# HVAC Tutorial

## Creating HVAC Duct Spools


**Version 2014**

PART OF HEXAGON

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SESSION 8

# Creating Duct Spools

**Objective**

By the end of this session, you will be able to:

- Create HVAC spools in a model.

Before Starting this Procedure:

- SP3D Overview
- SP3D Common Sessions
- Route a Duct (on page )

## Overview

Duct spools are collections of specified duct parts that can be used to create an orthographic drawing and to drive an MTO (material take-off report). The software creates spools, or fabrication assemblies, by breaking an HVAC system into pieces that you specify with duct break points, a new type of control point.

Only parts whose Fabrication Requirement is set to By Fabricator are included in the spool.

If the duct parts are not properly connected, separate spools will be created. The spool hierarchy relationship is created between the spool and the duct parts.

After generating the spools, the software stores them in the model database and displays the spools on the Assembly tab in the Workspace Explorer. Also, the duct becomes the parent object of the new spools. This process allows spools to be named according to the duct and keeps track of spools that may be out-of-date, based on the modification date of the parent object.

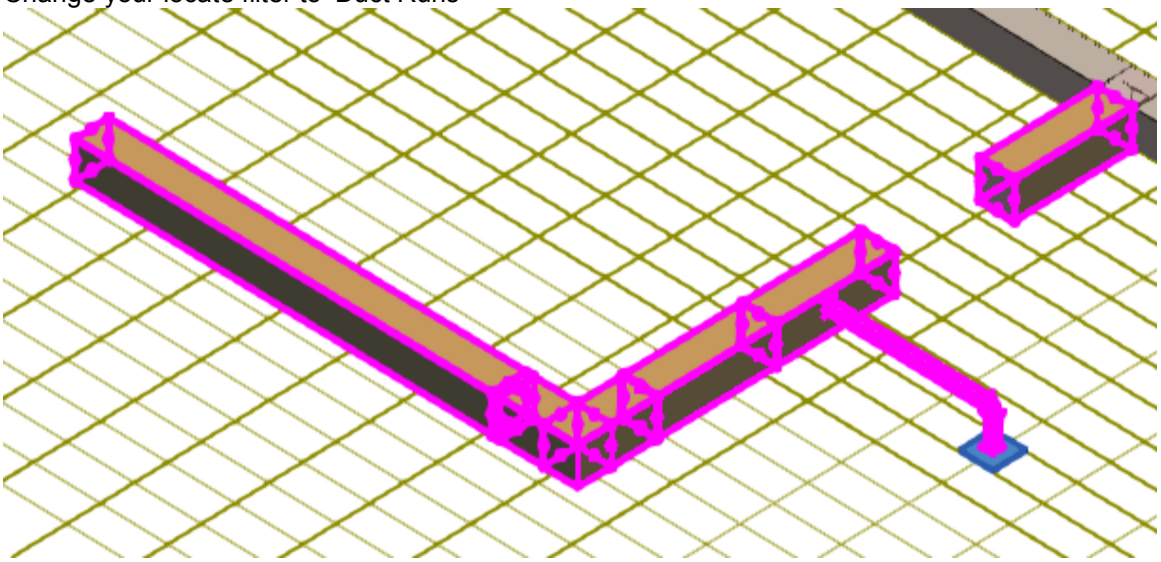
The software uses a naming rule to give each spool a unique name. The default spool name contains a prefix based on the spool parent and a mark number. The mark number ensures that the spool name is unique and provides a sequencing of spools within a spool parent. You can also modify the naming rules to match your company needs. In addition, you can interactively change the name of a spool by selecting it, displaying the Properties dialog box, and typing a different name.

You place control points at connection objects using Insert > Control Point to break spools along the duct run. Be sure to select the Subtype to Duct Break Point. You have the option to break only at control points, break at control points and intrinsic breaks, or to ignore control points.

