An incubator is designed to bring normal room temperature to the desired temperature. Room temperature of 60°F. or below will reduce the temperature in the incubator. Room temperature change of 10°F. or more will change temperature in incubator & is more pronounced below a temperature of 70°F. The location of the machine is important to successful operation. A room temperature from 70° to 80°F. is ideal, and fresh air without drafts is necessary. Be sure no direct sunlight strikes the incubator and that it sets level. A consistent room temperature within a few degrees is best.

NOTE: It is recommended that you operate the incubator with a small quantity of inexpensive eggs to be assured of your operating procedure and the performance of the incubator, before attempting to hatch large quantities of eggs or expensive eggs. Keep Reptile eggs protected from moving air. (See Warranty on Page 4).

LOCATION

Unpack the incubator from box. Use thermostat bracket as handle to remove the incubator top from inside the bottom, where it is packed for shipping. Check for the components listed below.

Hova-Bator Top
With fan, heat element, pilot light, thermostat bracket, & vent plugs installed. 2362N top shown.

Hova-Bator Bottom

1825 Thermometer

Parts

Unpack the incubator from box. Use thermostat bracket as handle to remove the incubator top from inside the bottom, where it is packed for shipping. Check for the components listed below.

Hova-Bator Top
With fan, heat element, pilot light, thermostat bracket, & vent plugs installed. 2362N top shown.

Hova-Bator Bottom

1825 Thermometer

Parts

Unpack the incubator from box. Use thermostat bracket as handle to remove the incubator top from inside the bottom, where it is packed for shipping. Check for the components listed below.

Hova-Bator Top
With fan, heat element, pilot light, thermostat bracket, & vent plugs installed. 2362N top shown.

Hova-Bator Bottom

1825 Thermometer

1825 Thermometer

Set Up

Install the Plastic Liner and Wire Floor

Attach Wire Floor to Plastic Liner with Owl Clips then place floor and liner in Hova-Bator Bottom. Arrange the plastic floor as shown using the water troughs and turner power cord notch as reference.

Fill trough #1 (highlighted in yellow) with warm water. Surface area, not depth, affects humidity; refill trough as necessary to prevent it from drying out.

Thermostat Setup

Thread wing nut onto adjusting screw.

Thread adjusting screw assembly into slot until enough of shaft is visible on inside of incubator to accept wafer.

Thread wafer onto adjusting screw till it stops, then with incubator plugged in turn adjusting screw counterclockwise until light comes on. Keep turning counterclockwise as needed to reach desired temp. Allow the temperature to stabilize and then adjust as needed.

Adjusting the Thermostat

Loosen Wing Nut to make adjustments.

Turn adjusting screw counterclockwise to raise temperature & clockwise to lower.

Re-tighten wing nut to secure the setting. The light will come on when the heat is on. Adjust the temperature for 100°F. for most eggs. Allow the incubator to operate for at least ½ day to stabilize the setting before putting in eggs.
Warm eggs to room temperature (70°F to 75°F) and place them on wire floor. Let them lay in a natural manner, which is on their sides with the small end slightly down. About two thirds of the way through the hatch, watch for increasing temperature due to chick development. Adjust thermostat accordingly. For operation with automatic egg turner, see page two.

Read temperature of 100°F with the thermometer resting on top of the eggs or turner. Do not put thermometer on wire floor as reading will not be accurate.

Turn eggs 2 to 3 times a day. With a pencil, mark an X on one side and an O on the opposite side of the egg. Turn all eggs so that X’s appear face up. Next turning period turn all O’s face up. Alternate this routine each turning until 3 days before eggs are due to hatch.

Add water every few days to trough #1 only. Usually twice weekly is sufficient. The amount of moisture in the incubator is determined by the surface area of water. Under high humidity conditions and for some types of eggs, less humidity is required. Humidity may be reduced by covering over a portion of the trough with aluminum foil or thin plastic. Humidity for eggs has a broad range, but if there are doubts about humidity, less is usually better than more, except for the last 2 days. 2 to 3 days before the hatch, stop turning the eggs, and fill both trough #1 and #2 with water. Place top on the incubator and do not remove until hatch is complete. Remove dry chicks as soon as possible to a brooder that has food and water and temperatures of about 95°F to 100°F. Chicks can survive up to 48 hours after hatch without food or water, but feed and water them as soon as possible to avoid stress. Some cases may require moving chicks to brooder to dry.

* After hatch pull red vent plugs to help dry chicks.

