



BEST PRACTICES COURSE – WEEK 14 – PART 2

Advanced Mouse Constraints and the Control Box

© Copyright 2012 by Eric Bobrow, all rights reserved

For more information about the Best Practices Course, visit <http://www.acbestpractices.com>

Hello, this is Eric Bobrow. And in this lesson we'll take a look at some advanced mouse constraint controls and the use of the Control Box or Palette. I'll start out with drawing a box of walls on the plan, and this box I'll just start out here. And let's say that I want to make it 80 feet long and hit the tab key and say that I want to make it 60 feet in the other dimension. [0:00:28]

Now I'm going to take the option to add some new walls on an angle. And I will go and click on this corner here, and to set that angle, I'll type the letter A. And let's say that it's 20°. And I'll hit the Tab key to cycle through the coordinates and go back to distance. And then can type in let's say that I wanted this to be 80 feet long as well. So that has now set the initial side of this angled piece to be again 80 feet, but on the 20° angle. And I can draw it any length, but I'll make it so that it snaps to this corner, so it has a nice even symmetry here. Now, to clean this up, in other words, to get rid of the extra interior walls, I can hold down the Command of the CTRL key to get the scissors and simply trim by clicking each of these walls. Now I can't go to the corner of it, it won't be sensitive. I can go to the edge and then when I click, it will clean that up. [0:01:34]

Now let's take a look at this palette that is under the Window menu, Palettes, Control Box. This is one of the two legacy palettes that were the primary input controls in ArchiCAD before version 10, the other one being the Coordinate palette. Now the Coordinate palette here is something that I never use anymore, because all of its controls are available in more updated versions. So for example, controlling X and Y and R and A, or seeing where you are in space is handled by the Tracker or by the Measure tool. And being able to set a gravity, there's an option up here in the toolbar for that. And then moving the user origin, there is a control here in the toolbar as well, and the controls for the grid are handled by this little grid popup that has some similar options, or exactly the same controls that we need here. [0:02:37]

So I'm going to close the Coordinates box, because we don't need that. But the Control box does have some options that really don't exist in any of these other toolbars, or are just done in a way that are more convenient. So there are times when I will open this Control box up, and I do recommend that you explore it and get comfortable with it. Now it's very compact here, and I'm very comfortable with using it. But for explaining it, I'm going to show you a different option that makes it easy to see all of the options laid out. So I'm going to switch it by right clicking inside any part of it, and saying that I'd like to go to the vertical control box. This will then arrange it so that all of these are arranged in rows. And then I can also, before or after I do that, change it from compact to extended. [0:03:29]

And by doing that, all of the options are laid out one at a time and it becomes much easier for me to point at and show you what they are, although you can have equal control using the horizontal or the compact options. Now the first one is turning on and off guidelines. When I click on this, you can see it's the same as clicking in the toolbar on or off. And there is an option here that says guideline settings, this little popup. And in ArchiCAD 10 through 14, you might want to adjust the timing for how quickly guidelines come up. And in ArchiCAD 14, all of those plus 15, you can control some of the increments of guidelines and rotated direction lines. [0:04:12]

The options to the right here are turning on or off different types of guidelines. So for example, if you're working on an access that is slightly off the main axis, you might want to turn off controls to show guidelines on the main axis when you don't want it to come up. You can also turn off the ones for the relative direction guidelines, that would be the 45s, actually that would be relative to the last point that you were drawing. And this would be the option for the incremental one. So you can play around with these, these will reduce the number of guidelines that show up on the drawing. So they can make it a little bit easier to control what you're snapping to. [0:04:57]

Now this option here is creating a guideline segment. I click on it, and then I can for example go and draw a guideline between these 2 points and use that as a way of snapping and perhaps putting in something like a column at the midpoint. It's exactly the same as the option here that is create guideline segment, only it's a single click rather than having to pull down a menu. Now, I'm going to just remove the guidelines and cancel that operation here, and move on. [0:05:28]

Now perpendicular and parallel options are available through the guidelines, but sometimes this is just a little easier to work with or at least to understand. So you may want to play around with this. If for example I wanted to make a wall perpendicular to this lower wall, I can click on the wall to start a new wall here. Let's say that I'm drawing just a single wall at this point. And then use the perpendicular constraint and tell it that I'd like to be perpendicular to this edge. And now, very clearly, I'm perpendicular to it no matter where I move the mouse, it carries that. And I can type in a distance or I can snap it to some other point that I'm interested in. [0:06:12]

So we can do the same thing with the parallel option. If I want to make a wall say going from this point but parallel to that other edge, then I can click on the parallel option, go where it sees the Mercedes and click. And now it's constrained and it makes it easy. Now you can do these same things through guidelines, but it can be a little bit confusing. So for example, if I want to make something perpendicular, say I click on his wall then go along its edge and either just stroke along in 10 through 14, or click on the little orange dot to make an orange guideline here. And then I will have a snap available. You can see that little perpendicular snap. [0:06:55]

