

Autodesk Building Systems Tricks and Tips

Charles Baynes offers some tips to help you get the most out of Autodesk Building Systems 2005

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1. Building Systems Snaps

ABS adds a comprehensive range of object snaps in addition to the standard AutoCAD set. In general, when working with ABS objects, you should use these in preference to the standard set to snap to points along a part's centreline and to part connectors. Building Systems snaps help you to align objects during layout, and create valid connections between Building Systems objects.



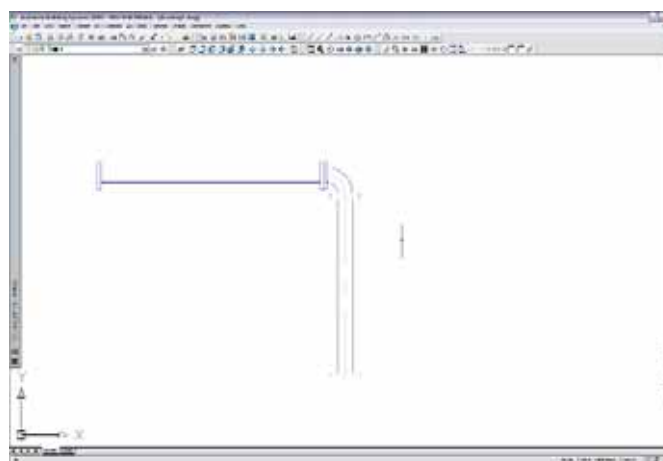
You can also enter the following Building Systems snaps on the command line, which can be helpful if you miss a connector during object selection: SCON (Schematic Connector), DCON (Duct Connector), PCON (Pipe Connector), ECON (Electrical Connector), WCON (Wire Way Connector), SCUR (Schematic Curve), DCUR (Duct Curve), PCUR (Pipe Curve), ECUR (Electrical Curve), and WCUR (Wire Way Curve).

Remember too that you can also use the Tab key to cycle through the object snaps if you, for example, want to select a Duct Connector rather than a Duct Curve.

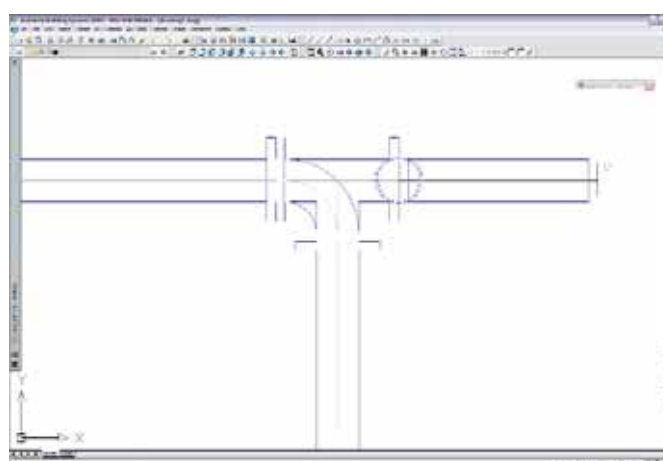
2. Converting Fittings

Converting fittings from one type to another, say from a short radius to a long radius, is very straightforward when using ABS. You can simply select the fitting (a bend or tee for example) and use the Duct/Pipe Fitting Modify option from the right click menu and then choose an alternative fitting from the list in the dialogue box. ABS will then automatically match up the connection sizes for the new fitting, replace the old fitting and automatically trim back or extend to the size of the new fitting.

If, however, you wish to change a bend to a tee or a tee to a cross then a different procedure is required. The following illustration shows a section of piping with a bend, although the same procedure would apply to a duct run.



By simply drawing a new length of pipe (you can use Add Selected from the right-click menu) and connecting it to the Pipe Connector on the bend, ABS will automatically turn the bend into a tee. You may need to cycle through the snaps to get at the pipe connector - see the Building Systems Snaps tip above.