Set up incubator as shown on page 1. If you are using the automatic egg turner, place it on the wire floor in the bottom of the incubator. The thermometer should be placed directly on top of the eggs operating at 100°F.

The turner motor uses metal gears for additional strength when turning heavy loads. These gears can emit noise during normal operation.

Three days before eggs are to hatch remove eggs from turner, lay them on their side on wire floor in their natural unsupported position. Add water according to instructions. Do not attempt to hatch eggs while turner is in the incubator as the slow turning motor could crush the chicks. When turner is removed for hatching, maintain temperature by placing thermometer on top of eggs.

The turner operates very slowly. You should not expect to see movement upon installation. Proper operation is detected by noting rack angle over time.
GENERAL INFORMATION

**MOISTURE**
The purpose of supplying moisture in an incubator is to prevent excessive drying of the natural moisture from within the eggs. The correct amount of humidity can be determined by the size of the air sack when candled, or by weighing the egg to gauge percent of weight loss. Both methods require knowledge and experience that first-time operators usually do not have. The Hova-Bator is designed for simplicity in this matter, and works well for most species. (see HATCHING)

**VENT PLUGS**
Red vent plugs are located on the top of the incubator. These should be removed when the incubator is used at altitudes greater than 6000 feet above sea level. One or both may also be removed during or after the hatch if water drops appear on the window due to high humidity. This will help to dry the chicks and the incubator. If removing the plugs does not reduce the humidity enough, it may be necessary to prop up the top slightly, to facilitate drying. If so, be sure to maintain proper temperature. Alternately, the top may be removed quickly, and moisture wiped from the windows to aid drying. Replace the plugs after the chicks are removed.

**AFTER HATCH**
Chicks may be removed 24 hours after they start to hatch. Extremely wet chicks should be left in incubator to dry. If they don’t dry in eight or more hours, remove them to a brooder or heat lamp, with temperatures of 95°F to 100°F. Plan to remove chicks once a day, as every time incubator is opened, warm moist air escapes. Avoid chilling of wet chicks. Some chicks may be late in hatching, so you can leave remaining unhatched eggs up to 2 days longer. Clean your incubator after the hatch with soap and water only. The plastic liner for the Hova-Bator bottom can be cleaned using detergents or disinfectants.

**BROODING**
When chicks are removed from the incubator they must have a place that is warm and dry. A brooder should have one section that is heated, with a temperature of 100 degrees (for the first week) and an unheated section for exercise. Food and water should be partially in heated area. Temperature should be reduced 5 degrees each week until it is down to 70 degrees. Some types of chicks need a temperature around 70 degrees until they are nearly grown.

The incubator top is not satisfactory as a brooder, as there is not sufficient heat and the chicks may peck it to pieces. Feed and water chicks at once. Check with a local feed dealer for the proper feed for type of chicks you have hatched.
## INCUBATION TROUBLE SHOOTING CHART

<table>
<thead>
<tr>
<th>PROBLEM</th>
<th>CAUSE</th>
<th>NOTES</th>
</tr>
</thead>
</table>
| Many clear eggs. No blood rings. (determined by candling or opening eggs) | 1. Infertility  
2. Eggs too old or too dirty to set.  
3. Embryo died early. Either before incubation or 1 to 2 days after. | 1. No males or too few.  
2. Eggs should be no older than 14 days.  
3. Rough handling and/or temperature extremes before or just after setting. |
| Slight blood rings in most eggs. | 1. Improper temperature before or just after setting.  
2. Improper handling. | 1. Eggs to be stored small end down with room temperature 60 to 80 F.  
2. Check for temperature spikes in incubator. |
| Many dead immature chicks. | 1. Improper temperature in the incubator.  
2. Improper or lack of turning of eggs.  
3. Insufficient oxygen.  
4. Improper feeding of flock or breeding. | 1. Check temperature settings and adjust for next hatch.  
2. Eggs to be turned at least once a day (multiple times better).  
3. Full ventilation may be required at higher altitudes. Never cut out fresh air flow. |
| Many chicks fully formed in shells with only some hatching or piping 1 or more days early | 1. Incubator setting is too warm (1/2 to 1-1/2 F). | 1. Reduce setting slightly for next hatch on the same thermometer in the same location. |
| Many chicks fully formed in shells with only some hatching or piping 1 or more days late. | 1. Incubator setting is too cool (1/2 to 1-1/2 F). | 1. Increase setting slightly for next hatch on the same thermometer in the same location. |
| Many chicks fully formed in shells with only some hatching or piping on the expected hatch date. | 1. Humidity incorrect in the incubator.  
2. Incubator door opened too frequently during hatch  
3. Insufficient oxygen. | 1. Check air sack of eggs. If too large, increase humidity. If too small, decrease humidity.  
2. For precise humidity use gram scale to determine proper weight loss. Many eggs require 13% loss. |
| Chicks fully formed but none hatched or piped. | 1. Temperature setting too extreme.  
2. Sudden and prolonged temperature change at time of hatch.  
3. Insufficient oxygen. | 1. Check accuracy of thermostat and thermometer.  
2. Check operator procedure for type of eggs.  
3. Check to see vents are not completely closed. |