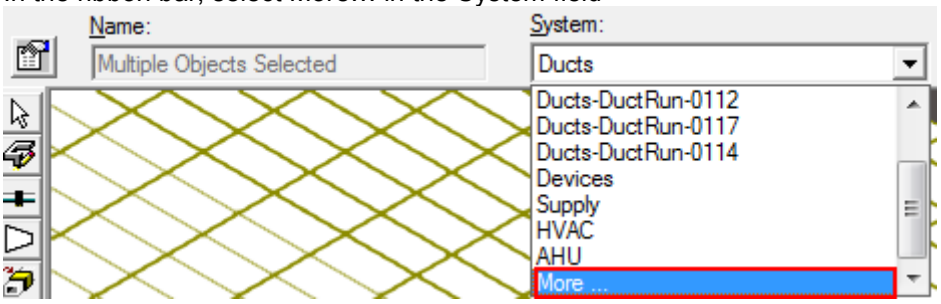
Spools also break because of non-connected parts and because of parts whose Fabrication Requirement is not By Fabricator.

# Moving Duct Runs into a System

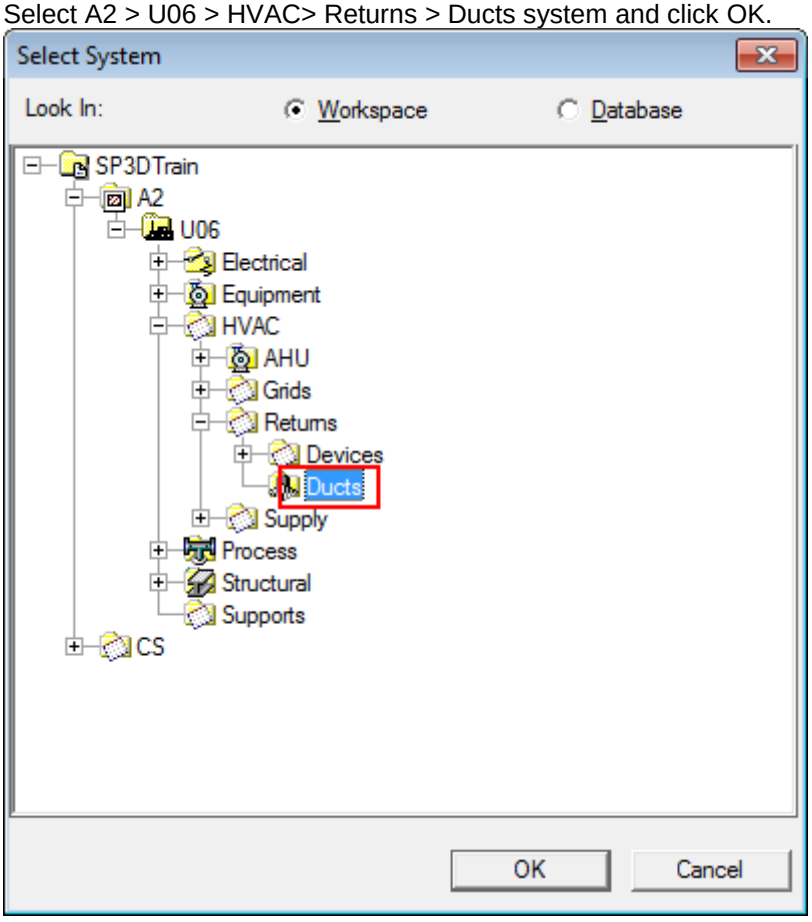
Change your locate filter to ‘Duct Runs'



