set temperature.

Clean Up Cycle

After periods of heavy use, turn the jets on to "low speed" for a four-hour Clean Up Cycle.

Ozone Operation

Spas equipped with the Coleman Powerworks® Ozonator will produce ozone during timed filtration cycles only. Activating the low speed jets via the "JETS" pad will initiate filtration but not ozone production. Activation of other functions during timed filtration cycles will stop ozone production for thirty minutes.

Safety Features

Your Coleman spa is equipped with several safety features which are designed to protect the user and the equipment.

Automatic Time Outs

The low speed whirlpool and are timed to automatically turn off after four hours of operation. The high speed whirlpool and therapy jets are timed to turn off automatically after thirty minutes of operation. The spa light will turn off automatically after 60 minutes.

Error Messages

The following error messages are displayed on the LCD screen and describe the operating status.

Message **Meaning**

Overheat Protection
There are two sensors on the system to detect overheating: a water temperature sensor and a hi-limit sensor. The water temperature sensor constantly monitors the spa water temperature. If the spa water reaches 112° F, the spa will be disabled. When the water cools below 110° F, the spa will automatically reset. The hi-limit sensor detects overheating of the heater element. If the temperature of the heater well reaches 118° F, the spa will be disabled. This overheating condition may be caused by restricted water flow. When the water has cooled to 116° F, the spa may be reset from the panel by touching any pad.

Note: After a "OH" message, it is important that you check the water temperature before immersing yourself. If the "OH" message remains, the spa will not reset or the water doesn't cool down, contact your dealer.

Flow Switch
The flow switch enables the control to detect when the pressure switch has malfunctioned. Contact your dealer if a "FLO" message remains on the LCD.

Flow Switch
If the "FLO" message alternates with the temperature, you have reduced water flow. Check for obstructions and dirty filters.

Temperature Set Back
If the control detects that the spa water is 20° F cooler than the temperature set point, the heater will automatically activate to provide freeze protection. This is a normal spa function. No corrective action is necessary.

Freeze Protection
The spa software will automatically activate the low speed pumps to circulate the water when a freeze condition is detected (temperature of the heater element is below 40° F). This is a normal spa function, no corrective action is necessary.

Note: Under freezing conditions do not override the second filtration cycle.

Open Sensor Detection
The hi-limit sensor is non-functional and the spa will be deactivated. Contact your dealer.

Open Sensor Detection
The water temperature sensor is non-functional and the spa will be deactivated. Contact your dealer.

Jets and Air Controls

Jets

Coleman's jets are all individually engineered to provide a unique hydromassage. On the Canyon Ridge series spas, all jets are completely adjustable. It is very important that you NEVER SHUT ALL JETS OFF AT ONE TIME! The jet system is balanced so that all therapy jets are interchangeable and can be added in any quantity. Depending on the model, your spa will have a combination of the following jets.

Coleman Spas Turbo Swirl: Rotating jets that deliver a pulsating massage to relax aching muscles.

Coleman Spas Turbo Directional: Directional therapy jet for a hydrotherapeutic experience that is tailored to your preference.

Coleman Spas Micro Swirl: Midsize rotationg jets that deliver a rhythmical massage to rest aching muscles.

Coleman Spas Micro Directional: Midsize directional therapy jet for a hydrotherapeutic adventure.

Coleman Spas Diverta Whirlpool: High powered high flow jet that creates a soothing whirlpool action. Water can be diverted from the CS Diverta Whirlpool Jet to the jets in the open seating area by rotationg the outer ring 90 degrees.

Therapy-Flow: Mini therapy jet that delivers hydrotherapy to your feet and legs.

Air Controls

The intensity of the jet action can be controlled by altering the amount of air injected with water through the jets. Your spa has 2 or 3 air controls located on the lip of the spa. Each control

Note: Air controls should be closed during heating cycles for maximum energy efficiency.

activates air to specific jets in the spa allowing you to create various combinations and levels of jet action to suit individual taste.

Maintenance

Water Chemistry

Water chemistry is critical in a spa system. The combination of high temperature and small volume means that the chemical balance must be watched carefully. It is recommended that you purchase a chemical start up kit from your dealer.

