

Large Cage Design for Snakes

By Nathan Curtis

[See Cage Diagram](#)

I. Cage Material

I recommend a simple cage design - basically a $\frac{1}{2}$ " plywood box painted with high gloss marine enamel that has a sliding glass front. Marine enamel costs a little more than normal paint (around \$35/gallon), but is worth the extra few bucks. It is the paint of choice for use with large constrictors - it's waterproof, extremely durable (can be scrubbed with a stiff bristle brush) and its high gloss finish is ideal for quick wipe-ups.

Note: Do NOT use melamine or particleboard for your cage. Both products will swell with the slightest amount of moisture from urates, spilled water dishes, etc. I find these products swell even when all the edges are sealed with silicone. Plywood that is painted with marine enamel has an almost inexhaustible life span.

II. Glass

6 mm ($\frac{1}{4}$ ") plate glass can be used for your sliding glass front, but tempered glass is stronger and much safer in the event of an accident. During one incident with my large female African rock python, she smashed one sliding glass door with the mid-section of her body while being 'restrained'. Luckily, neither of us (keeper nor snake) were injured in this incident. Use plate glass with caution!

III. Glass Track

Plastic sliding track for use in display cabinets can be purchased from most hardware or glass specialty stores. 6-8' sections of this plastic track run between \$5-\$10 and can be secured using silicone, although 'Marine Goop' forms a much stronger and more permanent bond. Again, Marine Goop can be found at most any hardware store in a small tube down their silicone sealant aisle.

The plastic track should be mounted on a litter dam of some sort so that cage substrate doesn't become clogged within the track. You can simply install a 2X6 on the top and bottom of the cage front to act as a litter dam. The 2X6's also adds strength to the overall cage construction.

IV. Lock

A ratcheting display case lock will be necessary to properly contain your giant constrictor within its enclosure. Giant constrictors are strong animals whose strength should not be underestimated. For \$10, it's worth the peace of mind. If purchased from a glass specialty store, you should be able to request a specific code for all of your cage locks (the code is typically stamped on the set of keys that come with your lock). This way you only need one key to operate your entire room of enclosures.

V. Finger Pulls

Finger pulls are also handy, especially when dealing with larger enclosures and therefore larger and heavier sheets of glass. These cost around \$1 from a glass specialty store and come in a variety of shapes, colours and sizes. I recommend the low-profile designs that fit close enough to the rear sheet of glass to allow it to fully slide behind the front sheet.

VI. Shelter

A large shelter can be built into the cage inexpensively using scrap plywood and 2x4's. Simply attach 2X4's to the cage wall at the desired height (6"-12", depending on size of snake) using wood screws. Cut a piece of plywood to rest on top of the 2X4's. I prefer not to permanently attach the plywood to the 2X4's, but instead rest it on top so that it can be removed for cleaning.

VII. Ventilation

All enclosures should be equipped with a means for stale air to vent out and fresh air to enter. There are many ways to set up your cage with proper air vents but one suggestion I have for all methods is to situate the air vents at least halfway up on the cage wall to prevent nose rubbing. The various methods are as follows:

- Drill numerous $\frac{1}{4}$ " holes on both ends of your cage. The con with this design is it is difficult to align all these $\frac{1}{4}$ " holes; lends to a less-than-professional overall finish.
- Drill one or two large holes on both ends of your cage using a drill with a 3" or 4" hole cutter. Staple $\frac{1}{4}$ " wire mesh over each hole on the inside of the cage. The result is perfectly symmetrical holes that look professional. May have to lightly sand the edges of each hole before painting as they may splinter slightly as the hole cutter breaks through. The wire mesh can be primed and painted to match the cage.

- Using a jigsaw cut a large, rectangular hole and install plastic forced air-heating vents with stainless steel screws. Pros: Looks professional; can also fine-tune the cage humidity by sliding the vents closed partway.

VIII. Heating

One common problem with keeping exotic reptiles in captivity is people assume that they know what their reptile's requirements are more so than does their reptile. The result is people try to control one even temperature in the entire cage or room for their reptile, thereby removing the reptile's ability to thermoregulate. For some keepers, this is a difficult concept to grasp - that their REPTILE is the expert in knowing what temperature it needs and will search out the temperature that is best for itself. Instead of heating the entire cage or room, it is much more beneficial to provide a wide range of temps for your reptile. This is surprisingly easy to accomplish by installing a spot lamp on one end of your cage. Directly underneath the spot lamp will obviously be the warmest spot in the cage, the coolest area will be on the opposite end of the cage and a range from warm to cool can be found in between. I have found that snakes that are prone to rubbing their nose excessively on cage corners, the glass, vents, etc. cease to do so when provided a temperature gradient. Providing an appropriate temperature gradient has a lot to do with minimizing stress in reptiles, which I have found to be clearly demonstrated in a marked reduction in rostral abrasions.