In the ribbon bar, select More… in the System field

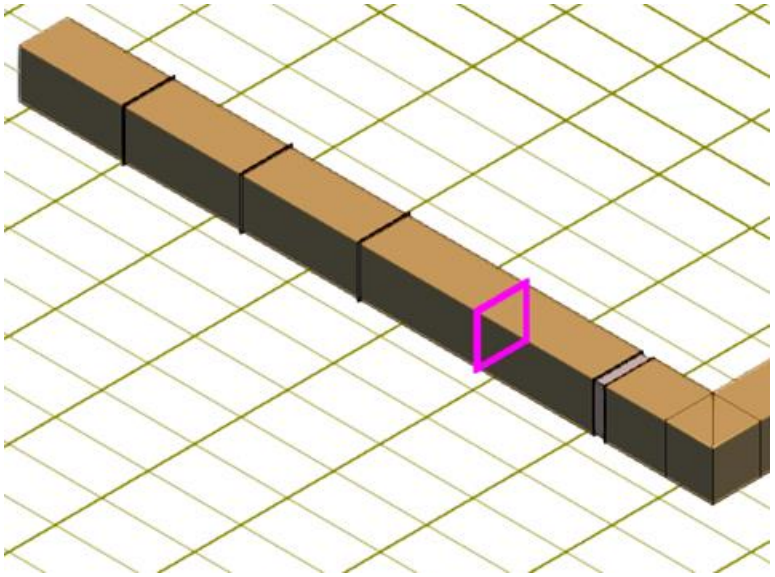


Select A2 > U06 > HVAC> Returns > Ducts system and click OK.

