

D2G DIY Instructions (Screen System)

Tools and Materials needed to build and install your screen system

Tools

- Power Drill (Phillips or star head)
- Skill saw or chop saw (recommended)
- Reciprocating saw (blade designed to cut metal)
- Staple gun (hand held or air compressed)
- Tape Measure
- Saw horses (Qty 2)
- 5/8" drill bit
- 1/4" drill bit

Materials

- 2-in x 4-in wood
- Angle Iron
- Angle Bracket (3" x 3")
- 2" wood screws with applicable screw bit (Phillips or star head)
- 2 1/2" wood screws with applicable screw bit (Phillips or star head)
- 1" lag screws with applicable hex head driver bit
- Washers for hex head screws
- Velcro (2" wide)
- 1/2" staples
- 4" Mollys (for drywall application only)
- 3" Tapcon bits with applicable drill bit size (Concrete Only)
- Heavy duty zip ties (18 inches)
- Mini Bungee cords
- 1/4" L bracket w 1/4" hex nuts
- Eye hook

Materials Note: See step 1 below for qty of materials needed

Building Screen Frame

Steps

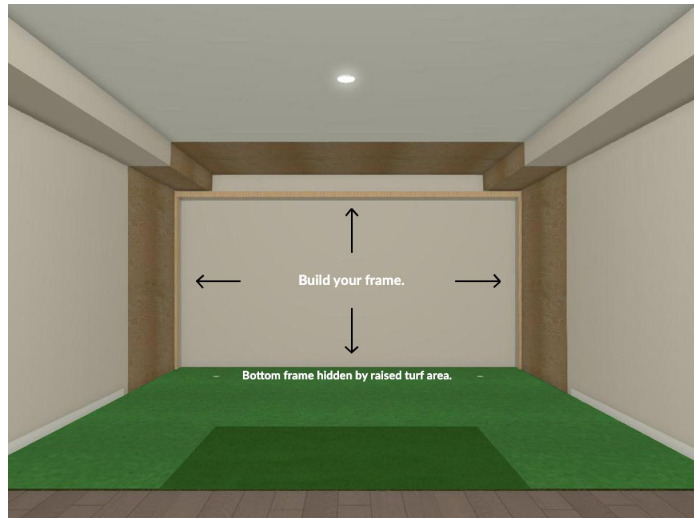
Step 1 - Determine Quantity of Material Needed

The first step is to ensure you have the right amount of materials based on your room dimensions. Here we will help you determine the qty for each material needed:

2-in x 4-in wood (header and side frames)

Header Frame - Measure the width of the room and then multiply it by 2 to determine the amount of 2-in x 4-in wood needed. Example: **Room width = 13'**. **Multiply x 2 = total of 26'** of 2-in x 4-in wood needed.

Side Frame - Measure the height of the room and then multiply it by 2 to determine the amount of 2-in x 4-in wood needed. Example: **Room height = 8'**. **Multiply x 2 = total of 16'** of 2-in x 4-in wood needed.



In this example, you would need a total of 42' of 2-in x 4-in wood

Angle Iron

Header Frame - Measure the width of the room to determine the amount of angle iron needed. Example: **Room width is 13' = total of 13'** of angle iron needed.

Side Frame - Measure the height of the room and then multiply it by 2 to determine the amount of angle iron needed. Example: **Room height is 8'. Multiply x 2 = total of 16'** of angle iron needed.

In this example, you would need a total of 21' of angle iron

Angle Bracket (3" x 3")

- Qty. 2

2" Wood Screws

- Qty of 10-20

2 1/2" Wood Screws

- Qty of 10-20

1" lag screws

- Qty of 10-20

Washers for lag screws

- Qty of 10-20

Velcro (2" wide)

Use same formula as angle iron to determine amount of velcro needed

Header Frame - Measure the width of the room to determine the amount of velcro needed.

Example" **Room width is 13' = total of 13'** of velcro needed.

Side Frame - Measure the height of the room and then multiply it by 2 to determine the amount of velcro needed. Example: **Room height is 8'. Multiply x 2 = total of 16'** of velcro needed.

In this example, you would need a total of 21' of velcro

1/2" staples

- 1 Box (Qty. of 1000)

4" Mollys (for drywall application only)

- Qty of 10-15

Heavy duty zip ties (18 inches)

- Qty of 30-40

Mini Bungee cords

- Qty of 50

1/4" L bracket w 1/4" hex nuts

- Qty of 2 and 4

Eye hooks

- Qty of 2

Step 2 - Build Header Frames

Building the header frame has two different methods based on the width of your room. Less than 12ft and more than 12ft. This is due to the fact that 2-in x 4-in wood is typically maxed out at 12' lengths. We will break it down based on this.

