# DRAGONLOCK

## ULTIMATE

DRAGONBITE™ COMPATIBLE

Miniatures by www.reapermini.com

# DUNGEON TORCH WALL (LED)

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## Getting Started

Welcome to the DRAGONLOCK: Ultimate™ terrain system. This instruction manual will outline some basic materials you will need for 3D printing these models, specific printing information for the models in this set, and links to additional resources.

For more information on getting started with 3D printing, help with choosing a printer, settings for many popular printers, troubleshooting, and more; please visit our 3D Printer forums:
http://fatdragongames.proboards.com/board/21/3d-printing-dragonlock-terrain

For painting tutorials on these and other models in the DRAGONLOCK: Ultimate™ product line, please visit our Youtube channel:
https://www.youtube.com/channel/UC5Lbnd97HV3rU98gcwHkIzQ

## Basic Tools and Materials

For gluing models with multiple pieces together, we have found that Gorilla Glue works great (especially the 'gel' type.)
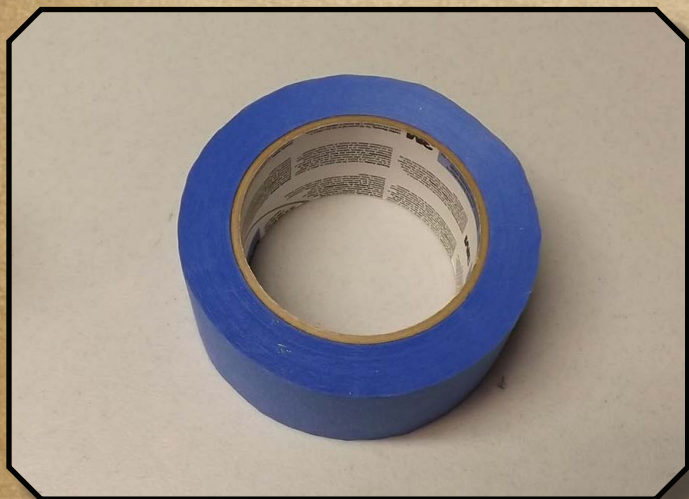
While not necessary, it helps to have a pair of small tweezers on hand. You'll find yourself using them often to pull odd strands of plastic off the model, getting small bits of plastic out of the printer, etc.
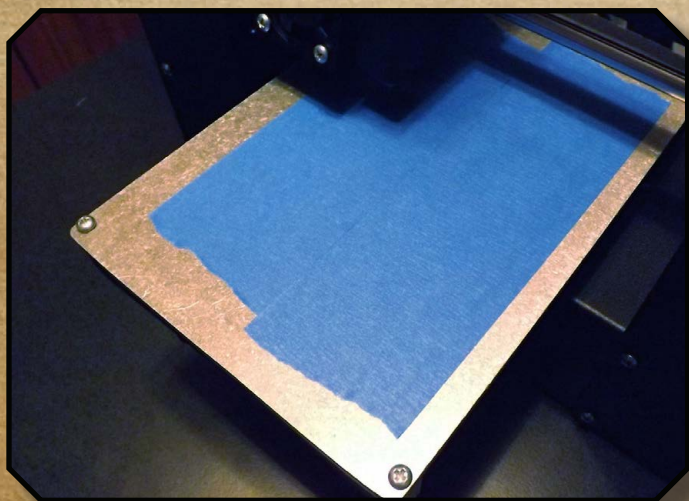
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Absolutely essential is a small metal spatula to help remove models from your build plate. We've found that ones like this from art supply aisles at craft stores work great and should only cost you a few dollars.

When printing PLA on a non-heated build plate, applying blue painter tape to your build-plate works great to help the plastic adhere.

To make your print stick as well as possible, you can wipe off newly applied tape with a paper towel that has a little rubbing alcohol on it (the tape has a wax coating on the back that sometimes inhibits the plastic from properly sticking to it).