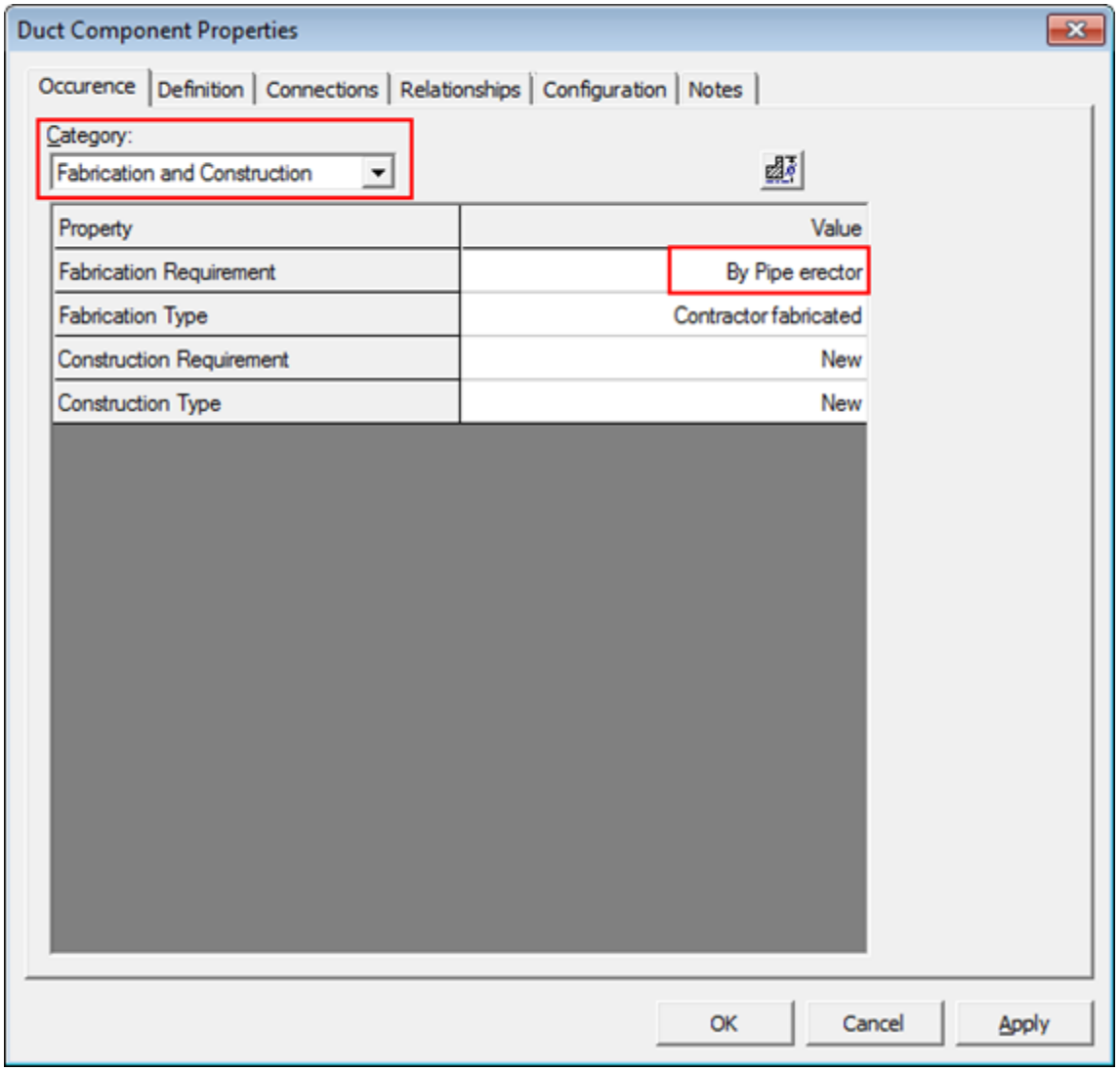



# Creating Spool Break Positions

1. Change the locate filter to ‘Duct Parts’

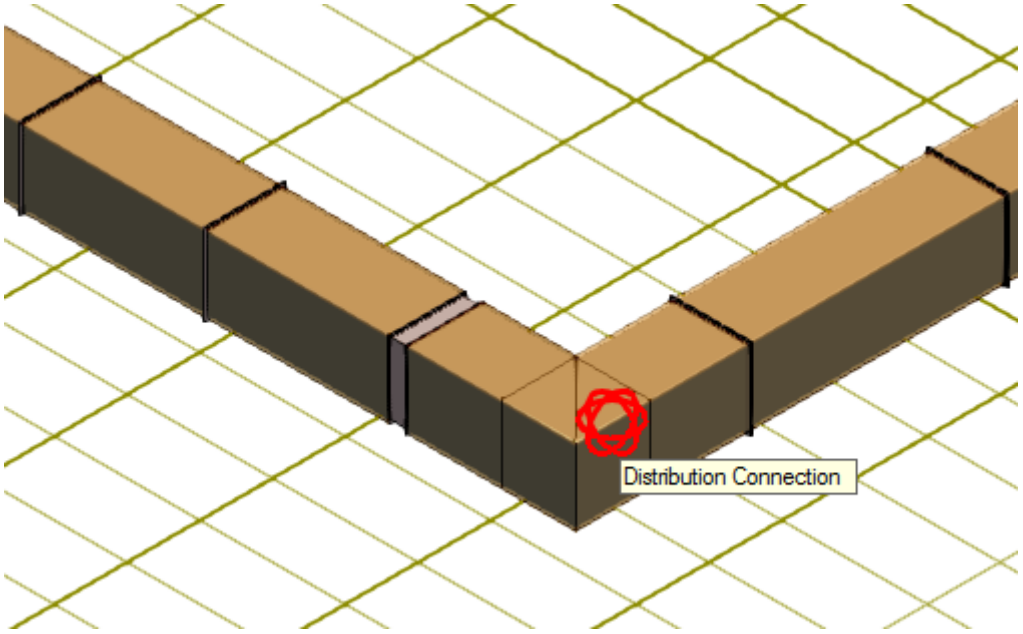
2. Select the split component and edit properties.
3. 
4. Select the **Fabrication** and **Construction** category