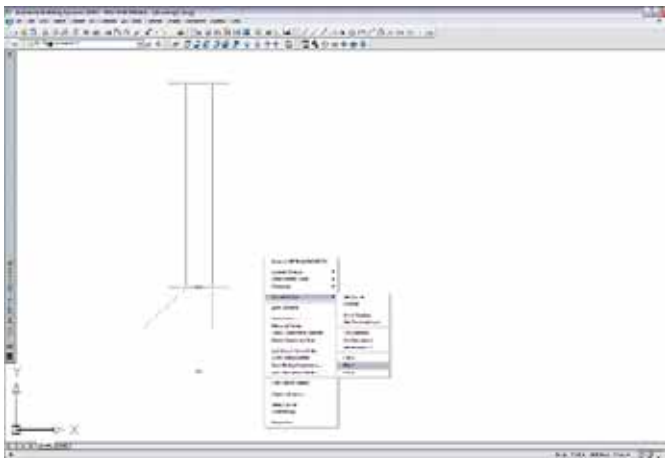


3. Direction and Position of Take-offs

When connecting to runs of ducting you may sometimes find that you need to change the direction of a take-off, for example the shoe in the following illustration is not facing in the right direction for the airflow in the main duct.

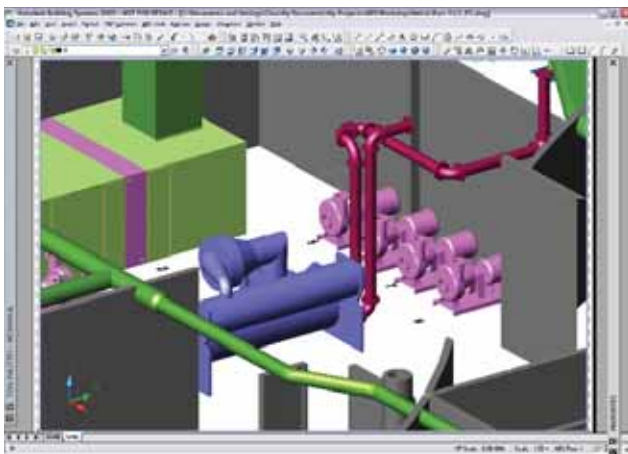
As take-offs are connected to ducts using anchors you can use the option to flip curve anchors, available in the right-click menu, to flip the shoe along the Y axis to reverse its direction.

You can also rotate the take-off along its X axis in order to change its direction.



4. Isolate

As with Architectural Desktop, you can isolate objects in ABS when working on them. This useful utility, available from the right click menu, enables you to hide everything in your model except for those objects you want to work on.



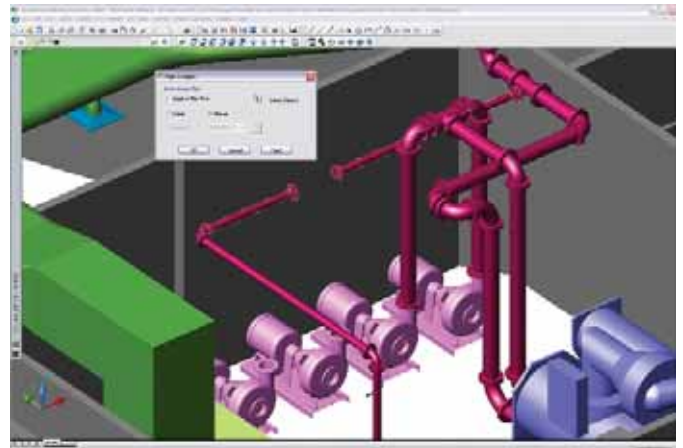
In this view some of the walls have been hidden using Isolate to allow easier access to the services

5. Re-joining Pipes and Ducts

In general, when you add lengths of pipes and ducts, ABS will automatically join and merge these for you. However, if you do end up with unattached lengths of ducting or piping, for example if you've been manually moving and deleting them, then you can easily re-join them.

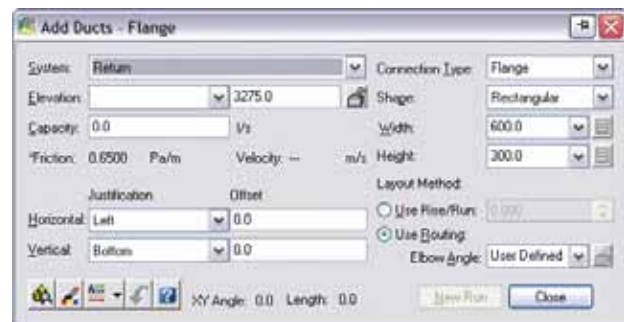


Simply use the merge option of the pipe/duct length command, which is available on the right-click menu. This command is generally used for splitting runs of duct/pipes into set lengths but also enables them to be joined using the merge option.