Sanitizing

Sanitizing your water destroys harmful organisms and keeps your spa healthy and safe. Three commonly used spa sanitizers are bromine, chlorine and ozone. Chlorine and bromine are chemicals that you will add to the water. Ozone is a gas that is produced by an ozonator and injected into the water. It is important that a residual of sanitizer remain in your water. High water temperature, aeration and use will increase the need for sanitizer. In addition to maintaining a residual, it is important to "shock" your spa water periodically and after heavy use. This addition of substantial amounts of sanitizer super-chlorinates the water and oxidizes non-filterable organic residue. Allow the sanitizer level to drop back to the residual amount before using. Also use your Clean Up Cycle, page 11 or 14, after heavy use for additional filtration.

pH Level

pH is a balance of acidity and alkalinity in the water. Maintaining proper pH is important for the effectiveness of your sanitizer, for user comfort and to prevent corrosion of the spa equipment.

Note: Keep a chlorine or bromine residual of 3.0 to 5.0 ppm. Tests should be done daily with your test kit.

Note: Never mix two chemicals together. Never store any chemicals in the equipment compartment.

Note: Do not use muriatic acid to balance pH as it will damage your spa surface and equipment.

Recommended Levels

pH: 7.2–7.6 (Ideal 7.4–7.6)
Sanitizer Residual: 3.5–5.0 ppm
Total Dissolved Solids: 100–200 ppm
Free Available Sanitizer: 3.0–5.0 ppm

Note: Make sure you use fresh test kit reagents.

They lose their accuracy with age.
Total Alkalinity: 80–100 ppm ideal for dichlor, trichlor, and bromine.

Water Maintenance With the Powerworks® Ozonator

Equipping your spa with a Powerworks® Ozonator is a smart decision. The use of ozone in conjunction with the normal spa sanitizing and water balancing chemicals will give you a cleaner, healthier spa environment. Maintenance and chemical usage will be significantly reduced, and you will enjoy the cleanest water which won't irritate your skin.

Sanitizing With Ozone

Spas vary in size and the amount that they are used will vary considerably from family to family. For this reason you will need to establish your sanitizing program based upon your own personal use. When using ozone you should start by balancing your water chemistry as you normally would. A spa should run and be ozonated no less than six hours per day. This starting point should not be considered final. If your spa is heavily used, this run time should be increased. Your spa produces ozone during filtration cycles. (See page 11 or 14.)

The amount of a residual sanitizer (chlorine or bromine) that you maintain in the water will also vary depending on use. It is recommended that you maintain a residual of 3.0–5.0 ppm. Periodically, and after periods of heavy use, it is necessary to "shock" your spa with large amounts of sanitizer. The clean up cycle, page 11 or 14, will provide extra filtration during periods of heavy use.

Specialty Chemicals

Although ozone will greatly reduce the need for specialty chemicals, it is recommended to always have some on hand. There may come a time when you will be required to add some of these due to heavy usage of the spa or when changing the water.

If you are in an area which has metals in the source water, a specialty chemical program should be followed to avoid staining.

These guidelines cover the most common procedures when operating a spa with ozone. Should you encounter a situation which you don't completely understand, contact your dealer for assistance.

Hot Water Guide

Problem	Cause	Solution
Cloudy Water	• Inadequate filtration/dirty filter	• Check to make sure the filter is running properly/Clean filter with a filter cleaner or degreaser.
	• Excessive oils/organic matter	• Shock the spa with a chlorine or bromine sanitizer/shock or other shock treatment product.
	• Improper sanitation/bacteria	• Increase sanitizer level to balance water and shock if needed.
	• High pH and/or high alkalinity	• Adjust pH; add appropriate sodium bisulfate product.
	• Suspended particles/organic matter	• Use clarifier **Note:** If using an ozone generator, do not use polymer based clarifiers.
	• High total dissolved solids (TDS)	• Depending on the severity-drain the spa to half and refill; or drain the spa completely, clean and refill.
Water Odor	• Excessive organics/too many chloramines insufficient free available	• Shock the spa with a chlorine or bromine sanitizer/shock or other shock treatment product.
	• Improper sanitation	• Increase sanitizer level to balance water; shock if needed.
	• Inadequate filtration	• Check to make sure the filter is running properly/Clean filter with a filter cleaner or degreaser.
	• Low pH	• Raise pH with sodium bicarbonate product. If metals present, add chelating agent.
Chlorine Odor	• Too many chloramines-insufficient free available chlorine	• Shock the spa with a chlorine sanitizer/shock or non-chlorine shock treatment.
	• Low pH	• Adjust pH; raise pH with sodium bicarbonate product.
Bromine Odor/ Yellow Water	• Low pH	• Adjust pH; raise pH with sodium bicarbonate product.
Musty Odor	• Bacterial or algae growth	• Shock the spa with a chlorine or bromine sanitizer/shock or equivalent shock treatment product. If problem is visible drain, clean, refill and balance spa.
Foaming/Scum Ring Around the Tub	• Build up of body oils, lotion and chemicals resulting from soap or detergent	• Add defoamer; or drain and refill.
Algae	• pH Imbalance • Low free chlorine or bromine concentration	• Adjust pH • Shock with a chlorine or bromine sanitizer/shock or other shock treatment product.

