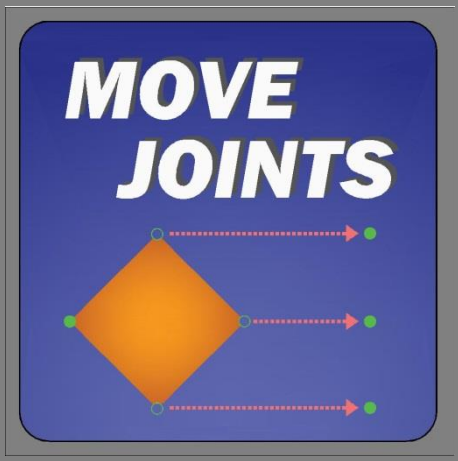
VANTEC SOLUTIONS

Move Joints – User Manual



Version 1.0 **May 2017**

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1. Installation

To install the *Move Joints* plugin, extract the zip file that you received in your email inbox and run the msi file corresponding to your ETABS® version (2015 or 2016).

Follow the instructions of the installation wizard and in the second screen confirm the installation directory. The default installation directory is:

*C:\Users**CurrentUserName**\AppData\Local\Computers and Structures\ETABS 201X*.

To install the program in a different user account, replace the ***CurrentUserName*** for the target user.

If you want to install the program for several users in the same computer, perform an initial install on any account (user1) and then activate the plugin following the steps in the **License Validation** section. After the license activation is complete, copy the “Rename Elements” folder and “ETABS 201X.ini” file from

“*C:\Users**user1**\AppData\Local\Computers and Structures\ETABS 201X*”

Onto the folder

“*C:\Users**user2**\AppData\Local\Computers and Structures\ETABS 201X*” and so on.

2. Program Description

The *Move Joints* is a handy plugin that facilitates moving joints in ETABS®. The plugin can be executed by clicking the Tools menu, as shown in *Figure 1,* and then clicking on *Move_Joints*. In each session, ETABS will display a warning message asking the user to authorize the plugin execution. This warning is shown in *Figure 2*.

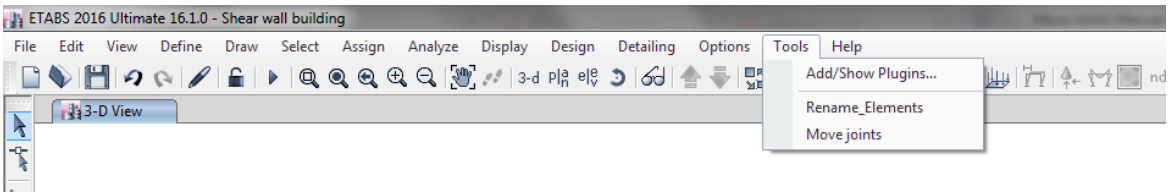

Figure 1

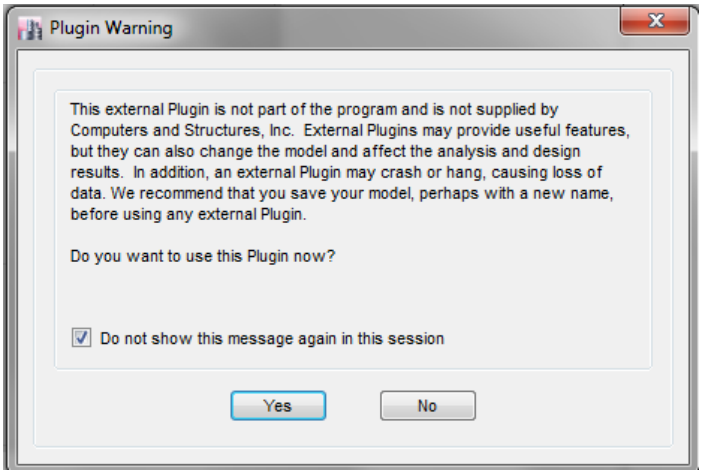

Figure 2

[1] ETABS is a registered trademark of Computers and Structures, Inc.in the USA and other countries.

3. License Validation

The first time the plugin is executed, the user will be asked to validate the license. As shown in *Figure 3*, the program will provide a Request Code that must be sent to Vantec Solutions (*support@vantecsolutions.com*). Please also forward the confirmation email that you received from our website with the order number.

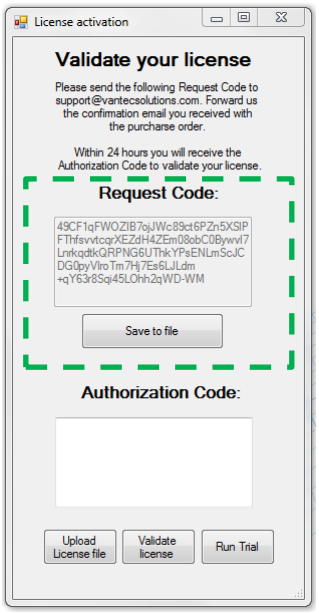

Figure 3

Within 24 hours, you can expect to receive an Authorization Code that will let you run the *Move_Joints* plugin. In the meantime, you can run the program in trial mode using the “Run Trial” button.

Once you receive the Authorization Code file, upload it and click on the “Validate license” button.

4. Move Joints Interface

The application's interface shown in *Figure 5* has three options to move joints: *Match Joints, Move to apparent intersection*, and *Offset from midpoint*. These options allow the user either to align Joints to the X, Y or Z value of a reference coordinate, or to an offset distance from the reference coordinate.