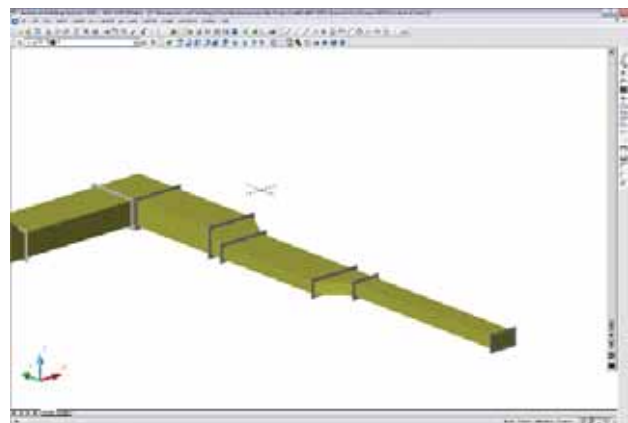


6. Generating Eccentric Transitions

When creating duct runs requiring eccentric transitions you can use the horizontal and vertical insertion justification to generate and control the direction of the transitions. By default the justification is set to centre but setting the vertical justification to bottom, for example, means that eccentric transitions will automatically be generated when you change from one duct height to another in the middle of a run.

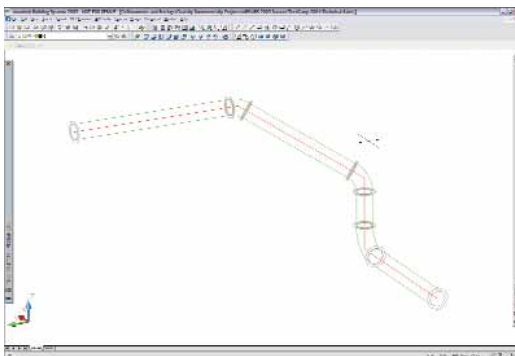


Likewise you can align your eccentric transitions along a wall by using either left or right horizontal justification.

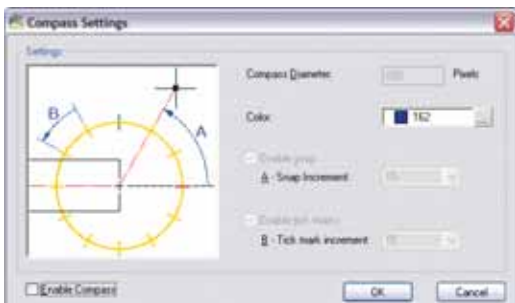


7. Creating Complex System Lines

When creating complex runs of ducting or piping, it can sometimes be easier to start by laying out a line or 3D polyline where you want the system to run rather than the duct or pipe itself. When this is correct you can then snap the pipe or duct onto this using standard AutoCAD endpoint snap but be sure to disable the compass first or it will override your snap settings.



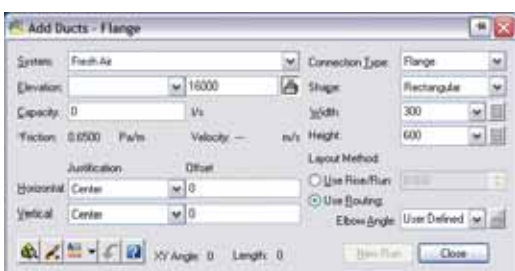
To disable the compass uncheck "Enable Compass" in the compass settings dialogue box available from the MEP Common menu; you may also want to change the colour and size settings too.



8. Locking Duct Elevations

When routing duct runs that pass around each other, when for example you are routing a length of supply duct under a return duct, you may find that they automatically try to connect to each other. In this situation you can simply lock the elevation using the lock symbol next to the elevation setting in the Add Duct dialog box.

This can also come in useful when you want to attach branches to risers at specific elevations.



9. Ceiling Grids

ADT Ceiling grids can be very useful when using ABS. For example, air terminals can be attached to the grid using cell anchors which are available from the ADT Design menu.

New terminals (complete with their cell anchor) can then be added easily with the copy command and they will automatically jump to their correct position on the ceiling grid without the use of snaps.

Do beware however that ceiling grids are not visible in all display configurations so make sure you select an appropriate configuration such as "Reflected" or "ABS Ceiling" prior to creating your grid. If you are creating a ceiling grid in a fairly complex room then it may be easier to start by creating a space first using ADT's "Generate Spaces" command and then using the "Set boundary" option to create the ceiling grid from the space.

10. Scaling Schematic Symbols

The size of schematic symbols is determined by the drawing scale and consequently the scale may be changed at any time. You may find, however, that when you change the scale and regenerate the drawing, some connections appear to have been lost and that regenerating the drawing doesn't rectify this. In this situation you can remake the connections by using the Regenerate Model button on the top toolbar.

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