

POINTWISE POINTER

A USER TIP FROM THE SUPPORT DESK
SPRING 2001

Connector Swapping

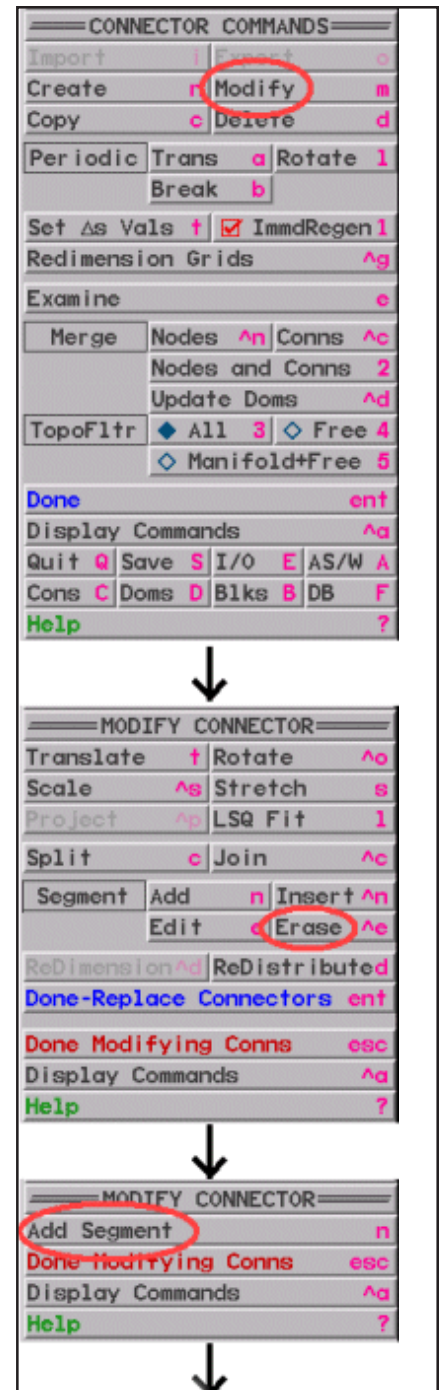
For this issue I would like to discuss a topic which comes about often while providing support and teaching training classes – Connector Swapping. Users often assume that in order to replace a connector with a completely new one that they must actually delete the connector from the model and as a result lose their domain and block definitions that used that connector. This is not an accurate assumption. On the contrary, it is quite easy to substitute a new connector for an existing one while maintaining domain and block definitions. This article will take you through the steps necessary to swap connectors.

There are two approaches you can take to perform this trick. For the first approach you will already have the new connector created. For the second approach you will create the replacement “on the fly”.

Approach 1:

This approach assumes you have already created the replacement connector. Generally the replacement will share the same end nodes as the original, but this is not absolutely necessary. Let's call the original connector “A” and the replacement “B”. To perform the swap operation proceed to the Connector Commands menu, choose **Modify**, and then select connector A from the browser and press **Done**. Once in the Modification menu choose **Segment Erase**. This will provide you with the scissors cursor and appear very similar to the **Delete** command. Place the cursor over the segment which makes up connector A and select it. If the connector is made up of several segments, erase all of them.

Once the segment(s) is erased you are placed in a menu where your only options are to **Add Segment** or **Done Modifying Conns**. The latter option reverts your connector to its original definition (A). The first option is the one you want to use, **Add Segment**. This takes you to the general Add Segment menu you are accustomed to seeing when creating new connectors using one of the general segment types. At the bottom of this menu is a **Copy** option. Select that one. Now select your replacement connector B. Gridgen assumes at this point as with any other copy that you wish to translate the copy, but in this case the connector B will not be moved. But



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you must select one of the end nodes, regardless, as a handle or control point. Finally, since you do not intend to move the replacement connector B, as it already shares end nodes with A, you can select **Done – Copy Connector**, select either **Copy Break Point Info** or **Don't**, and then **Done – Replace Connectors** to finish the operation.

You will now have a connector which Gridgen believes is the same connector as the original. In fact, you will note that in any of the connector browser operations that your connector still has the same connector number, so it still occupies the same position in model memory. All you have done is swapped its shape for a new one. If you select to **Copy Break Point Info**, your replacement connector B's distribution of points will be assigned to the new connector shape. Otherwise, if you select **Don't Copy Break Point Info**, the substituted connector will have equally distributed grid points.

A replacement connector B which does not share end nodes with the original connector A will result in the rest of your grid being updated in order to maintain linkage. After you save your substitution at the end of this process, you will be asked the familiar question of **Unlink Connectors?** or **Maintain Linkages**. Assuming the connector is part of a domain and/or block (which is the point of this whole discussion), it will not matter which you choose because Gridgen will require you to maintain linkage. Therefore, a substitution with different end nodes will result in changes to the shapes of all linked connectors.

Approach 2:

This approach actually is not very different from the first. Simply follow all the same steps up to and including selection of **Add Segment** after erasing the segment(s) making up your original connector shape. Now simply create a new connector using one of the many segment options that are available. Of course again you most likely want to begin and end the new connector shape at the same end nodes as the original connector.

In this case if you wish to keep the original connector's grid point distribution, you will want to use the **Redistribute** command prior to **Done – Save Connectors**. In the Distribution menu, choose **Select Distrib. Func.** and then **Copy From SubConnects**. Select the original connector for its distribution, make sure the beginning and ending of replacement and original match, **Done Picking Subconns.**, **Copy Delta Values**, **Done ReDistributing**, **Done – Replace Connectors**.

It is important to note in that last sequence that you can actually select the original connector that we are swapping out. The fact is for both of these approaches the original connector is still visible and still exists until you finally save the change at the very end of the process. At that time Gridgen replaces the original shape with the new one and the render line representing the original connector shape disappears.

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