



ATOMIK How-To Series #10

## Building a Garage Bouldering Wall

### STEP-BY-STEP INSTRUCTIONS

Turning a space of blah into a place of happy awesome.



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### SELECTING THE LOCATION OF YOUR WALL

#### Things you should consider before building

Garages offer great space for climbing walls but you should decide whether the space will be dedicated to the climbing wall or if you'll be sharing the space with a car. If sharing, the angles should be thought out to accommodate space needed for the garage door itself and the car.



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### PUTTING YOUR IDEAS DOWN ON PAPER

The first step to making your dream wall starts with scale drawings and/or models

- Use graph paper and a protractor and draw out your wall.
- Scale models will also help you understand the limitations of your space.
- Though features like roofs may seem cool today, clean flat overhanging walls of 20 degrees to 35 degrees offer the best variety.
- 45 degree walls are very steep and work your core muscles. They do not offer much in terms of learning footwork unless you are climbing at an expert level.
- Roofs tend to offer the same moves over and over. If you want a roof, we suggest getting some Volumes for it. They will add the variety you need.



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### FRAMING YOUR WALL

Choosing different sizes of framing lumber is appropriate.

- This photo shows 2" x 4" and 2" x 6" lumber being used since the wall is short in height.
- The taller the wall, the larger the framing lumber comes.
- Frame your wall using the 16" center rule. That's 7 joists per 8' wide section.



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**SISTERS, SLEEPERS AND HEADER JOISTS**

Plan your attachment points so groundwork becomes an option.

- Sisters, Sleepers and Header Joists create easy attachment points for joist hangars.
- Lower angled walls can be built in complete sections on the ground using this method.



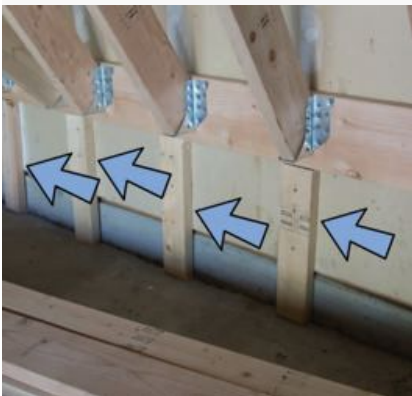
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**SISTERS, SLEEPERS AND HEADER JOISTS**

Details make a difference.

- These Sistered 2" x 4"s have been attached to existing studs and joists.
- This method (also known as Furring Strips) creates easy-to-find locations for attaching your panels.
- These Furring Strips also create space behind the panel for the bolts of the climbing holds to enter.

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**SISTERS, SLEEPERS AND HEADER JOISTS**

Details make a difference.

- Sistered 2" x 4"s to existing studs for a Kick Plate on your wall.
- The Kick Plate creates room below your wall so that you can start boulder problems from a sitting position for one extra move.



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**SISTERS, SLEEPERS AND HEADER JOISTS**

Details make a difference.



- This 2" x 8" Header Joist was run perpendicular to the studs/joists.
- This creates a landing area for your 2" x 6" wall studs where your panels can attach.



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**Blocking**  
**Not the football type.**

- Blocking adds strength and stability to joists.
- Locate Blocks where the seams of your panels meet.
- This keeps the panels on the same plane and gives you a place for attachment.

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**MARKING YOUR SHORT CUTS**

**The right tools for the job.**

- A 48" Drywall T-Square is a nice tool to have when marking short cut lines.



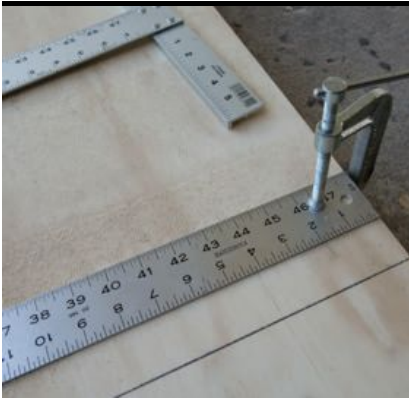
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**MARKING YOUR LONG CUTS**

**The right tools for the job.**

- A Chalk Line is the tool to use when marking long cut lines.