Problem	Cause	Solution
Eye Irritation	• Low pH	• Raise pH with sodium bicarbonate product.
	• Insufficient free available chlorine	• Shock with a chlorine sanitizer/shock or other shock treatment product.
Skin Irritation/ Rash	• Unsanitary/polluted water	• Keep recommended sanitizer residual at all times; superchlorinate or use a non-chlorine shock treatment.
	• Soaking too long	• Soak for smaller intervals, such as 15 minutes.
	• Water temperature too high	• Reduce water temperature.
Scale	• Too much calcium dissolved in water pH and total alkalinity too high	• Add a scale control product. Adjust total alkalinity and pH levels by adding the appropriate sodium bisulfate product; with concentrated scale deposits-drain the spa, scrub the scale off, refill the spa and balance the water.
Erratic pH Test Results/Unusual pH Test Color	• Sanitizer level too high	• When the sanitizer level is below 5 ppm, test the pH.
	• Old pH indicator dye	• Replace the pH indicator dye.
Sanitizer Dissipating Too Rapidly	• Excessive organics in water	• Increase shock dosage; add sanitizer; have bathers shower before entering spa.
	• Temperature too high	• Reduce temperature.
	• Low pH	• Raise pH with sodium bicarbonate product.
	• Low pH Corrosion of Metal Fixtures	• Use a chelating agent if metals are present. Keep proper pH level (7.2 to 7.6).
	• Low calcium hardness	• Use a chelating agent if metals are present. Maintain minimum 150-200 ppm calcium hardness.
	• Low total alkalinity	• Use a chelating agent if metals are present. Maintain proper alkalinity for type of sanitizer used.

Spa Cabinet Care

The Canyon Ridge series models 301 and 302 custom spa cabinet is made from quality handcrafted redwood. It has been treated with a sealer and stain prior to spa assembly to preserve its appearance and help prevent weathering. Further wood protection requirements depend on spa location (indoors or outdoors, sun, shade, etc.), and local climate conditions. **Re-treat with an appropriate product recommended by your authorized dealer upon installation and 3 to 4 times per year.**

The Canyon Ridge series model 302 custom spa cabinet is made from a high density polyethylene (HDPE) material.

Cleaning the spa cabinet: Rinse dirt and dust regularly with clear water. To remove stubborn dirt, grime, and mild discoloration, wash with a mild detergent and warm water.

Draining Spa

Always turn the spa heater and circuit breaker off when you drain your spa. Do not turn the spa heater back on until you have full flow coming out your jets for several minutes.

The water level in the spa must be kept at its normal level water line mark. **Note:** Evaporation and splashing will cause the water level to drop.

High concentrations of impurities caused by water evaporation, body oils, perfumes, and other contaminants may accumulate in the spa and cannot be filtered out. Consequently, it is advisable to drain your spa and refill it with fresh water every six to eight weeks or more often, depending on the amount of use.

Drain Access

Drain access on models 301 and 303 are in the black pedestal base to the right of the equipment service panel. Simply remove the two screws holding the access panel on and pull the drain hoses out.

Be sure the power to the spa is shut off. Drain access on the Model 302 is located behind the equipment access panel. This panel is below the topside control and displays the Coleman Spas logo. Remove the panel by pulling outward on one end. Carefully work your way across the panel until the panel is removed. Installation of the panel is done in reverse.

Then attach a garden hose to the spa drain faucets and open the valves. Do not attempt to use the pump to drain the spa.

Priming Spa

Be aware that after draining and refilling your spa you may need to discharge air in the system in order for the pump to operate again. Should you experience an air-lock, you can remove the filter and insert a garden hose into the center hole and flush water through the system.

To protect your spa finish, always keep your cover on the spa when not in use.