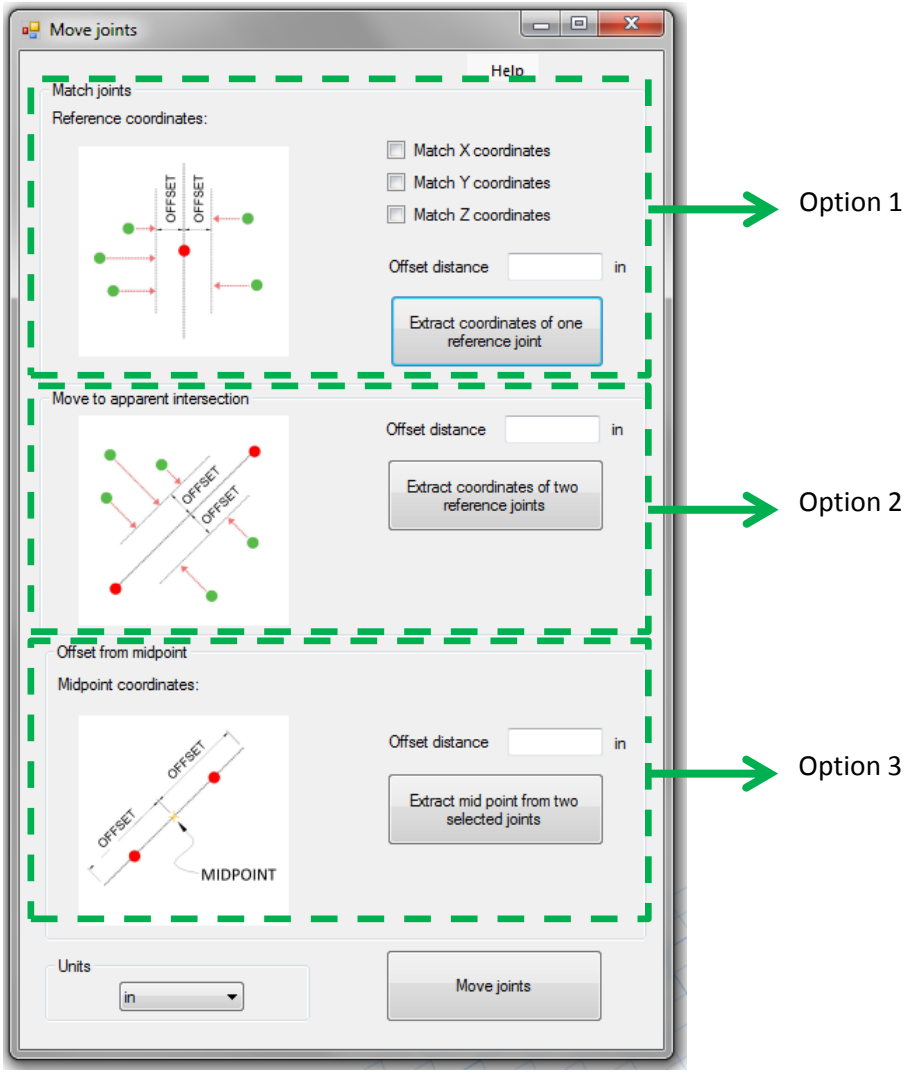

Figure 5

5. Option 1: Match Joints

This option will allow you to match coordinates of multiple joints to a reference joint. Follow these steps:

1. **Select joint with reference coordinates.**
   In your ETABS model, select a reference joint. Then, on the plugin's interface, click on "Extract coordinates of one reference joint" (see *Figure 6*). The X, Y, Z coordinates will appear on the interface.

   After the coordinates are shown on the interface, the reference joint will be deselected.

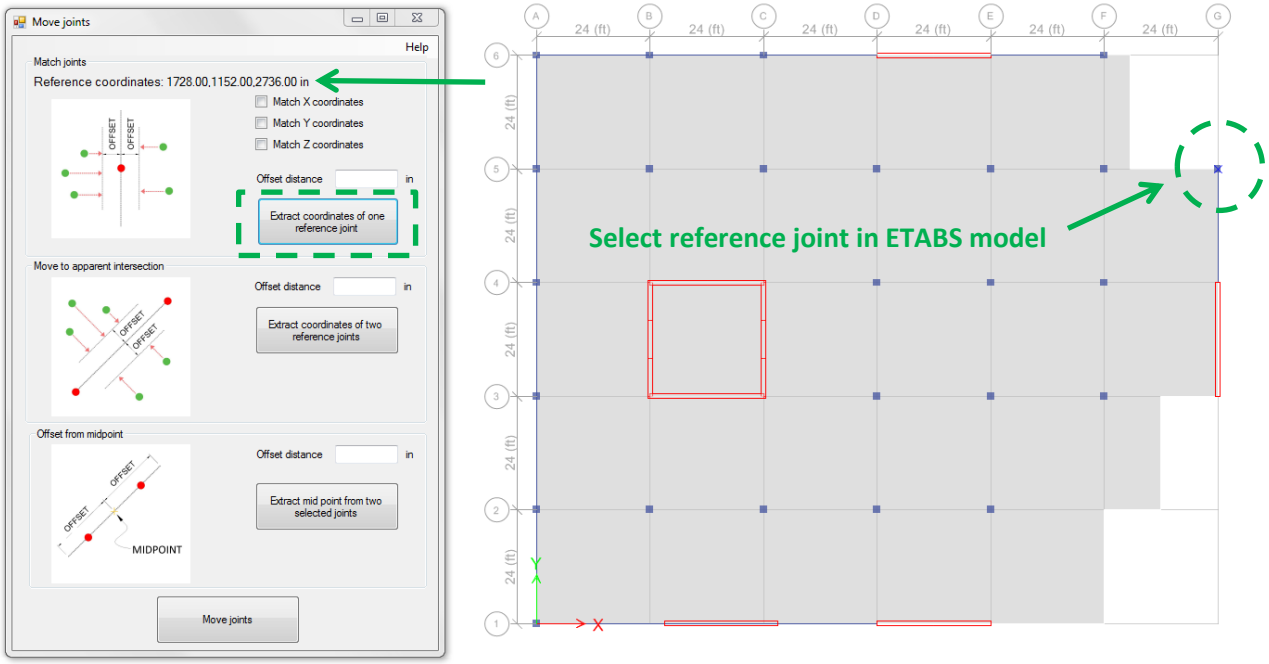

Figure 6

2. Selecting and Moving Joints.

In your ETABS model select the joints that you want to move. If you want to match all the joints to the same X, Y or Z values, proceed to check the coordinates that apply. Finally, click on the Move joints button. See this step in *Figure 7*.