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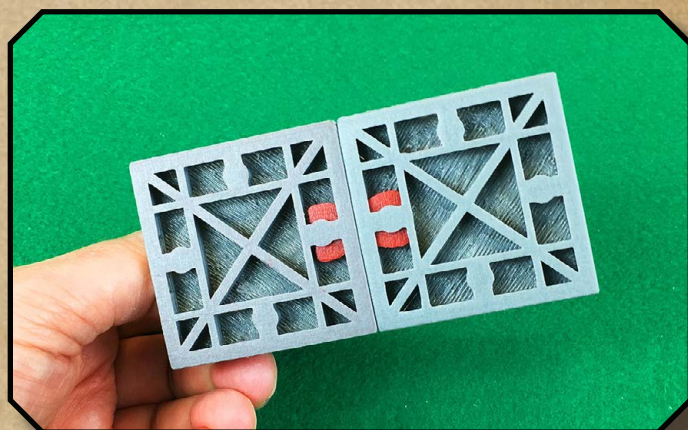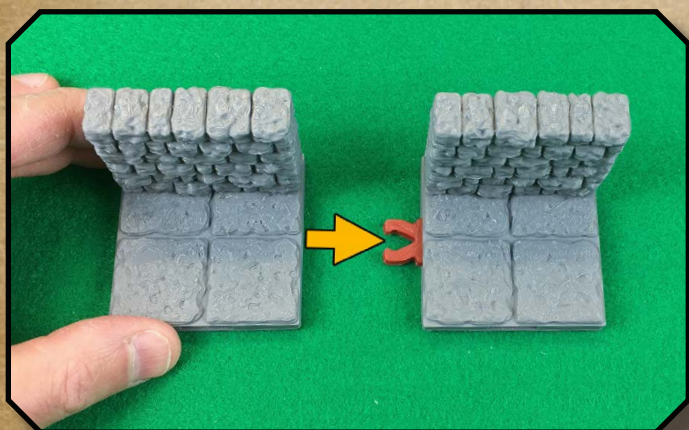## General printing tips for DRAGONLOCK: Ultimate™ models

With the wide variety of printers and filaments on the market, it isn't possible for us to list printer settings that will work with multiple machines. Please visit the Fat Dragon Games forums for printer-specific tips and information:

http://fatdragongames.proboards.com/board/21/3d-printing-dragonlock-terrain
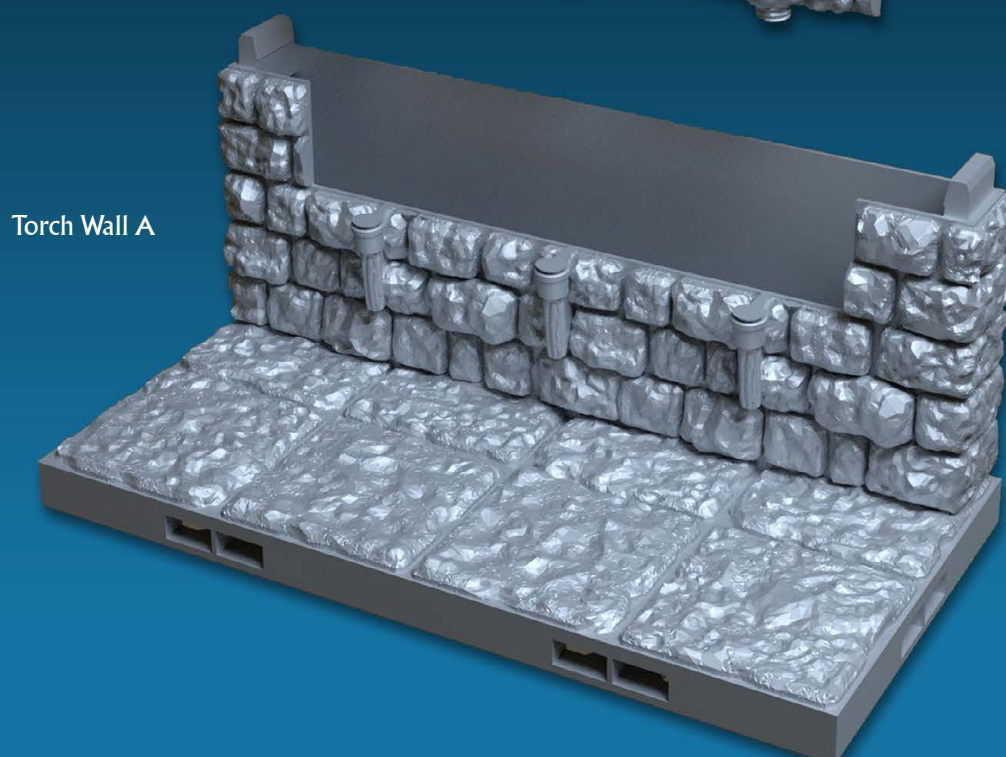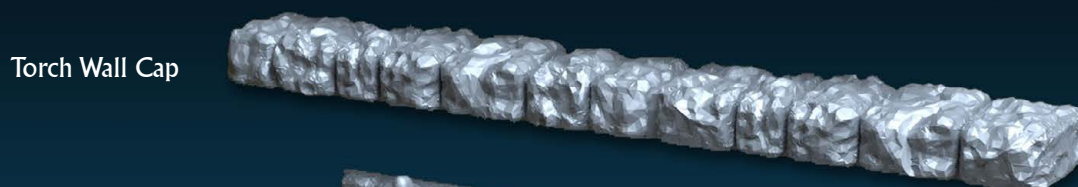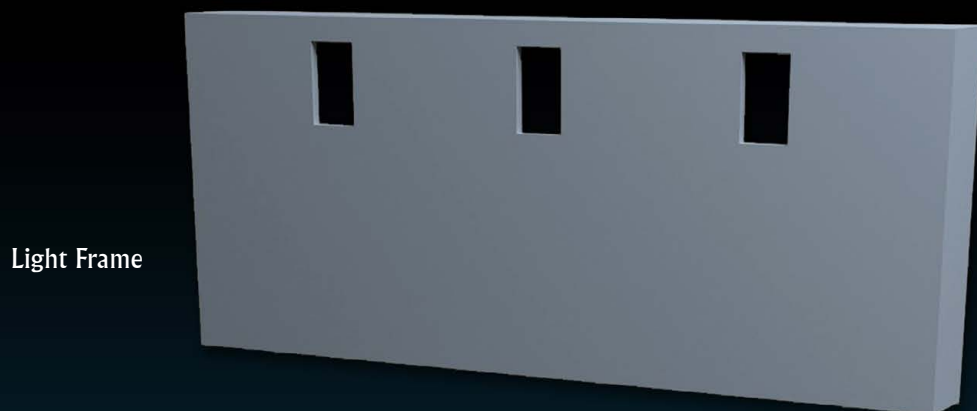
## Using the DRAGONBITE™ clips

Before inserting a Dragonbite™ clip, you must first remove the printing support present in each slot on all four sides of every model. We recommend using needle-nose pliers to gently twist the support out of place (always wear eye protection when using tools.) Clips can be printed with 0% infill, but 15-20% is better.

To connect DRAGONLOCK™ Ultimate models together, simply insert a Dragonbite™ clip into the slot of one model, then slide the adjoining model into the opposite side. Four sizes of Dragonbite™ clips are provided (loose, standard, tight, extra tight.) We recommend trying the tight clip first. The clips will work more easily after using them a few times.