5. Select **By Pipe erector** for the **Fabrication Requirement**

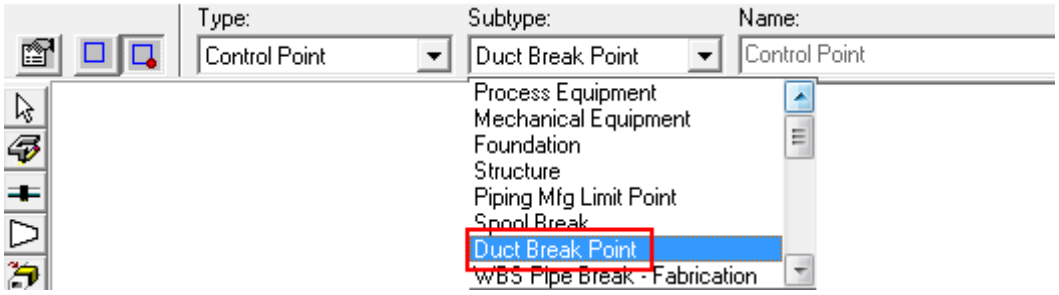



6.
7. Click OK
8. Change your locate filter to Connections

9. Select the connection shown below:

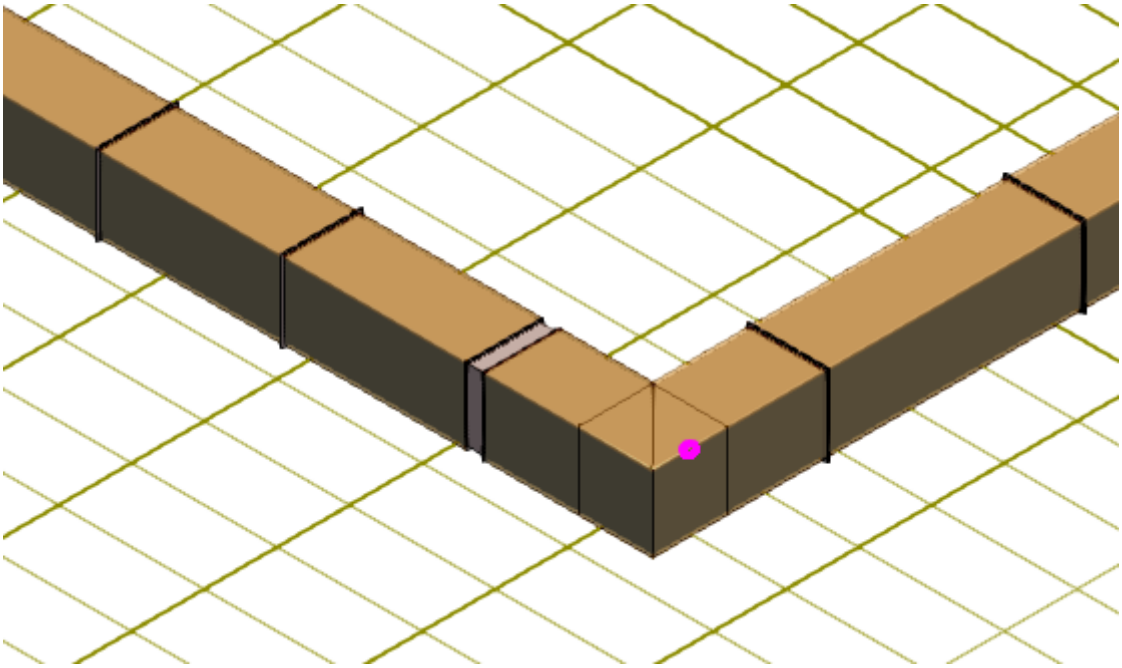



10.
11. **Insert > Control Point**
12. Change the **Subtype** to **Duct Break Point**




13.