Spa Surface Care and Cleaning

Your spa shell surface is made of acrylic. A minimum amount of care and cleaning will keep your spa looking new for years.

Use a spa cleaner for residue and lime buildup at the water level of the spa surface. This can be applied to the acrylic surface with a soft cloth and wiped clean. Use small amounts to avoid polluting spa water. It may be necessary to lower the water level 2 to 3 inches before cleaning if heavily soiled at the waterline.

Never use abrasive cleaners.

Use common household, non-abrasive cleaners to clean your spa shell. (For example: Lysol Basin, Tub & Tile Cleaner®; Glass Plus®; Mr. Clean®; and Top Job®, or a mild dishwashing detergent such as Ivory® Liquid.) Rinse well and dry with a clean cloth.

Do not allow your acrylic surface to come into contact with products such as acetone (nail polish remover), nail polish, dry cleaning solution, lacquer thinners, gasoline, pine oil, etc.

Remove dust and dry dirt with a soft, damp cloth.

Clean grease, oil, paint and ink stains with isopropyl (rubbing) alcohol.

Avoid using razor blades or other sharp instruments that might scratch the surface.

Filter Maintenance

The removable filter cartridge is located in the filter canister behind the skimmer. The filter should be inspected at least monthly during normal use, and more often when spa use is heavy.

Keep the filter clean! A clogged filter decreases both performance and water quality.

To clean the filter, simply follow these steps: (Note: It is not necessary to drain the spa.)

1. Turn the pump off.
2. Remove skimmer lid on top of spa.
3. Remove strainer basket.
4. Remove filter cartridge from the filter canister by grasping the top and lifting upwards.
5. Soak, filter in filter cleaner/degreaser and hose out filter cartridge, unless replacing with new cartridge.
6. Place filter cartridge back into filter canister. When the spa is empty the Weir door will block the filter canister. You must hold it out of the way when reinstalling the cartridge. When the tub is full of water the door will float so you will have easy access for installing the filter cartridge.
7. Replace strainer basket and skimmer lid.
8. Turn the pump ON.

In addition to performing normal filter maintenance, it will be necessary to occasionally remove oils that coat the filter reducing filter flow. To remove these oils, soak the cartridge in a plastic pail containing a commercial filter cleaning solution (available from your Coleman Spas dealer or most pool supply stores). Follow the manufacturer's instructions for use.

We suggest that you replace your filter cartridge yearly to maintain optimum

performance. Filter maintenance depends on usage. Coleman recommends the filter be cleaned once every 90 days at a minimum, more often after heavy use of if water becomes cloudy.

Winterizing

In cold climates where freezing temperatures occur, special care is required to prevent the possibility of damage to the spa and equipment due to freezing.

If you plan on using your spa during cold months, be sure your pump and heater are in good working order. The spa shell has been insulated to provide efficient operation in cold weather areas.

Special Note: If you do not intend to use your spa during the winter months and there is danger of freezing, the spa must be winterized! You must do the following:

1. Turn off all electrical power to the spa.
2. Drain spa of all water. If you cannot draw off all of the water (especially from hoses) R.V. antifreeze should be added to the remaining water through the bottom of the skimmer. If antifreeze is used, it must be an inhibitor Propylene Glycol such as Dow Frost available through Dow Chemical Distributors.
3. Be sure to drain all drain hoses.
4. The filter should be drained, and the cartridge removed and cleaned.
5. Check to see that there is no water in the heater element chamber and air injector lines. To clear the air injector lines of any water for winterizing, just turn on the air injectors after the spa is drained and remove any excess water from the spa shell with a wet vacuum or sponge.
6. Clean your spa as per previous maintenance instructions.
7. Cover your spa with a waterproof, water-shedding, impenetrable cover.
8. For further information on blowing out the plumbing lines and winterizing procedures, contact your local dealer.

Note: If you elect not to drain your spa and the temperature is going to be below freezing for extended periods of time, especially 0° and sub zero, it is best to operate the spa heater at high temperature (90°–100°F). If the tub is not going to be used and kept in the 100°F range, you may have problems if your power goes out. It is wise during these bad weather periods to set the thermostat higher. This will keep the spa water from freezing quickly if you have a power failure.

Light Bulbs

The Spa light bulb is serviceable from outside the spa. You must remove the redwood panel (or HDPE on the Model 302) and insulation closest to the light. Once the panel is removed, look for the bulb holding bracket and pull bracket towards you to change the bulb.