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Light Frame

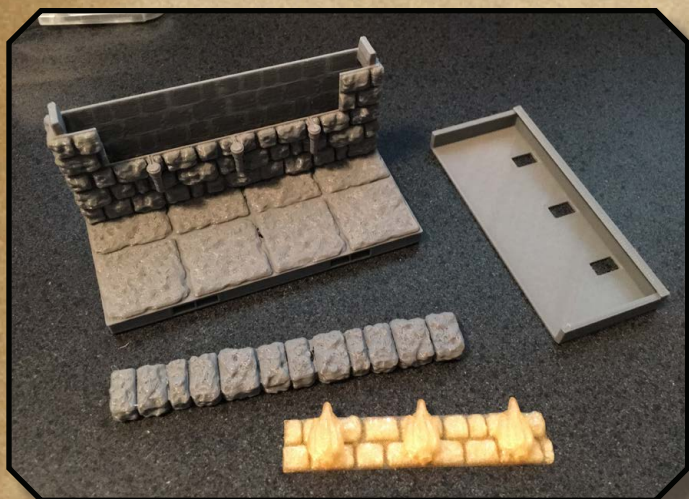Torch Wall Cap

Torch Wall B

Torch Wall A

To use this as an LED lighted wall, you can either rig your own custom LEDs in each torch socket, or as we did, use an 'off the shelf' micro LED light strand so that no custom wiring, soldering, etc. is necessary. The type of micro LED light strand we used is about 3-3.5' long, and has about 20 micro LEDs in it with a compact battery pack (batteries are replacable.)

We recommend using these micro LED string lights available from Amazon.com as they are very inexpensive and have worked well for us:
https://www.amazon.com/gp/product/B01M6UIXIQ/ref=oh_aui_detailpage_o02_s00?ie=UTF8&psc=1

For the LEDs to show, you must print piece 'Torch Wall B' in a translucent color like orange or yellow. The other pieces can be printed with any filament.



Before beginning to glue any pieces together, ensure that the 'Light Tray' slides easily into the main wall piece. If there is excessine stringing inside of the wall, you will need to remove it so the tray slides completely down to the bottom.
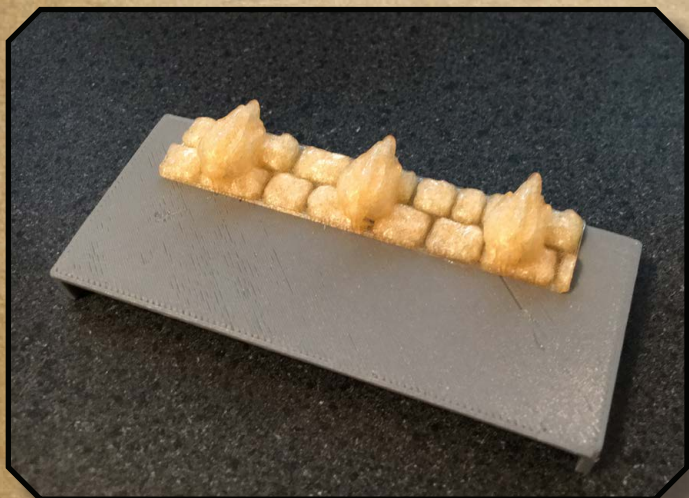


To glue 'Torch Wall B' to the 'Light Tray', insert the tray into 'Torch Wall A' as shown, flip on its back, and apply drops of super glue as shown (we use Gorilla Glue Gel). Note we have left ample space around the outer edges so that no glue gets on the main wall accidentally.

Press 'Torch Wall B' into place, being careful not to get any glue on 'Torch Wall A'.

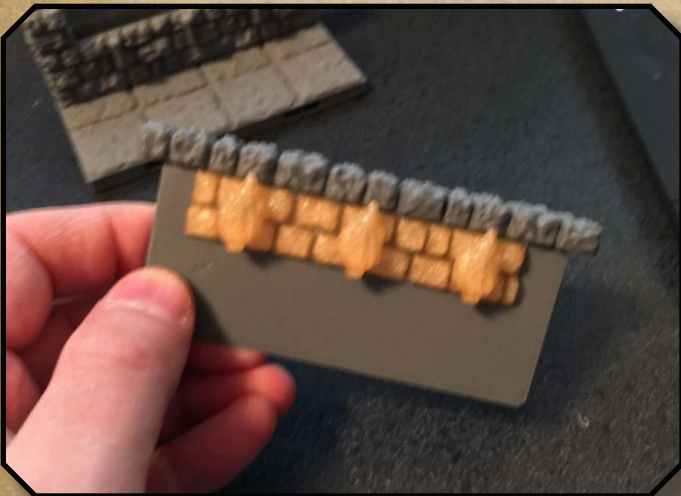This is what 'Torch Wall B' should look like glued to the 'Light Tray'.