Spot lamps can be installed in two ways:

- 1) Outside the cage. Place the spot lamp reflector hood on the top of the cage and trace around its edge, ensuring that the edge of the reflector hood is at least 6" from any cage wall. Using a jigsaw, cut a hole approx. $\frac{1}{2}$ " larger than the outline of the reflector hood. Staple $\frac{1}{4}$ " wire mesh to the hole.
- 2) Inside the cage. Drill a hole in the cage ceiling to accommodate the reflector hood plug. The reflector hood will simply hang down a few inches from the cage ceiling. Install the wire portion of a hamster or rat cage around the hanging reflector hood. This will serve as protection against your snake from coming in direct contact with the searing hot spot lamp.

The wattage of spot lamp bulb to use depends on many factors - ambient air temperature of room, size of cage, height of spot lamp from cage floor, species of reptile, etc. It is important that a thermometer is used to test the temps in all sections of your enclosure prior to housing reptiles. As a guide, the ambient temp of my snake room is anywhere between 75F - 82F, depending on time of day and season. My cages range between 18" - 30" high and I use 175W spot lamps for my

12' cages, 100W spot lamps for my 8' cages, 75-80W spot lamps for my 6' cages and 60W spot lamps for my 3-4' cages. Rheostats (incandescent light dimmers) can be used to fine-tune cage temperatures if needed and can be found at any local hardware store. Rheostats are available in do-it-yourself and pre-wired varieties for \$4-\$5 and \$15-\$20, respectively.

Heat tape is another popular heat source used in herpetoculture. However, I prefer to use red spot lamps for 3 reasons:

- 1) Heat tape only heats the ground and is only effective if your reptile happens to be lying directly on top of it. If you own a reptile that enjoys climbing, or is completely arboreal, heat tape is not a viable option. Heat tape is NOT to be used in an attempt to increase ambient air temperature. This is how far too many reptile enthusiasts seriously burn their reptiles!
- 2) Heat tape only allows two temperatures in your cage - hot and cold. You aren't able to achieve the infinite temperature range you can with overhead spot lamps.
- 3) With red spot lamps, you can identify which cages have burnt out heat sources at a glance and can replace these before any reptiles develop health problems (before they regurgitate food or develop an upper respiratory infection).

Generally, tropical boids should be provided with a basking area around 88-95F and 78-82F on the cool end. A slight dip in temperature overnight is not essential, but usually occurs anyway as your home cools a degree or two with less sunshine making its way through windows.

HEAT SAFETY!

A good rule of thumb is if you are unable to hold your hand to an exposed heat source for an indefinite period of time, it can potentially burn your reptile. You **MUST** ensure there is not way your reptile can come in direct contact with such heat sources! Many people do not fully understand why reptiles need to be protected from hot surfaces, 'If they are so good at thermoregulating, why don't they simply move away from hot surfaces?' The answer is simple - many reptiles never encounter ultra hot surfaces in the wild and nature has therefore not provided them with the neurons that are necessary to detect pain from heat. In other words, they don't feel searing pain the same way we humans do!

I have heard countless reports of reptile enthusiasts who heat their entire room with a space heater of one form or another with devastating results. Whether a ceramic forced-air space heater or an oil-filled radiant space heater, eventually

the thermostat will malfunction when used around the clock. Once the thermostat dies, the space heater works full-tilt and overheats the room to the point where all reptiles are killed in a short time.

If you are one such person who absolutely must use a space heater as a supplemental or main heat source, PLEASE heed this warning and install a back up wafer thermostat. These can be purchased from most poultry hatcheries or feed stores for around \$20 and can be set to run at a few degrees warmer than the thermostat on your space heater. If ever the thermostat on your space heater fails, you will be able to tell by your room thermometer reading a few degrees warmer than normal. This is a simple, effective and safe way of ensuring your reptiles' longevity. Don't think it won't happen to you!

IX. Finishing

Nails should only be used to assemble your cage when it is confirmed that the finished product will fit through all the doorways in your home in the event that you move. Otherwise, use wood screws and $\frac{3}{4}$ " plywood to assemble your cage.

Silicone should be used to seal the perimeter of the cage floor and at least 6" up each wall corner to prevent water leakage (urates, toppled water container, etc.)

Linoleum can be installed on the cage floor, but is not necessary, especially when marine enamel is used.

Allow your cage to fully dry and air out for at least 2 weeks following the last coat of paint and silicone application to ensure a safe environment for your reptile.