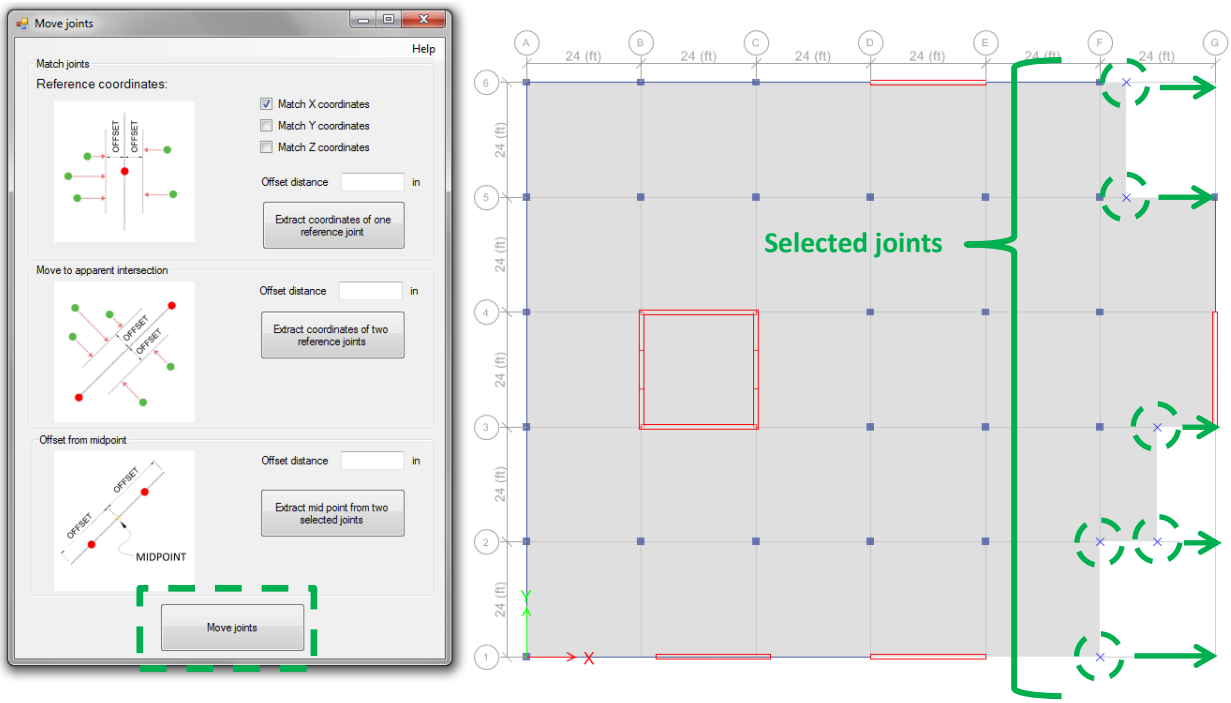

Figure 7

In this example we chose to match the X coordinate. The program aligns all the selected joints to the X coordinate of the reference joint. The result is shown in *Figure 8.*

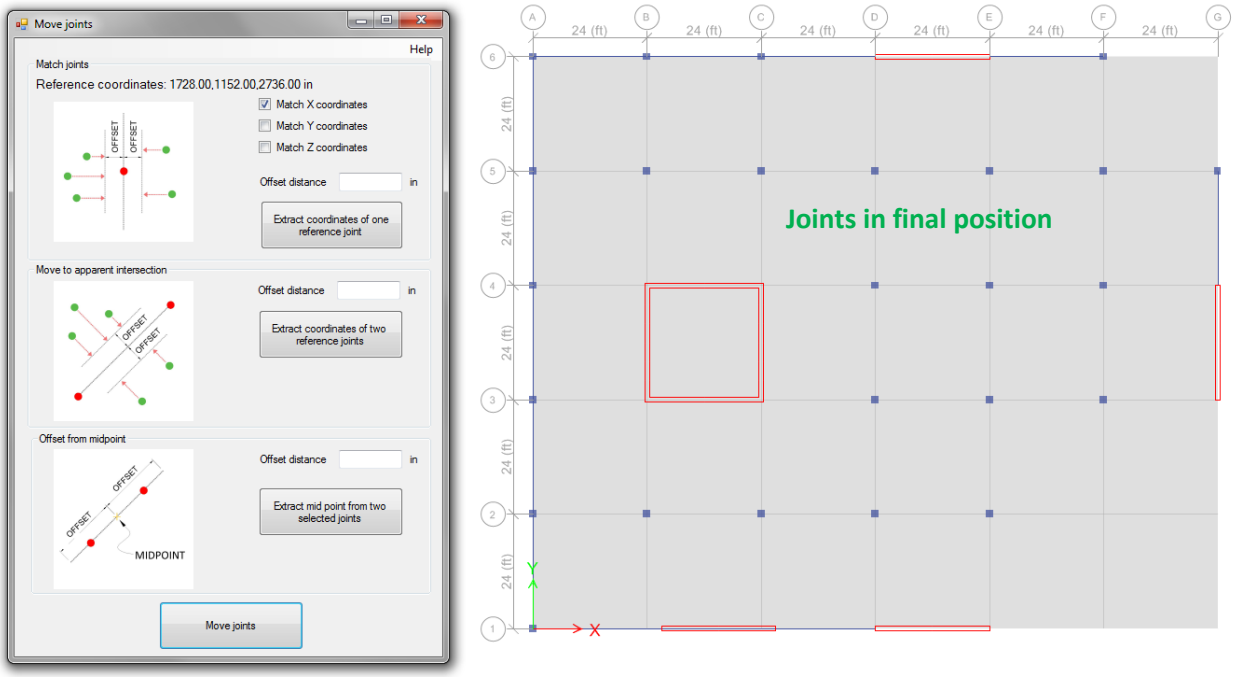

Figure 8

Note that in this example, an offset distance of zero was used. As shown in *Figure 5*, an offset value can be entered by the user to set the joints at a specific distance from the reference joint.

6. Option 2: Move to Apparent Intersection

This option allows you to align multiple joints to the apparent intersection on a reference “line” defined by two reference joints. Follow these steps:

1. **Select two joints to define the reference line.**
   In your ETABS model select two reference joints and then click on “Extract coordinates of two reference joints” in the plugin’s interface to define the reference line (see *Figure 9*).

2. **Selecting and moving joints.**
   In your ETABS model select the joints that you want to move. Then click on the Move joints button in the plugin’s interface. See this step in *Figure 10*.