Building Header Frame Construction / **Less than 12'**

First step is to cut the 2-in x 4-in wood to size. To do this you take the width of your room and subtract 1 1/4" to get the desired wood length. Cut (2) 2-in x 4-in pieces to that size. Screw the

two pieces of wood together (face to face) using your 2" wood screws. We recommend using 10 screws in 5 equally spaced rows of 2 screws (insert picture of screw locations).

Next step is to cut the angle iron. To do this take room width and subtract 5.5" to get the desired angle iron length. Cut the angle iron to size using a reciprocating saw with a blade designed to cut metal.

Next step is to attach the angle iron to the 1 ½ face of the 2-in x 4-in wood. The angle iron will be 5.5 inches shorter than your wood length so make sure to center this on the wood so you have equal spacing on both sides. Angle iron should be attached using the 1" lag screws. We recommend using a minimum of two screws per section of angle iron.

Once the angle iron is attached to the 2-in x 4-in wood, you will want to staple the velcro in the center of the 3 ½" face of wood covering the entire length. We recommend using a hefty amount of staples in order to prevent your velcro from detaching during installation.

Header Frame Construction / **More than 12'**

First step is to measure the width of your room and subtract 1 ¼" to get the desired wood length. Since 2x4 pieces generally come in 12 ft lengths we will show you how to use multiple pieces to create the desired length.

First step is to take (2) equal size 2x4, lay them face to face (1 ½" side down) and stagger them to get the desired length (see pic below). Make sure that the final measurement is the width of your room minus 1 ¼". Once the 2x4 are staggered to the desired length, insert a temporary screw to hold them temporarily together in place.

Next step is to measure the distance from each end of the combined 2x4 to the location where the 2x4 are doubled up. This distance should be equal on both sides. Once you have this measurement, cut (2) equal size 2x4 pieces to this length.

Next step is lay the combined 2x4 on its 3 ½" face. Place the two equally cut pieces at each end of the combined 2x4. You should now have a double sided 2x4 that is the desired length for the header frame. You can now screw the two pieces of wood together (face to face) using your 2" wood screws. We recommend using 10 screws in 5 equally spaced rows of 2 screws (See below picture of screw locations).

Next step is to cut the angle iron. To do this take the room width and subtract 5.5" to get the desired angle iron length. Cut the angle iron to size using a reciprocating saw with a blade designed to cut metal.

Next step is to attach the angle iron to the 1 ½ face of the 2-in x 4-in wood. The angle iron will be 5.5 inches shorter than your wood length so make sure to center this on the wood so you

have equal spacing on both sides. Angle iron should be attached using the 1" lag screws. We recommend using a minimum of two screws per section of angle iron.

Once the angle iron is attached to the 2-in x 4-in wood, you will want to staple the velcro to one side of the center of the 3 ½" face covering the entire length. We recommend using a hefty amount of ½ inch staples in order to prevent your velcro from detaching during installation.

Step 3 - Build Side Frame

First step is to cut the 2-in x 4-in wood to size. To do this take the height of your room (from the finished floor) and subtract 4" to get the desired wood length. Cut (2) 2-in x 4-in pieces of wood to that size for the right and left side walls.

Next step is to measure and cut two pieces of angle iron to the desired side wall length. Cut the angle iron to size using a reciprocating saw with a blade designed to cut metal.

Once the angle iron is cut, attach the angle iron to one side of the 3 ½" face of the 2-in x 4-in wood. The angle iron should match the exact length of the 2-in x 4-in wood. Angle iron should be attached using the 1" lag screws. We recommend using a minimum of two screws per section of angle iron. Repeat these steps for the right and left sides.

Once the angle iron is attached to the face of 2-in x 4-in wood, you will want to staple the velcro to the 1 ½" side of wood. Make sure that the velcro is placed on the same side that the angle iron is attached to. The velcro should cover the entire length of the 2-in x 4-in wood . We recommend using a hefty amount of staples in order to prevent your velcro from detaching during installation. Repeat these steps for the right and left sides.

Step 4 - Installing the Frame

Installing Side Frames

You will start by installing the (2) side frames and then move to installing the header frame. We have broken this down by drywall, plywood and concrete. We recommend having two people.