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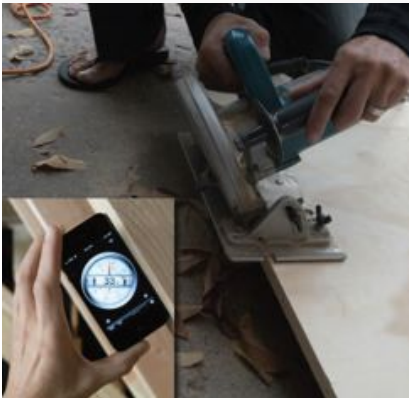
**MAKING straight CUTS**

**The right tools for the job.**

- Using straight edges to run your circular saw along helps some builders.

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**MAKING FINISH CUTS**

**Locate the wall studs and you're in business**

- When building angled walls, plywood should be cut so that it fits snugly.
- These types of cuts will create tighter joints thus less finish work in the end.
- We used a "clinometer app" on an iPhone to measure the angle of the wall to get the correct angle to cut the panels.

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**DRY FITTING**

**Fine tune it before it's final.**

- Before investing time into painting and drilling out your angled panels, dry fit them.
- It's more cost effective to ruin a raw panel rather than a textured panel equipped with t-nuts.
- Attach panels with a few screws and make final adjustments.

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**PAINTING YOUR PANELS**

**What texture to use and why.**

- There are several textured paints available to your local Home Depot or Lowes.
- We've used Restore, Floortex and several others. They are all anti-skid flooring paints.
- The basic principle for texture is so for climbing holds to stick less to your



wall.

- When we say, stick to your wall, what we really mean is that if you just paint without texture, your holds rip off the paint (and a top layer of plywood) when you try to move them at a later date.

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#### TEXTURE TECHNIQUE

The final look of your wall is in the details.

- If you don't prime your panels, you should use paint with a primer mix on raw panels.
- Roll out your textured paint using a high nap roller.
- Have a second person available to brush out the texture evenly while you are rolling.
- In painting, the general rule of thumb is to do 2 coats of paint.

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#### PREPARING FOR PANEL FOR DRILLING T-NUTS

72 holes per sheet of plywood minimum.

- T-nuts are cheap so add, at a minimum, 72 t-nuts per sheet of 4' x 8' plywood.
- Use a chalk line and mark only one panel with the layout.
- A staggered pattern t-nut layout is best.
- T-nut locations should be located so they miss your framing studs.

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#### PREPARING FOR PANEL FOR DRILLING T-NUTS

72 holes per sheet of plywood minimum.

- Place t-nuts about 8" apart on the first row and then offset that pattern by 4" on the next line.

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#### DRILLING THE T-NUTS

Gang the panels for efficiency.



- You can clamp anywhere from 3 to 6 panels together when drilling.
- Always drill from the front surface (the side you will climb on) through to the back of the panel. Blow outs will create an undesirable look, so keep those to the back side.
- Use a 7/16" wood spaded bit or Forstner to drill the holes.



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**HAMMERING IN YOUR T-NUTS**

**Not child's play.**

- Be sure to hammer the t-nuts in straight.
- Wear ear protection.



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**MOUNTING YOUR PANELS**

**Eliminate guesswork.**

- Pre-marking your wall where the studs lie will help eliminate guesswork when installing panels.
- Install panels using #8 x 2" deck screws every 6" to 8".

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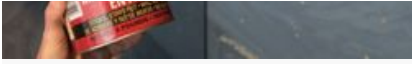
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**FINISHING YOUR WALL**

**Aesthetic touches to get best results.**

- Wood putty is nice to fill in gaps. Durham's Water Putty (found at Lowes and Home Depot) is an excellent material.
- A thick mix is easier to work with.



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### FINISHING YOUR WALL

#### Finishing touch-ups.

- Touch up your wall with leftover textured paint.



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### FINISHING YOUR WALL

#### Going the extra mile.

- Additional high light colors or even murals can be painted on your wall.
- Now go the extra mile to create depth and aesthetic appeal!

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### PUTTING THE CLIMBING HOLDS UP

#### Keep it interesting.

- Small walls need lots of holds to keep them interesting.



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### PUTTING THE CLIMBING HOLDS UP

#### The final test.

- Now you'll find out if your installation of the t-nuts went well.
- Hand-tighten the bolts into the t-nuts at first so there is no resistance. If you



meet resistance, stop immediately and back out the bolt. Cross threading a t-nut is a pain to get off the wall.

- Tighten down your hold once you are confident that the bolt is in properly.



### FINAL NOTES

#### Soften the landing zone.

ht - Now that your holds are up, protect the climbers with adequate floor padding below.

- 2" to 4" padding is adequate for an 8' tall wall however, adding stable extra padding never hurts.