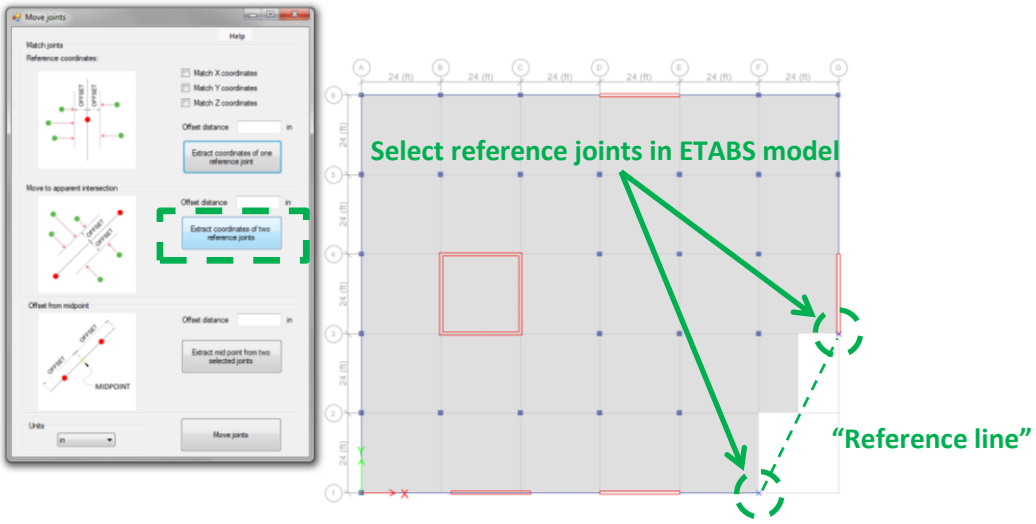

Figure 9

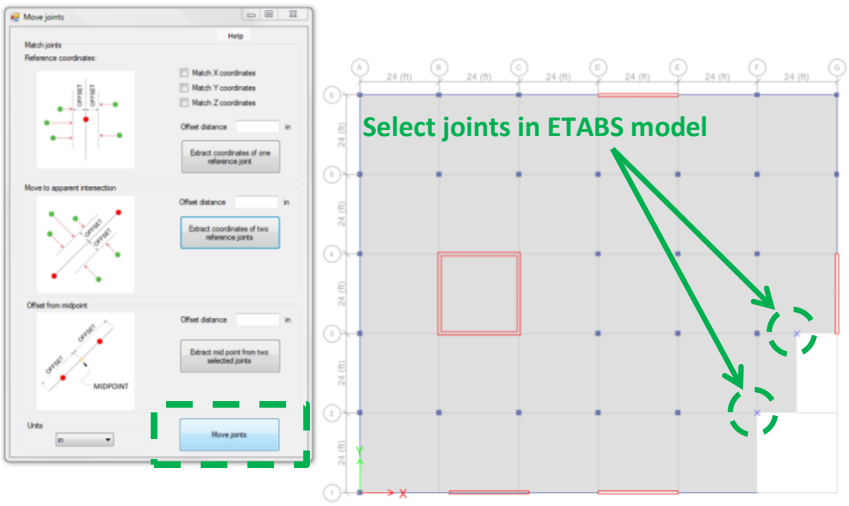

Figure 10

In this example we chose to align the points to the reference line without any offset. The program aligns all the selected joints as shown in *Figure 11.*

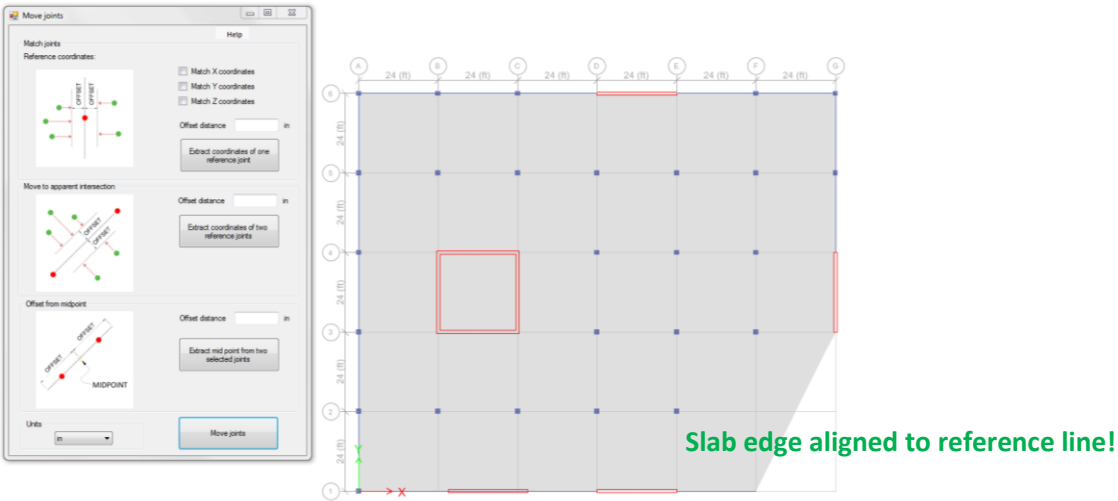

Figure 11

7. Option 3: Offset from Midpoint

This will allow you to move multiple joints from a reference point along a reference line, for instance to enlarge or shorten the length of a wall. In this example we do not know the current wall length but we want it to be 240 inches. Follow these steps:

1. **Select joints to calculate midpoint.**
   In your ETABS model select two reference joints and then click on “Extract coordinates of two selected joints” in the plugin’s interface, so the program can calculate the midpoint (see *Figure 12*) and define the reference line between the two points.

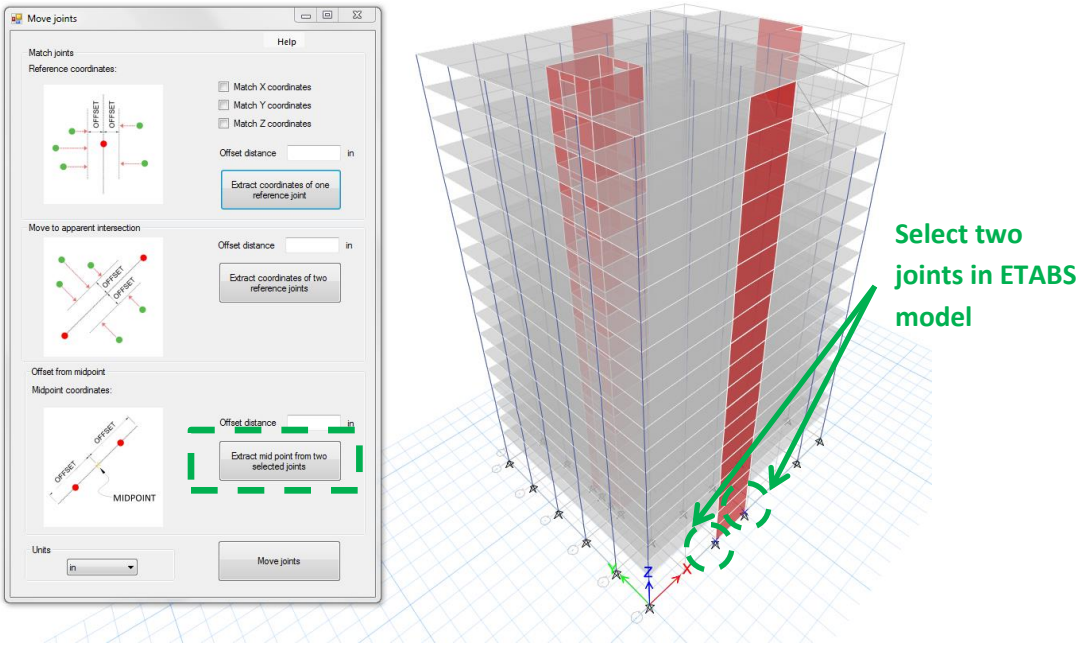

Figure 12

2. **Selecting the joints.**
For this example, we turn on the “All stories” option in the bottom right corner of ETABS as shown in *Figure 13*. Then in the ETABS model we select the joints that we want to move as shown in *Figure 14*.

Figure 13

3. **Enter the offset and move joints.**
Next, enter the offset that will be used to move the joints with respect to the midpoint. In the example of *Figure 14* we specified 240 inches on each side from the midpoint.

