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RL-1, RL-1 DELUX  
REPTILE INCUBATOR  
INSTRUCTIONS

BULLETIN  
NO.281-213  
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## USING THE TEMPERATURE CONTROL

This incubator was tested and the temperature regulated to 85°F before it was shipped to you. The incubator may require further adjustment because of handling in shipment, the type of eggs you will be incubating, or the environment it will be used in. Temperature adjustment is made according to the type of control ordered with the incubator, adjustments are described in the following paragraphs. Watch the thermometer as the temperature in the incubator rises, the indicator light on the solid state thermostat should go off at 85°F. After the set temperature is reached the light will go on and off at short intervals. The on and off blinking of the indicator light and a constant thermometer reading of 85°F indicate the thermostat is controlling the desired heat level.

**NOTE:** The desired temperature must be constant and stable within the unit BEFORE setting the eggs. We recommend running your incubator at a stable temperature for 24 hours before putting eggs in.

**TEN TURN POTENTIOMETER SOLID STATE CONTROL:** The solid state temperature control is mounted on the baffle plate of the RL-1 incubator. The regulator (adjusting) knob is screwed to the shaft that protrudes through the incubator dome above the control. Turning the heat control knob CLOCKWISE will increase the temperature of the incubator. Turning the heat control knob COUNTER-CLOCKWISE will decrease the temperature. This feature allows approximately one full 360° turn of the regulator knob to increase or decrease the temperature in very precise increments.

**OVERTEMPERATURE (BACK UP) CONTROL:** The overtemperature control is usually a thermal wafer control. The back up control is usually adjusted to a point 1 degree higher than the incubation temperature setting of the primary control. It is factory pre-set to approximately 86°F. To adjust the back up control, loosen the locking wing nut. Make the adjustment and lock the setting by retightening the wing nut. **TURN THE KNOB COUNTER-CLOCKWISE to increase the temperature. To decrease the temperature, TURN THE KNOB CLOCKWISE.** Turn the knob slowly and carefully, making small incremental adjustments. **BE SURE TO LOCK THE SETTING BY TIGHTENING THE WING NUT AFTER EACH ADJUSTMENT.** When adjusting the incubator temperature **FIRST, SET THE PRIMARY SOLID STATE CONTROL ALL THE WAY UP BY TURNING THE KNOB CLOCKWISE, THEN ADJUST THE OVERTEMPERATURE CONTROL KNOB ONE DEGREE HIGHER UNTIL THE TEMPERATURE YOU REQUIRE IS REGISTERED ON THE THERMOMETER. LET THE INCUBATOR STABILIZE FOR A WHILE. AFTER STABILIZATION HAS BEEN ACHIEVED, TURN THE PRIMARY SOLID STATE CONTROL KNOB COUNTER-CLOCKWISE UNTIL THE TEMPERATURE YOU REQUIRE IS REGISTERED ON THE THERMOMETER.** For example, set the primary solid state control all the way up by turning the knob clockwise, then adjust the overtemperature control knob until 86° is registered on thermometer. Let the incubator stabilize for awhile. After stabilization has been achieved, turn the primary solid state control knob counter-clockwise until 85° is registered on the thermometer. **LET THE INCUBATOR STABILIZE FOR 24 HOURS BEFORE SETTING EGGS.** Check to make sure that the primary solid state temperature control is controlling the unit, (i.e., the neon light on the solid state PC board is blinking on and off).

## SET UP HUMIDITY

Your RL-1 Delux Incubator kit includes plastic containers and enough vermiculite to get you started. The RL-1 Standard Incubator does not come with the plastic containers or the vermiculite. It is widely accepted that in order to achieve the humidity level required to incubate reptile eggs you will need a mixture of 1 part vermiculite and 1 part water, (i.e., 100 grams of vermiculite will require 100 grams of water). Caution: the volume of vermiculite is much larger than the volume of water.

Monitor the temperature inside the incubator, make sure you have obtained a stable temperature within the desired range. It is important to place your incubator in a room where it cannot be exposed to direct sun light, drafts or heat sources such as heaters, kilns, etc. The desired environment is between 70°F - 75°F. Remember, this incubator cannot go below ambient temperature, the lowest temperature that it will maintain will be approximately 5 degrees above ambient.

**WARNING**

INCUBATORS ARE ELECTRICAL DEVICES AND SHOULD BE TREATED AS SUCH. ELECTRICAL REPAIRS SHOULD BE MADE BY COMPETENT ELECTRICAL SERVICE PERSONNEL. DISCONNECT OR UNPLUG THE POWER BEFORE ATTEMPTING REPAIRS OR CLEANING THE INCUBATOR.

GROUNDING: Certain metal and electrical parts of the incubator are grounded. You can identify these parts as they have a GREEN or GREEN WITH YELLOW STRIPED wire connected to them. Grounds are for your protection and should never be removed or tampered with.

POWER CORDS: All incubators and turners have 3 prong plugs on the power cord. The round bottom prong is a GROUND CONNECTION. It is through this connection that GROUND IS PROVIDED FOR THE GROUNDED INCUBATOR PARTS. Be sure that the outlet the power cord is plugged into is actually grounded. Using an ungrounded outlet or defeating the purpose of the ground by cutting off or removing the ground prong on the plug could, under certain situations CAUSE SERIOUS ELECTRICAL SHOCK. Frayed or worn power cords should be replaced immediately.

ELECTRICITY AND MOISTURE: Moisture and electricity do not mix well and because electric incubators must be operated in conditions of high humidity for part of the incubation cycle, certain precautions should be taken.

1. Do not set the eggs in the incubator until it reaches operating temperature.
2. Use distilled water only.
3. As soon as the incubation/hatching is complete, remove the top from the base. Allow the top to air dry. If the top is left on or water is not removed, a high concentration of moisture is left in the incubator. As the incubator cools, excessive moisture will accumulate on electrical and metal parts causing deterioration of these components. Failure of the electrical components can occur when the incubator is again used.

INCUBATOR ENVIRONMENT: The environment your incubator is used in can have a pronounced effect on your hatch. Improper environment can cause temperature and humidity control problems during the incubation cycle. For best results, incubators should be used in an area that has a controlled ambient temperature of 70°F. Operating incubators in less than 70°F ambient or in a room that has a wide temperature variation can have a detrimental effect on the incubator's operation and it may be necessary to make additional and frequent temperature control adjustments during incubation.

Incubators should not be located near heat or where sunlight may strike it. Avoid locations near windows or doorways or where drafts occur. Remember that the egg must receive air, avoid locations where carbon dioxide concentration might be high (near gas furnaces or hot water heaters).

| PART NUMBER | DESCRIPTION   |
|-------------|---|
| 220-012     | 120VAC Solid State Temperature Control with 10 Turn Potentiometer     |
| 220-013     | 230VAC Solid State Temperature Control with 10 Turn Potentiometer     |
| 310-075     | Vermiculite Packaged in 12 Quart Bags                                 |
| 350-090     | Plastic Hatching Container with lid - drilled (Approx. 13" x 9" x 4") |
| 220-016     | 3 Inch Overtemperature Brass Wafer                                    |
| 110-119     | Incubator Basket  |
| 115-029     | 120 VAC Wired Dome - RL-1, 10 Turn Potentiometer                      |
| 115-030     | 230VAC Wired Dome - RL-1, 10 Turn Potentiometer                       |
| 620-008     | Plastic Cabinet Assembly  |
| 500-011     | Mercury Thermometer   |