So it actually is slightly more efficient, because I don't have to go to another palette, but it can be a little confusing. In the same way, if I want to make it parallel to something else, I can go along this edge and stroke it in 10 through 14, simply moving the mouse without clicking, or click on the orange dot in version 15. And then you will see that there is a constraint offer that is parallel, it has a little symbol of

the parallel there. So you can do it without the palette here, but sometimes it's a little easier to understand or manage with the control box. [0:07:29]

Now the Angle Bisector is one - the main thing I think about is when you are drawing an upper roof plan, if you don't want to do it in 3D and you just want to sketch it out, you would create the ridge lines that would be halfway between two adjacent walls. So let's go to the Line tool and say that I wanted to create what would be the ridge line as part of my roof sketch. So I'm going to go to, I will start the line here, and then I'll click on the angle bisector and make sure that it sees the edge here, the Mercedes. And then this other one here and now you can see that the line is constrained. And I can take it up any length or until it intersects something and end up with a line that's at that particular constrained angle. [0:08:17]

Now if I wanted to do it here, see that one was easy actually because it was a 45, but perhaps this one, which is an odd angle, this might be even more useful. I'll click on the constraint and I'll go to this edge and this other edge. And now I'm constrained. I didn't actually start the line already, so I'll just click on this corner to start it. And of course it is constrained and correctly showing me an equal angle on both sides. [0:08:45]

In the next row of the control box, we have the offset options. So if I click on offset, you can see that it becomes highlighted. And now I'm able to, for example, if I go to the Line tool, I'm able to offset a line from another element. So let's just see, I've got some property lines drawn out here, and I can go and say click on this edge of the property line. And instead of it placing the line, immediately it's waiting for me to tell it how far one way or the other that I want to offset. So let's say that I want to make it 20 feet in. So you can see that it's now created another line that's offset 20 feet from the two points that I clicked on. [0:09:35]

Now let's say that these three sides here, I would need to have a different offset. So I might actually use the Poly Line or the Line tool with the Poly option, and then again, click on the offset before I start it. That means that it's going to look at these points, not as the end result, but as the base of the lines that are going to be offset. To finish this poly line, I click on the last point one more time and now I get the option to offset it let's say 40 feet in. Now remember that I can always clean this up, I can hold down the Command or CTRL key and trim here by going over the edge that extends. And so you can very quickly clean up those intersections. [0:10:22]

Now sometimes you want to do a multiple offset, and so I will demonstrate that. And when I demonstrate that, I'm going to also demonstrate the use of the Magic Wand. So I'm going to say that I'd like to offset maybe just arbitrarily I will take it outside these lines. I will use the Magic Wand, and when I activate the Magic Wand, I can go and click on a corner or an edge. And this Magic Wand says trace the entire outline. So now I'm drawing an offset from that entire outline, and let's just say that I put 20 and hit Enter. And now it's not done, you see that the icon is still there for the offset. And I could make this let's say 25, and I can do as many of these as I wish. To finish it up, just click on the last point one more time or hit the Enter key at that point. So you can do two or three or as many as you wish, but finish up with the by clicking on the last one an extra time. So that's what the multiple offset does. [0:11:27]

Now the option for the special point constraint is similar to drawing a guideline and then snapping to a point along it. So for example, if I wanted to create a column, let's say a column halfway between two points, let me go and zoom in on this area here. So, I'll go ahead and use the - make sure my special snap value is set to half, and then click on the special point constraint and say click on one point and the other, and you'll see a very thin line being drawn. And a very faint little dot in the center. When I click, it placed the column at that point. Now I'll undo it, and I will do it again where we have multiple options, multiple snaps for example, with divisions. [0:12:23]

So now, when I activate this special constraint and click on these two points, you'll see that there's two little X's that show up. And I can choose either one or the other, and as I move around it will pick one or the other. And then I can click, and it will place, in this case, the column. It could be any type of element or the start of a line or wall could be on that measured point. And of course it could be distances as well that you might want to do in conjunction with that. [0:12:57]

Now the final part of this row in the control box is the Align to Surface, and it's available and 3D only, only, that's why it's gray. And I've never really used it. I've looked at it in the manual, and I think there are some cases where you might want to use it to calculate where or snap to where let's say a roof would meet a wall, even though it's not quite touching it or its stopping short, but I've never used it and so I'm not going to take the time to explain it in this lesson here. [0:13:26]