Click on “move joints” to proceed with the offset. This will result in a wall having a length of 480 in. The final result of this example is shown in *Figure 15.*

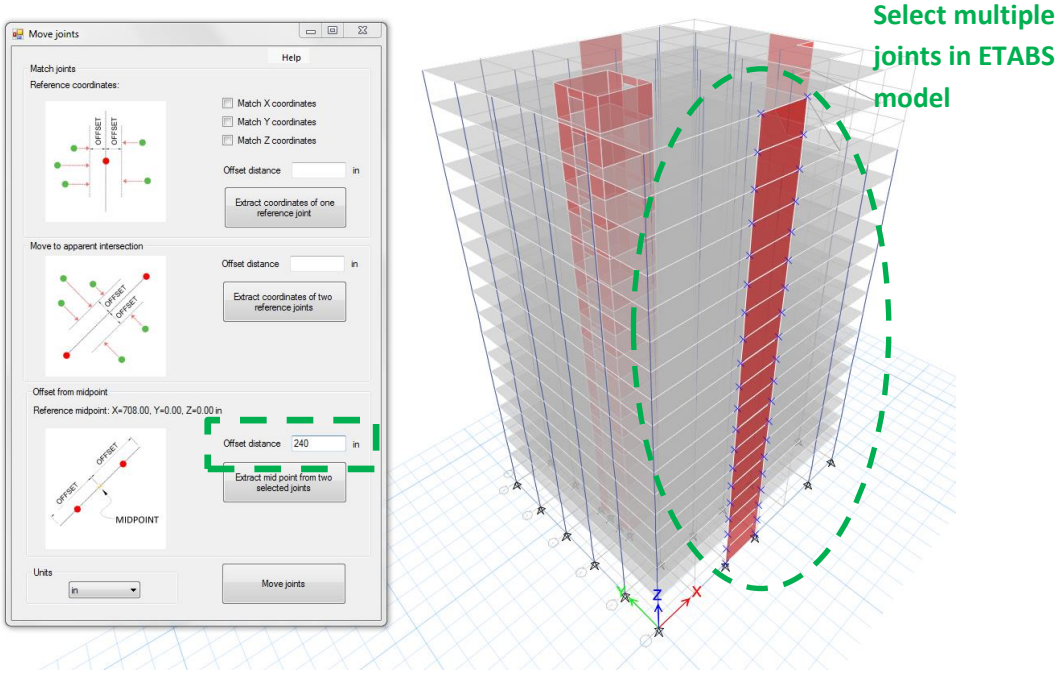

Figure 14

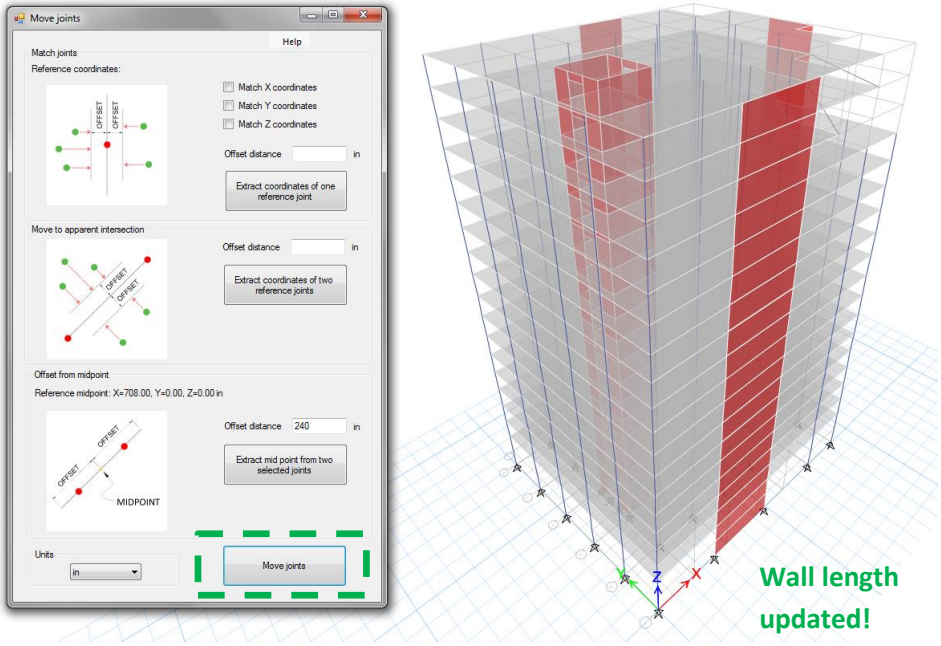

Figure 15

8. Other applications

This section presents additional applications of Match Joints (Option 1) to adjust the coordinates of multiple joints at once.

8.1. Case 1: Offset from a Wall Joint

In this case we want to change the length of a wall from 24 ft to 12 ft. For this we will move multiple joints of a wall using one of the wall's joints as a reference. The multiple joints will be moved parallel (along) a ray that contains the reference and the selected joints.

1. **Select reference joint.**
   In your ETABS model select one reference joint and then click on "Extract coordinates of one selected joint" in the plugin's interface (see *Figure 16*).

2. **Selecting the joints.**
   In your ETABS model select all the joints that you want to move as in *Figure 17*.

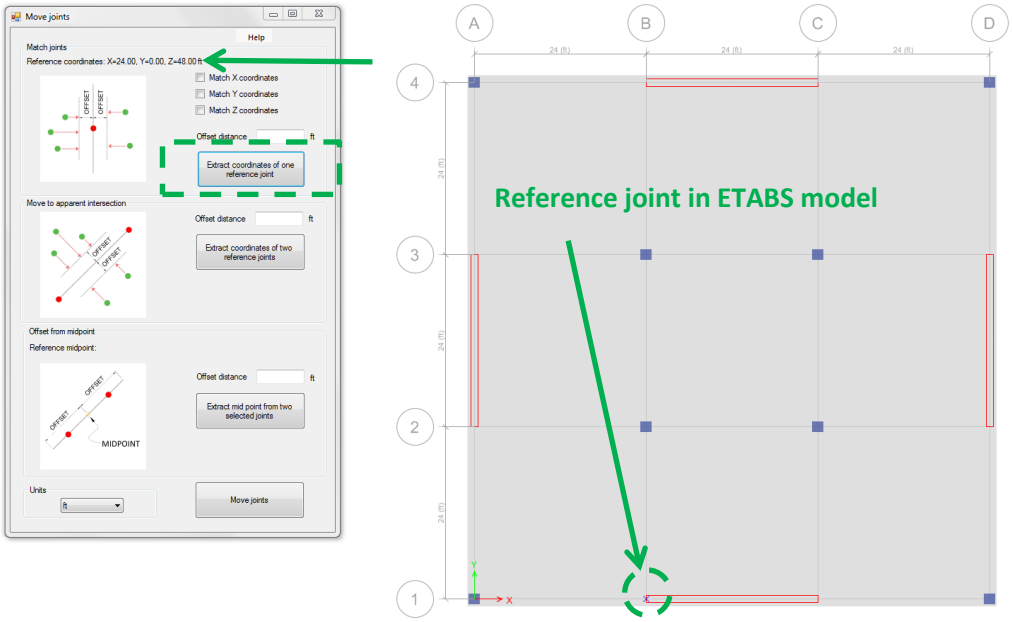

Figure 16

3. Enter the offset and move joints.

Next, enter the offset that will be used to move the joints with respect to the reference joint. In the example of *Figure 17* we specified 12 feet.