Drywall Installation

The first step is to place one of the 2in x 4in side frames with the 3.5" face against the wall and the angle iron facing into the room. Please make sure you are flush to the floor so that you have left 4" of space between the top of 2in x 4in and the ceiling. This should be placed exactly 12" off the back wall. Using your level make sure your 2x is plum. Once it is properly placed, use two temporary wood screws into drywall to hold it in place.

Once the 2in x 4in is in place, take your power drill and 1/4" drill bit and drill 5 equally spaced pilot holes starting from the bottom and working your way to the top. Make sure the drill holes go through the plywood and into the drywall. The next step is to remove the temporary wood screws and take the 2in x 4in frame off the wall. Next you will take your 5/8" drill bit and enlarge the 1/4" holes in the DRYWALL ONLY. The holes in the wood need to stay at 1/4".

Now you will take your mollys and insert them through the 1/4" pre-drilled holes on the 2in x 4in and attach the wing nuts to the end. At this point you will align your mollys to the 5/8" holes on the drywall and press the wing nuts firmly through. You will now need to pull the 2in x 4in" toward you and tighten each molly. Note** tighten each molly a little bit at a time for easier installation. Finally ensure your 2x4 is level before fully tightening all the mollys.

Repeat above instructions for the other wall so both side wall frames are in place.

You are now ready to move onto the header frame installation.

Concrete:

The first step is to place one of the 2in x 4in side frames with the 3.5" face against the wall and the angle iron facing into the room. Please make sure you are flush to the floor so that you have left 4" of space between the top of 2in x 4in and the ceiling. This should be placed exactly 12" off the back wall. Using your level make sure your 2x is plum. Once it is properly placed, use two temporary wood screws into drywall to hold it in place.

Once the 2in x 4in is in place, take your power drill and recommended tapcon" drill bit and drill 5 equally spaced pilot holes starting from the bottom and working your way to the top. Make sure the drill holes go through the plywood and into the drywall. Finally, drill your tapcon screws through the wood and into the pre-drilled concrete. Please check to make sure you are level throughout this process..

Plywood

The first step is to place one of the 2in x 4in side frames with the 3.5" face against the wall and the angle iron facing into the room. Please make sure you are flush to the floor so that you have left 4" of space between the top of 2in x 4in and the ceiling.

This should be placed exactly 12" off the back wall. Using your level make sure your 2x4 is plum. Finally, screw your 2in x 4in frame to the wall using 2.5" wood screws.

Installing Header Frame

Now that your side frame is installed and your header frame is built we will need to install your header frame. Please note to be careful during the header frame installation and **plan to use two people during this phase of the project.**

Using two ladders, one on left and one on the right each person will grab a hold of one end of the header. Make sure your velcro is facing into the room and your angle iron is pointing down to the ground. You will now rest each end of the 2x4 onto the top of the side frames, using your L brackets and associated hardware, you will attach the header to the side frame. Please note if your room is over 12' wide we recommend adding support in the center of the header to prevent sagging.

Installing Front Screen Only

Now that the frame is built we are ready you are ready to install your screen. We have broken this down into front screen and full screen installation which is the front and back screen.

First step is to be sure to wash your hands and check for possible small cuts. This is to ensure you prevent staining your brand new white screen prior to installation.

After your hands have been cleaned you will want to pull the front screen out of your D2G box, unfold it and lay it down so the loop velcro is on the ground. (Loop velcro is the softer of the two pieces). You will want to lay the screen down this way in the event your floor is dirty as this is the back side of the screen. You now want to determine the bottom of the screen from the top of the screen. To do this, simply locate the corner grommets. The top side has 3 grommets in each corner in an "L" form. You will now grab two zip ties. Using the corner grommet of the screen, loosely hang the screen to the corner angle iron using a zip tie (see picture). Repeat on the opposite side.

Next you will want to set your screen to the proper height. We recommend finding the center of the screen and aligning it to the center of the header frame (as best you can). Next, take two cables ties and loosely hang them toward the middle of the screen. You will now want to repeat this with every grommet on the top row. NOTE** at this point the bottom of your screen should NOT be off the floor. If it is, you will need to cut your zip ties and start over.