Problem Solving Guide

Problem	Usual Cause	Solution
1. System not operating.	A. House circuit breaker tripped or if OFF position.	A. Reset circuit breaker on home breaker panel.
	B. Power cord not connected to outlet.	B. Connect power cord to outlet.
2. Heater not functioning.	A. Heater mode not selected.	A. Refer to temperature and heater control instructions on pages 9–15.
	B. No power to heater.	B. Check house circuit breaker.
	C. Thermostat set lower than water temperature.	C. Set to desired temperature.
	D. Heater not operating.	D. Contact dealer.
3. Water not clean.	A. Clogged or blocked floor suction or skimmer.	A. Clean floor suction/skimmer.
	B. Filter clogged (dirty).	B. Clean or replace.
	C. Poor water chemistry.	C. See "Chemical Treatment" section.
	D. Insufficient filtering time.	D. Run filtration mode longer. Contact dealer.
	E. Improper maintenance.	E. See maintenance section.
	F. High content of solids in water.	F. Use clarifier or drain and refill spa.
4. Abnormal water usage.	A. Excessive evaporation and/or splashing.	A. Use spa cover.
5. Overheating.	A. High ambient temperature	A. See page 6, Indoor Installation.
6. Low water flow from jets.	A. Operating in FILTER mode-low speed.	A. Select hi-speed jets.
	B. Clogged or blocked suction or skimmer.	B. Clean floor suction/skimmer.
	C. Dirty filter.	C. Clean or replace.
7. No water flow from jets.	A. Pump not primed.	A. See priming section page 20.
	B. Unit not plugged in.	B. Plug unit in.
	C. House circuit breaker tripped, no power to system.	C. Reset circuit breaker at home panel.
	D. Faulty pump or motor.	D. Contact dealer.
	E. Pump surges.	E. Low water. Check level on Weir door.