Click on “Move joints” to proceed with the offset. This will result in a wall having a length of 12 ft. The final result of this example is shown in *Figure 19.*

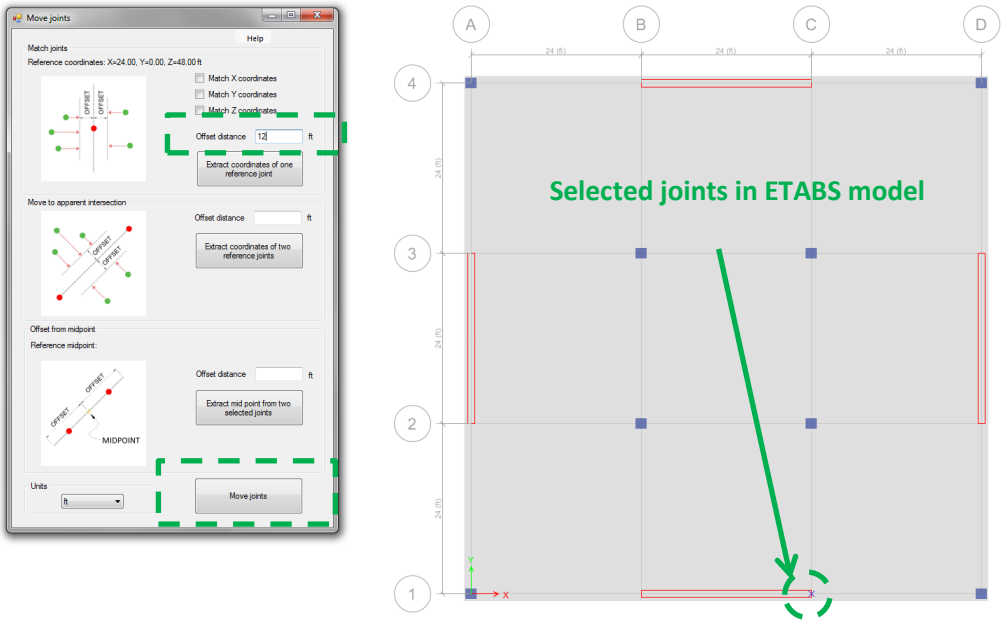

Figure 17

The plugin will ask you to save the file before moving the joints, see *Figure 18*. The end result is shown in *Figure 19.*

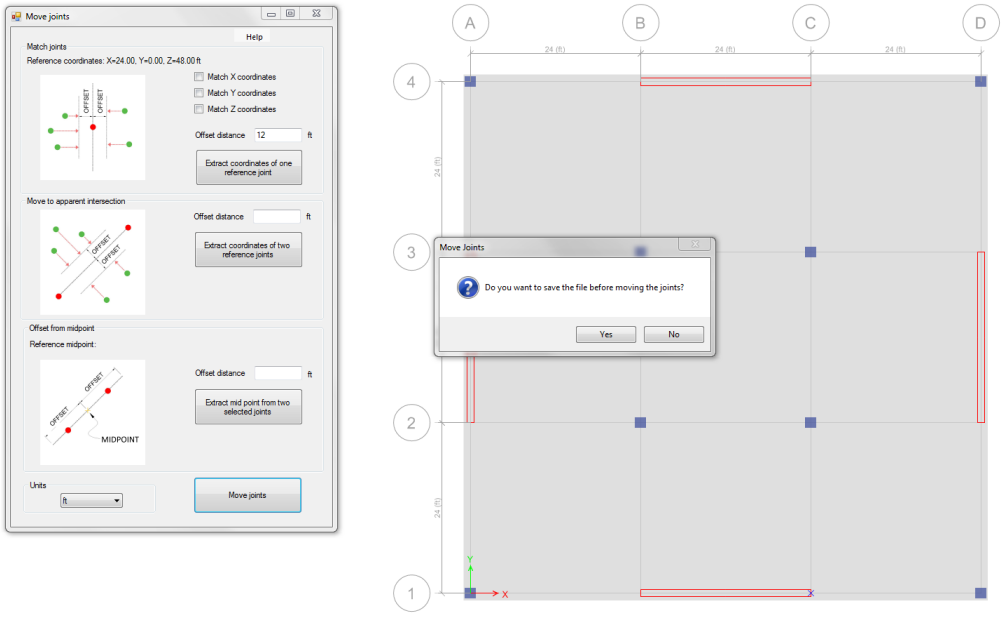

Figure 18

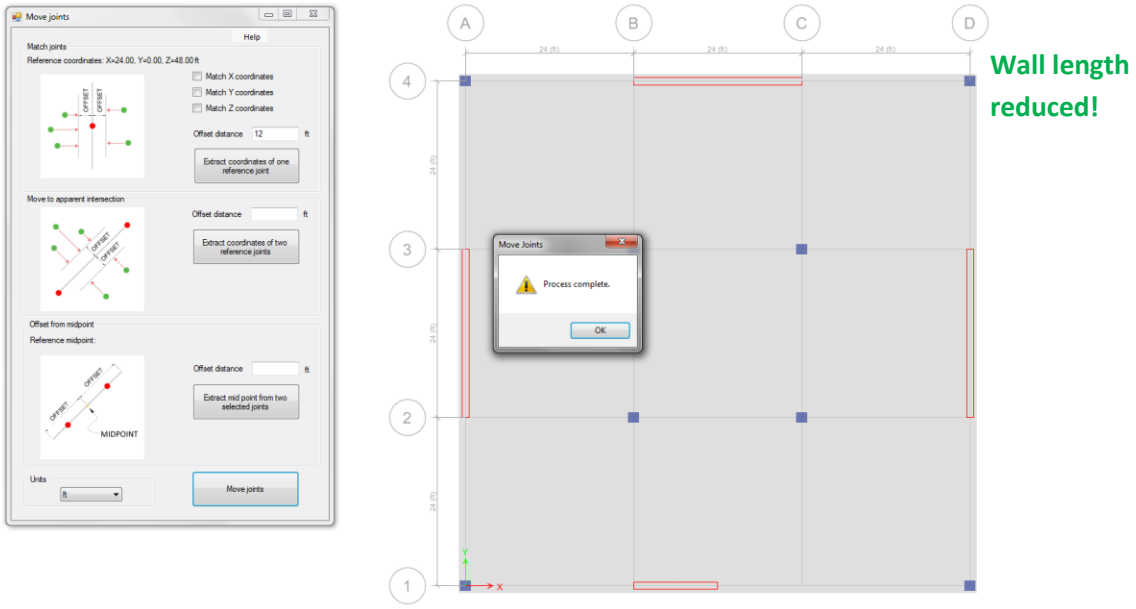

Figure 19

8.2. Case 2: Offset from Wall Joint

In this case we will move multiple joints and two flanges of a T-shaped wall one of the wall's joints as a reference. The multiple joints will be moved parallel (along) a ray that contains the reference and the selected joints.

1. **Select reference joint.**
   In your ETABS model select one reference joints and then click on "Extract coordinates of one selected joint" in the plugin's interface (see *Figure 20*).