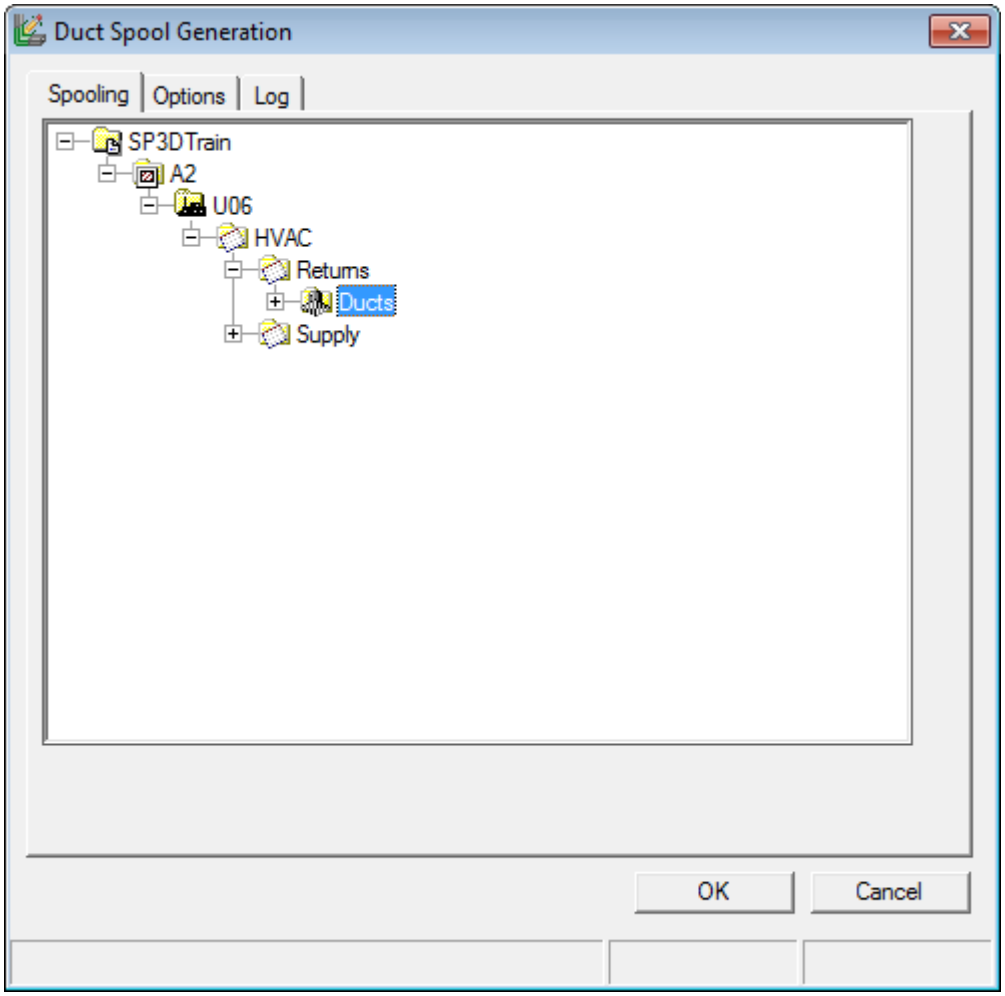
14. Locate the location of the distribution connection and click to place the control point.



## Generating Spools

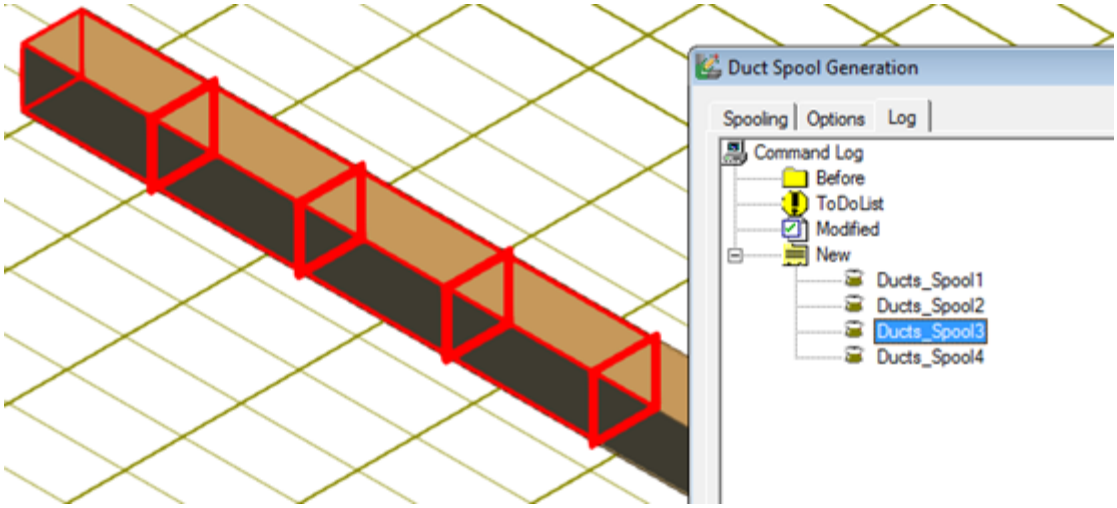
1. Start the **Generate Spools** command.

2. Expand A2 > U06 > HVAC> Returns > Ducts system and click OK.




3.

4. Switch to the Log tab and and click each spool in the New section, note that it highlights on screen.




5.

6. Click **Cancel** to close the generate spools command.
7. Zoom out.
8. Change your locate filter to **Duct Spools.**
9. Hover over the duct to see the extents of each spool. There are spool breaks at the item whose fabrication requirement is set to Contractor Fabricated, at the control point as well as at the physical gap in the ducting.
10.