Now that all of your zip ties are loosely hung and your screen is centered, you will want to start slowly tightening all of your zip ties so that the bottom of the screen is set to the desired height (Usually lives with 1-2inchs of slack. (See Laser video for you perfectionist). Once you have set your desired height you will now take two zip ties and loop them through the second grommet down from the top (see picture) and evenly tension on both sides. At this point you are set to use your bungees. Take all of your bungees out and start looping them through each of the remaining grommet holes on the screen (see attached picture). Once they have been looped through each grommet you will need to attach each hook to the 2x4. Try and make sure the tension is spread evenly from left to right to avoid wrinkles in the screen.

Finally, you will want to tension the bottom of the screen to the side frame to prevent balls from getting under your screen. You will accomplish this by tensioning the pull string and attaching it to the L Bracket with they eye hook (Comes with our pre installation screen) or (Brackets/ Eye hook kits can be purchased separately). Once you L brackets are properly installed (see picture) You will tie your tensioning string in a double knot to one of your eye hooks. On the other side you will now loop your tension string through and pull it tight. (your string should almost double in size. Finally you will tie your string off in a double knot while trying not to lose tension in the tying process.

Installing Screen System (Front and Back Screen)

Back Screen

First step is to be sure to wash your hands and check for possible small cuts. This is to ensure you prevent staining your brand new white screen prior to installation.

After your hands have been cleaned you will want to pull the front screen out of your D2G box, unfold it and lay it down so the loop velcro is on the ground. (Loop velcro is the softer of the two pieces). You will want to lay the screen down this way in the event your floor is dirty as this is the back side of the screen. You now want to determine the bottom of the screen from the top of the screen. To do this, simply locate the corner grommets. The top side has 3 grommets in each corner in an "L" form.

You will now grab two zip ties. Using the corner grommet of the screen, loosely hang the screen to the corner angle iron using a zip tie (see picture). Repeat on the opposite side. Next you will want to set your screen to the proper height. We recommend finding the center of the screen and aligning it to the center of the header frame (as best you can). Next, take two cables ties and loosely hang them toward the middle of the screen. You will now want to repeat this with every grommet on the top row. NOTE** at this point the bottom of your screen should NOT be off the floor. If it is, you will need to cut your zip ties and start over.

Now that all of your zip ties are loosely hung and your screen is centered, you will want to start slowly tightening all of your zip ties so that the bottom of the screen is set to the desired height (Usually lives with 1-2inchs of slack. (See Laser video for you perfectionist). Once you have set your desired height you will now take two zip ties and loop them through the second grommet down from the top (see picture) and evenly tension on both sides. At this point you are set to use your bungees. Take all of your bungees out and start looping them through each of the remaining grommet holes on the screen (see attached picture). Once they have been looped through each grommet you will need to attach each hook to the 2x4. Try and make sure the tension is spread evenly from left to right to avoid wrinkles in the screen.

Finally, you will want to tension the bottom of the screen to the side frame to prevent balls from getting under your screen. You will accomplish this by tensioning the pull string and attaching it to the L Bracket with they eye hook (Comes with our pre installation screen) or (Brackets/ Eye hook kits can be purchased separately). Once you L brackets are properly installed (see picture) You will tie your tensioning string in a double knot to one of your eye hooks. On the other side you will now loop your tension string through and pull it tight. (your string should almost double in size. Finally you will tie your string off in a double knot while trying not to lose tension in the tying process.

Front Screen

First step is to be sure to wash your hands and check for possible small cuts. This is to ensure you prevent staining your brand new white screen prior to installation.

After your hands have been cleaned you will want to pull the front screen out of your D2G box, unfold it and lay it down so the loop velcro is on the ground. (Loop velcro is the softer of the two pieces). You will want to lay the screen down this way in the event your floor is dirty as this is the back side of the screen. You now want to determine the bottom of the screen from the top of the screen. You can determine this as the bottom of the screen wont have any velcro or black webbing. Next step will be to take the back of the front screen (loop velcro) and velcro it evenly to the front of the back screen. Please note your front screen will take shape of the back screen. If your back screen was installed properly you will see less waves and wrinkles on the front screen.

Side Pads

Once your front screen has been installed we will want to frame your screen to the desired aspect ratio using D2G custom side pads. Start by taking your side pads out. Make sure to reference your D2G drawing to determine the side pads from the header pad. (usually two side pads are the same dimension and the header pad is different). Plan to mount one side pad at a time. These will mount all the way to the ceiling and should fit properly to the bottom of your finished floor. Please note these should stick to both the screen frame velcro and the velcro that

is attached to the front screen. Lastly you will mount your header pad starting on one side and working your way to the other. You will need a ladder and likely a helper for this step.