2. **Selecting the joints.**
In your ETABS model select all the joints that you want to move and the two wall flanges as shown in *Figure 21*.

3. **Enter the offset and move joints/flanges.**
Next, enter the offset that will be used to move the joints with respect to the reference joint. In the example of *Figure 21* we specified 12 feet.

Click on “Move joints” to proceed with the offset. This will result in a wall having a length of 12ft. The final result of this example is shown in *Figure 23.*

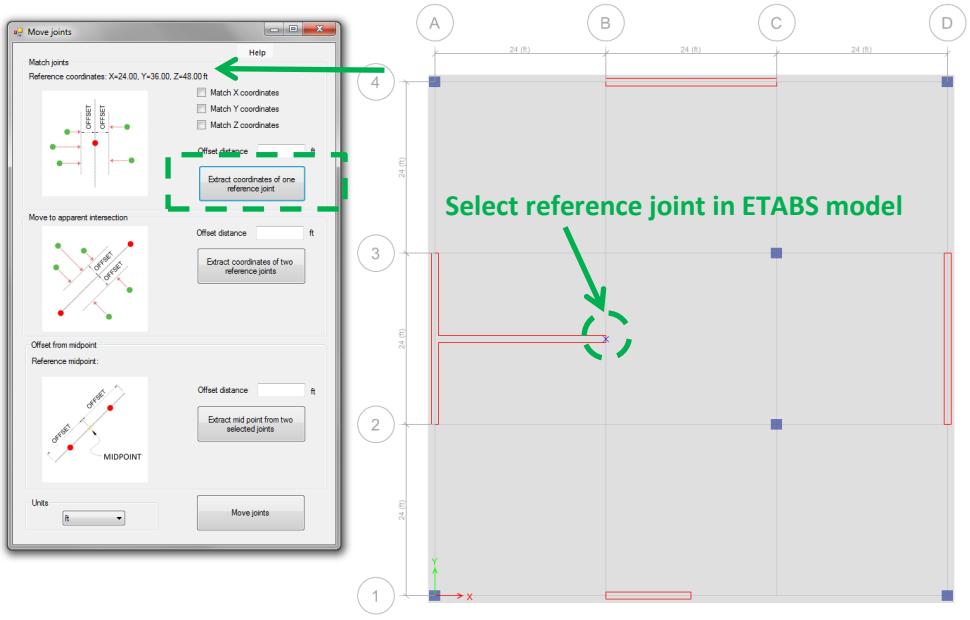

Figure 20

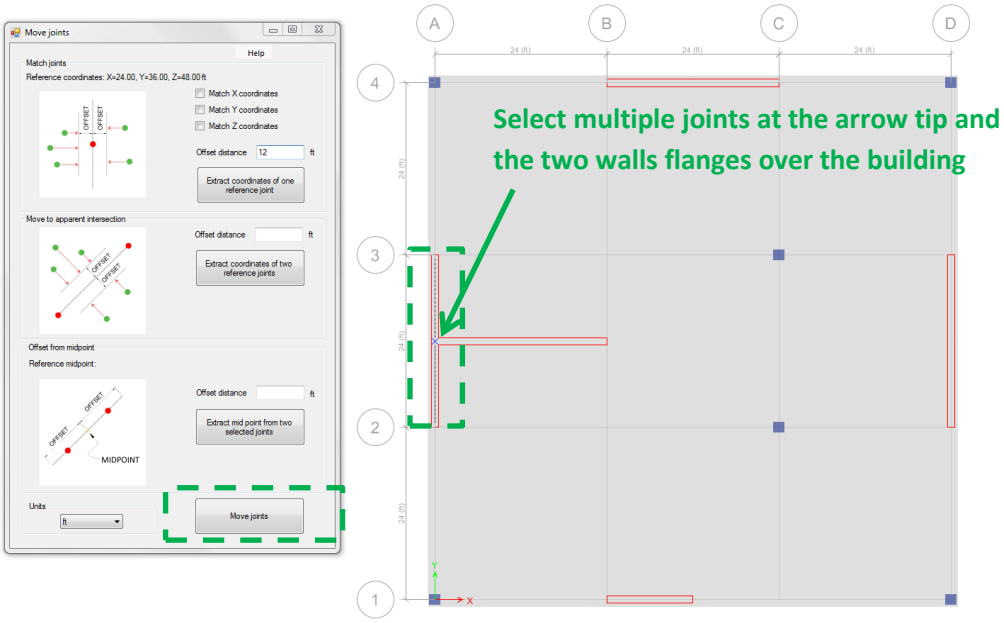

Figure 21

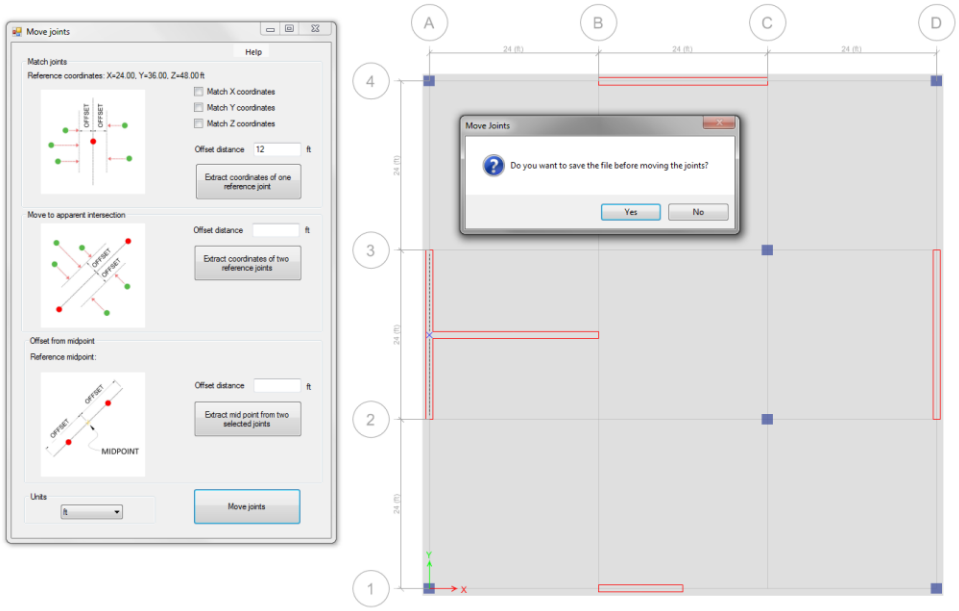

Figure 22

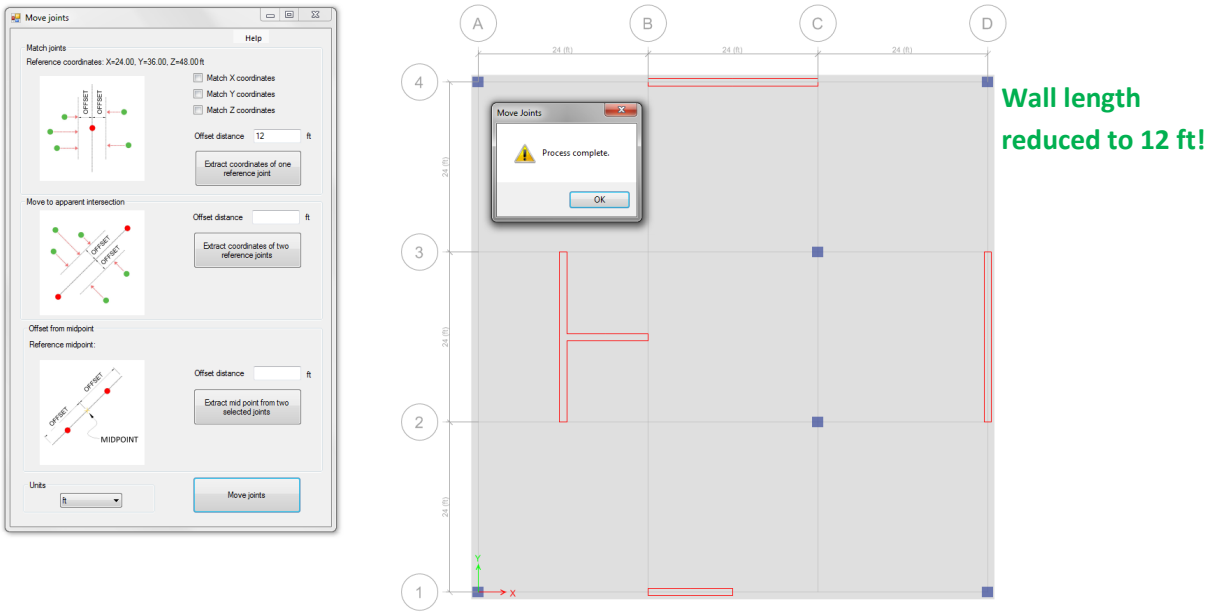

Figure 23

8.3. Case 3: Move to equidistant position