Once dry, insert the tray assembly back into 'Torch Wall A', and apply glue along the top as shown.

Press the 'Torch Wall Cap' into place, being careful not to get glue on 'Torch Wall A'



Here is the completed light tray assembly.



The LED string lights come with a battery box. Ensure you glue the box so that the opening battery flap is pointing upward toward you, so that you can easily change batteries later. Glue into place.

When gluing the battery box, be sure to leave a very slight gap between the bottom of the battery box and the bottom edge of the light tray, so that it does not interfere with the light tray sliding all the way to the bottom when inserted into 'Torch Wall A'.



There is about 7" of the wire strand between the battery box and first LED, just wrap this up neatly into an oval shape and apply electrical tape as shown. This will keep it in place and prevent it from interfering with the light tray inserting into 'Torch Wall A'.



For each LED, bend the wires as much as possible to the rear of it, this will help when inserting them into the torch flames. You can insert between 1 to 3 LED bulbs per flame. Fewer bulbs mean longer battery life, but three bulbs look incredible.

Here is the first torch flame socket with three LEDs inserted. It helps to push the LED into the socket one at a time, using tweezers to shove them inside. Once you have the LEDs inserted, apply electrical tape over the area to keep them from coming out of the socket (you can use hot glue, too.)
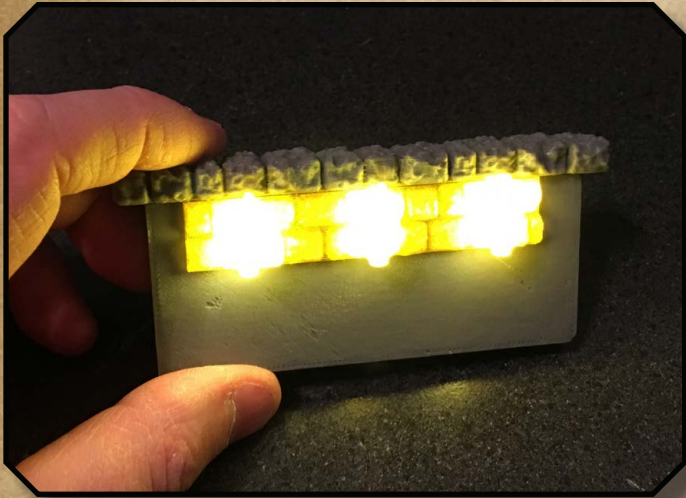
Proceed with the following two flame sockets, taping each shut after the LEDs are inserted. It helps to have the LED's on while inserting them so you can see their position easier and be sure you are happy before taping them in place.

When done, you can simply cut off the remaining strand of LED bulbs. You can opt to not do this, and leave them tucked inside the wall, but this will drain your battery faster.

Here is the completed light tray with LEDs.



The finished wall with the light tray inserted into 'Torch Wall A'. The tray makes it easy to extract the LED battery pack/lights to turn them on and off.



Here is a wall fully painted with lights on.

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# Printing info:

## Filament:

•We recommend using PLA (we use Protoparadigm and Hatchbox in the FDG office)

## Layer Height:

•All clips and wall models: 150 micron/.15mm (200 micron/.2mm works great as well)

## Top/Bottom layers:

•6 layers or .9mm for 150 micron, 4 layers or .8mm for 200 micron

## Side layers/shells:

•2 shells (.8mm with a .4mm nozzle)

## Infill:

Wall A, Wall B, Light Tray, and Top Cap: 0%
Clips: 0-20%

## Rafts & Brim:

None