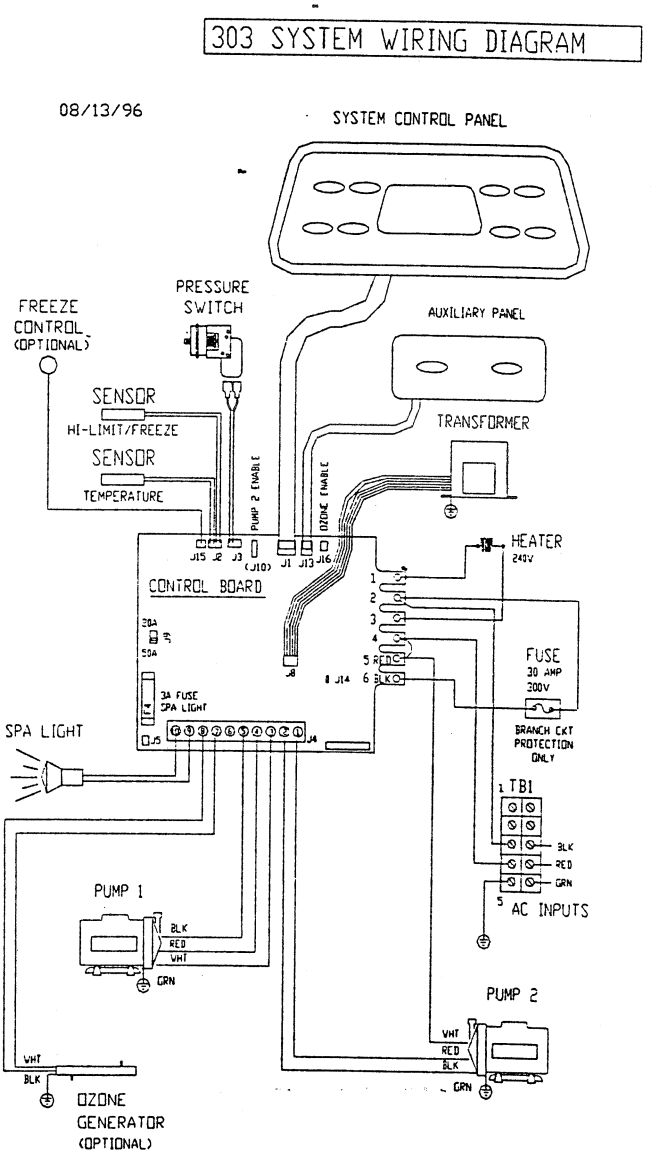
Problem Solving Guide

Problem	Usual Cause	Solution
8. Noisy pump and motor.	A. clogged floor suction or skimmer.	A. Clean floor suction/skimmer.
	B. Low water level. below lip).	B. Add water to normal water level (6"
	C. Damaged or worn motor bearings.	C. Contact dealer.
9. Water leakage from under spa.		A. Contact dealer.
10. No air flow from jets.	A. Air control not open.	A. Open control.
	B. Jet nozzle not seated properly.	B. Check jet nozzles.
	C. Jet nozzle missing.	C. Inspect jets.
11. Motor will not operate.	A. House circuit breaker tripped or in OFF position.	A. Reset circuit breaker
	B. Improper or defective wiring or electrical supply.	B. Contact dealer.
	C. Thermal Overload Protection switch tripped.	C. Auto reset after motor has cooled. Contact dealer if motor continues to cycle.
13. Black powder film around water line.	A. Wearing in of air injector brushes.	A. Will disappear after use.
14. The spa will not shut off	A. Spa trying to heat	A. Check set temperature in Standard mode
	B. Spa is in filter cycle.	B. Normal. No need to change.