### HOVA-BATOR REPLACEMENT PARTS

<table>
<thead>
<tr>
<th>Part#</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1640N</td>
<td>Top only for- 1602N/2362N - Without Windows</td>
</tr>
<tr>
<td>1641</td>
<td>Pkg. of 2 Windows for - 1640N top</td>
</tr>
<tr>
<td>1778</td>
<td>Top;/-1582 - Window Incub./No Hardware</td>
</tr>
<tr>
<td>1642N</td>
<td>Bottom for Hova.Bator Incubator</td>
</tr>
<tr>
<td>1643</td>
<td>Set 4 Heat Element Clips</td>
</tr>
<tr>
<td>1644</td>
<td>15” x 15” Wire Floor for Hova-Bator.</td>
</tr>
<tr>
<td>1715</td>
<td>Thermostat Switch Complete. 15 Amp</td>
</tr>
<tr>
<td>1850</td>
<td>Red Easy Read Incubator Thermometer</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Part#</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1645</td>
<td>110 Volt 25 Watt Square Heat Element</td>
</tr>
<tr>
<td>1717</td>
<td>110 Volt 5’ Cord Set for Incub. &amp; Turner</td>
</tr>
<tr>
<td>3017</td>
<td>110 Volt Pilot Light for Hova-Bator</td>
</tr>
<tr>
<td>1646</td>
<td>220V 25 Watt Square Heat Element</td>
</tr>
<tr>
<td>1727</td>
<td>220V 5’ Cord Set for Incub. &amp; Turner</td>
</tr>
<tr>
<td>3027</td>
<td>220V Pilot Light for Hova.Bator</td>
</tr>
<tr>
<td>1765</td>
<td>Clear Plastic Liner for Hova-Bator Bottom</td>
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</tbody>
</table>

### AUTOMATIC TURNER REPLACEMENT PARTS

<table>
<thead>
<tr>
<th>Part#</th>
<th>Description</th>
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</thead>
<tbody>
<tr>
<td>1655</td>
<td>110V Turn Motor w/ Electric Cord Attached</td>
</tr>
<tr>
<td>1682</td>
<td>Pkg. 2 Egg Rack Retainer for Turner</td>
</tr>
<tr>
<td>1686</td>
<td>Pkg. 6 Plastic Quail Egg Rack for Turner</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Part#</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1688</td>
<td>Pkt. 03 Hitch Pin for Egg Rack on Turner</td>
</tr>
<tr>
<td>1689</td>
<td>Plastic Connecting Bar/Egg Racks to Motor</td>
</tr>
<tr>
<td>1696</td>
<td>Pkg. Plastic Universal Egg Rack for Turner</td>
</tr>
</tbody>
</table>

### LIMITED WARRANTY & RESTRICTIONS

GQF Manufacturing Co., Inc. guarantees against defect for a period of 1 year from date of purchase. This warranty is void for product more than 3 years old when not sold direct from GQF to the consumer. Notify GQF Mfg. Co. of any defective items, giving catalogue number and name of item and what is wrong with item. Send copy of invoice showing date of purchase. GQF Mfg. Co. will send replacement, or replacement parts, or notify regarding return. Shipping charges for express or international shipping are to be paid by the customer. GQF’s warranty applies to residents of the USA only. International warranty claims are handled by the authorized GQF dealer that sold the equipment in that area. Returning of items without written permission will be at owner’s expense.

Whereas GQF Mfg. Co. has no control over usage of equipment and product supplied, it assumes no responsibility for losses or damage from the equipment or product other than replacement of defective parts. No guarantee on hatchability of eggs. GQF assumes no responsibility for losses due to shipping damage, late shipment or arrival of product.

Do not expose electrical parts to water. Installation of electrical parts should be done by a qualified electrician. Use of replacement parts other than intended by GQF Mfg. Co. is not permitted. Custom modifications and use of non GQF parts can void the warranty. GQF is not responsible if product does not comply with local product codes or codes outside of the USA.