The next row in the control box are the cursor snap variants. I went through this in detail in a lesson in last week's series under Mouse Constraints, so please refer to that if you would like an explanation. Now the next row here is also something that I don't really use, because enable and suspend groups are the same as this button here. When I click on this button up here once or twice, you can see how it flips these back and forth. The magic wand is something that I've demonstrated before, but basically if you want to use the magic wand, you can either hold down the space bar, and it brings up the magic wand. If I am in a tool, for example the Wall tool or Line or Polygon tool like the Fill, that I can use the magic wand to click, it will draw these walls. [0:14:22]

In the same way, I'll just undo that, I can activate the magic wand from this palette and it's the same thing as holding the space bar down to get that. I missed that point. I need to make sure that I'm on an edge that it recognizes. The magic wand changes its shape when it recognizes an edge or a corner, so that gives you a clue that you are at a usable place to click. And now the last row here in the control box are the controls related to the special snap points. And these three relate to the option of either turning it off or on. You'll notice that when I click up here, off or on, you can see how it goes back and forth. [0:15:04]

And then there are the two variations of along the full length or between intersecting points. You can see Along Entire Element or Between Intersection Points are the two icons. So this is just a little bit simpler to click on if you have the control box open, you can do it this way with a single click rather than from the menu. [0:15:23]

Now we've got it set for divisions here. And you can see divisions listed. In fact, this is a very convenient way to work with the special snaps, because instead of having to set let's say the distance with one

control and then open special snap values to set a distance in here; we can actually go ahead and just type into a distance. As soon as we've activated the distance, we can type it in whether it's 1 foot or 4 inches or 2 m or whatever that he is, you don't have to open up a dialog box. So it's somewhat quicker to work with. [0:15:57]

In the final section of this lesson, we'll take a look at the mouse constraints and guideline options in the work environment. So Options, Work Environment, and let's look at Mouse Constraints and Methods. So you'll see that there are a number of check boxes, and a few things that you can click on to control. The check boxes basically will turn on or off the sensitivity to these particular angles. So in other words, when I'm pressing down the Shift key, when I'm drawing or editing or dragging or stretching something, and I press down the Shift key, is it going to pay attention to the axis, the horizontal and vertical axis? [0:16:40]

Most of the time of course that is a very good thing for it to do, but occasionally you're working on a project or a part of a project that is slightly off the axis. And it might be good to turn that off so that it's only paying attention to your rotated grid or to the nearest guidelines and things like that. So you may want to turn some of these off if they're getting in your way, if it's snapping to the wrong thing. Now in terms of the fixed angle, the 30° here that is unchecked, if you want to be sensitive to 30 and 60 and 120 and 150, you can turn that on. But you could also make it sensitive to every 15, and it would include 15, 30, 45. Hover, most of the time the guideline that is being sensitive let's say to 45s will give you just as much useful information. But this is something that you can turn on if you need it. [0:17:31]

Now moving down, the Cursor Snap Range, I almost never change this, but if you were working in a very detailed drawing with lots of information and things that, when you're trying to place something it's snapping to the wrong element, of course you can always zoom in tighter to find which element you are snapping to. But sometimes you may want to set this to a tighter range, so that it doesn't tend to jump to a node or snap point when you are five pixels away and you have to get even closer. [0:18:02]

Now I've never switched the option for line drawing vs. for **Mac Classic or CAD like**. I think this is really only for people who are jumping into ArchiCAD and have used Illustrator or something like that. So I wouldn't worry about that. But there's an interesting thing about using the wheel for zooming in and out, but holding down the Alt or Option key to get a pan. Now I'm going to demonstrate that right now. So if I roll the mouse wheel, we're going to zoom in or out, of course it's a very basic thing. But did you know you can hold down the Option or Alt key and then roll the mouse wheel and it will scroll you up or down. It could be a little bit of time saver rather than moving to the side to scroll it up or down or to actually press the mouse button down and pan. It might be useful. [0:18:58]

If you have a magic mouse or similar like the Mac offers, you can hold down the Option key and then go left to right. And it will do the same sort of thing as you're doing it. Now let's go back in the Options, Work Environment, and look at the Guidelines. In ArchiCAD 15, there's not really many controls to worry about. You just have the option of doing 45s or not in relationship to the active guideline. And whether you're going to do it relative to a rotated grid will be something that you might want to turn off or on

depending on your needs. I know in ArchiCAD 14 back through 10, there were more controls for the guidelines, because they come up based on a delay, how long you pause over things. [0:19:52]

So you may want to tweak how long it waits, if you find that the guidelines are coming up either too quickly and they're getting your way or you are just impatient and want them to come up more quickly, you can adjust that. So this concludes our lesson on Advanced Mouse Constraints. Please add your comments and questions on the page down below. This has been Eric Bobrow, and I thank you for watching.

[END OF AUDIO 0:20:20]