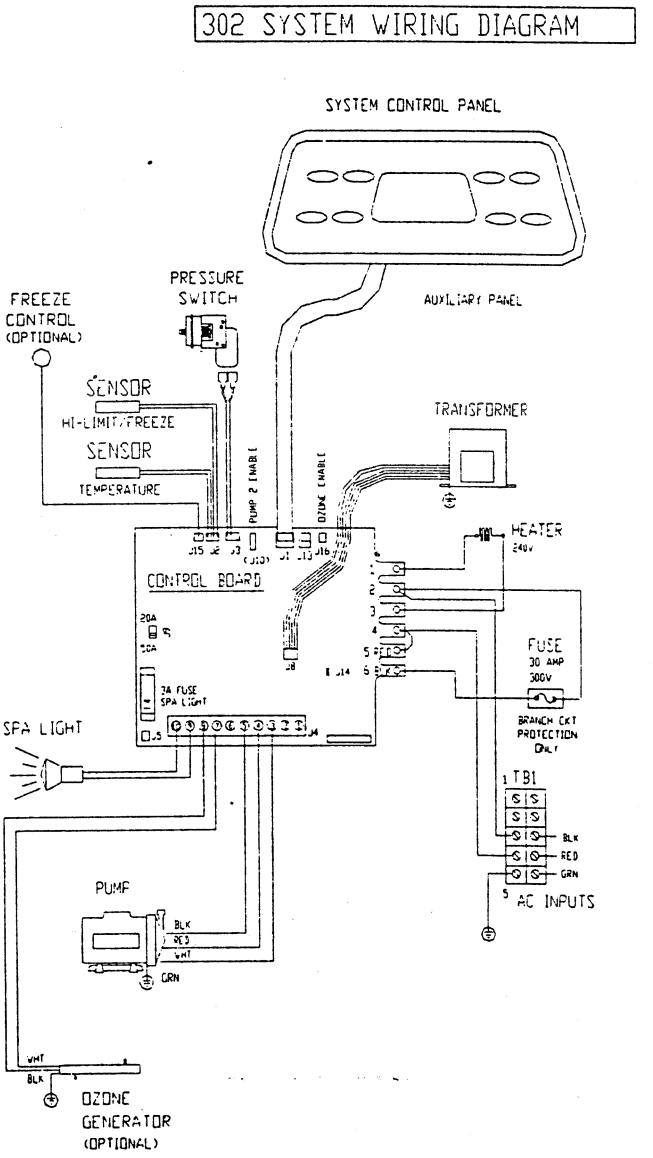
Spa Soaking Guidelines

1. Persons with heart disease, diabetes, high or low blood pressure or any serious illness, and pregnant women should not enter a spa without prior consultation with their doctor.
2. People with skin, ear, genital or other body infections, open sores or wounds should not use the spa because of the possibility of spreading infection.
3. Before entering, look at the water in your spa. If there is cloudiness or foaming, or if a strong chlorine smell is present, the water needs treatment. Soaking in such water greatly increases your chances of getting a skin rash (pseudomonas). Be sure to maintain the water properly. Ask your Authorized Coleman Spas Dealer for guidance.
4. Shower with soap and water before and after using the spa. Showering before use washes away many of the common skin bacteria, and removes lotions, deodorants, creams, etc. Perspiration and lotions will reduce the effectiveness of the sanitizer and lessen the ability of the filter to work efficiently.
5. Enter the spa slowly and cautiously. Be careful of your footing, and allow your body to gradually get used to the water temperature. Leave slowly as well, because your leg muscles may be sufficiently relaxed to make you a bit unsteady, and you may become lightheaded.
6. Soaking for too long makes some people nauseous, dizzy, lightheaded or faint. **Don't soak in 104°F (40°C) water.** If you wish to soak for a longer period of time in high temperatures, leave the spa after 15 minutes, shower, cool down and then return for another brief stay. In lower temperatures (e.g. 98.6°F—normal body temperature) most people can comfortably and safely soak for longer periods at one sitting. If you have any questions about what's right for you and your family, consult with your doctor.
7. Be sure you check the water temperature before and while in the spa.
8. Never use the spa while under the influence of alcohol.
9. With any drug or medication, consult with your doctor about potential harmful effects from combined use of the drug and hot water soaking.
10. Never use the spa when you are alone, for safety's sake.
11. Never allow children to use the spa unsupervised.

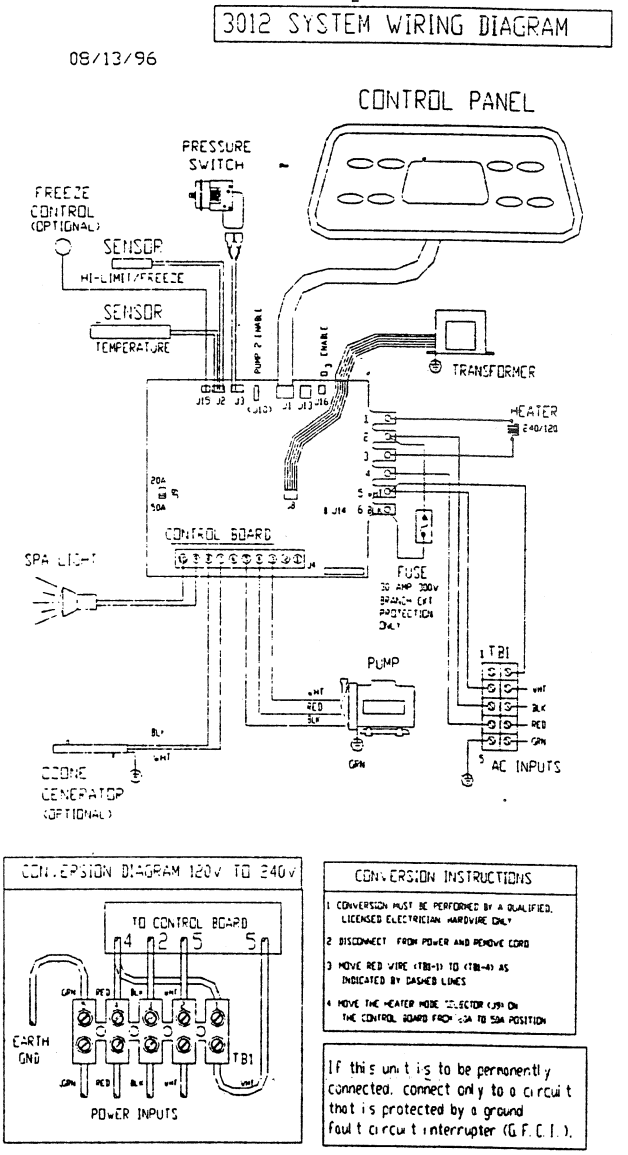
Canyon Ridge System Wiring Diagram - Model 303



Canyon Ridge System Wiring Diagram - Model 302



Canyon Ridge System Wiring Diagram - Model 301



Safety Sign

The safety sign enclosed with your Owner's Manual should be permanently installed where visible to the users of the spa.

The sign is adhesive backed and there are also four screws supplied for mounting on rough surfaces.

It is very important that you, as a spa owner, review the important safety instructions before you operate your spa. It is equally important that you instruct all users, even occasional ones, as to the warnings associated with spa use.

You may obtain additional signs or replacement ones by contacting:

COLEMAN SPAS, INC.
Customer Service
25605 South Arizona Avenue
Chandler, Arizona 85248