In this case we will move multiple joints to an equidistant location with respect to the reference joint. Each joint will be moved along a ray that contains the reference and the selected joints.

1. **Select reference joint.**
   In your ETABS model select one reference joint and then click on “Extract coordinates of one selected joint” in the plugin’s interface (see *Figure 24*).

2. Selecting the joints.

In your ETABS model select all the joints that you want to move, in *Figure 25* we have selected column joints and slab joints.

3. Enter the offset and move joints.

Next, enter the offset that will be used to move the joints with respect to the reference joint. In the example of *Figure 26* we specified 24 feet.

Click on “Move joints” to proceed with the offset. The final result of this example is shown in *Figure 27.*

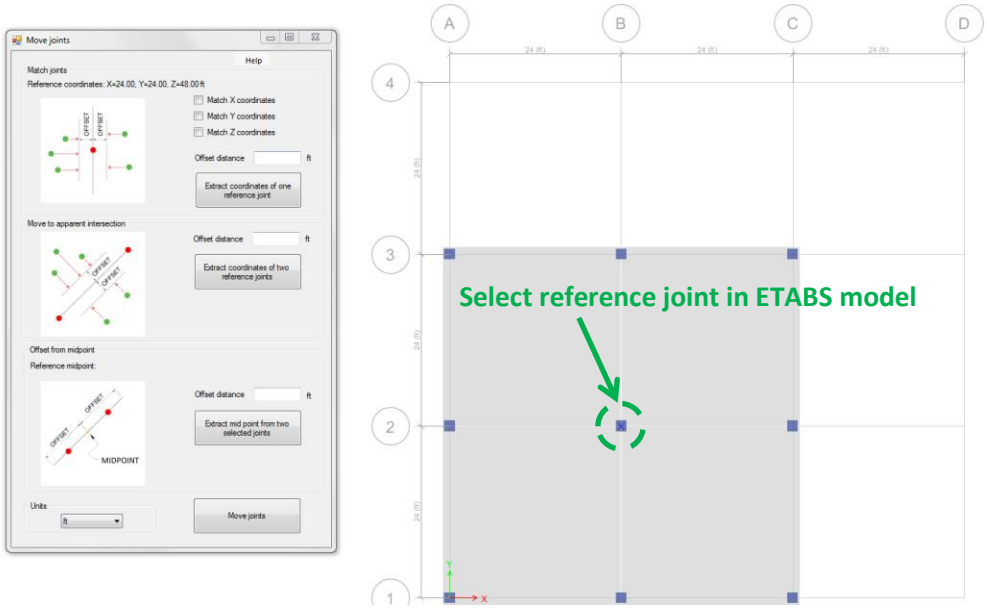

Figure 24

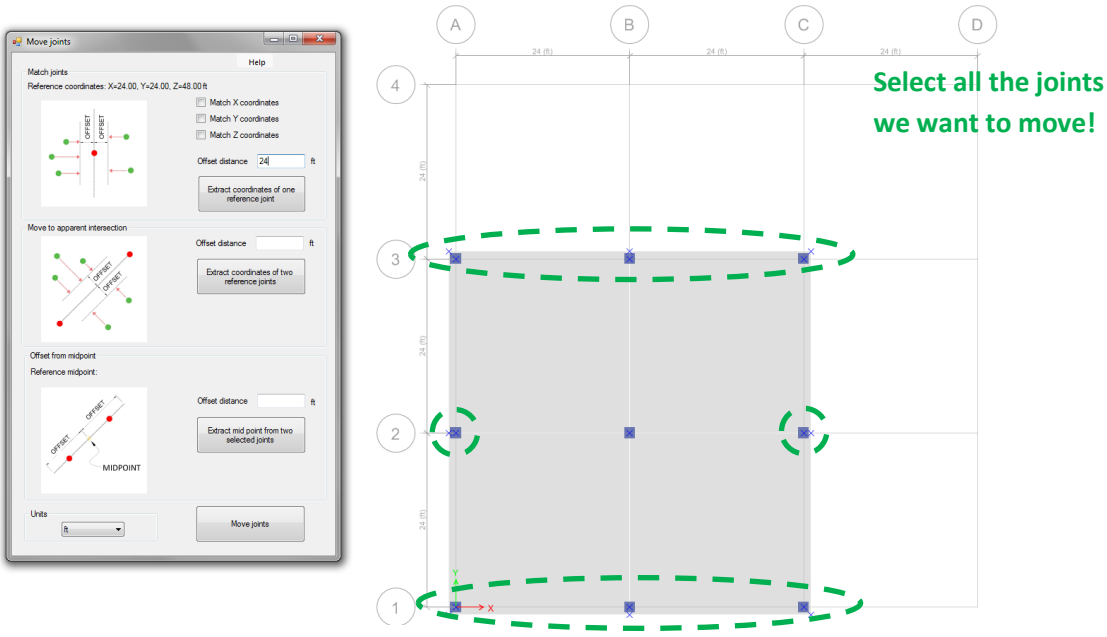

Figure 25

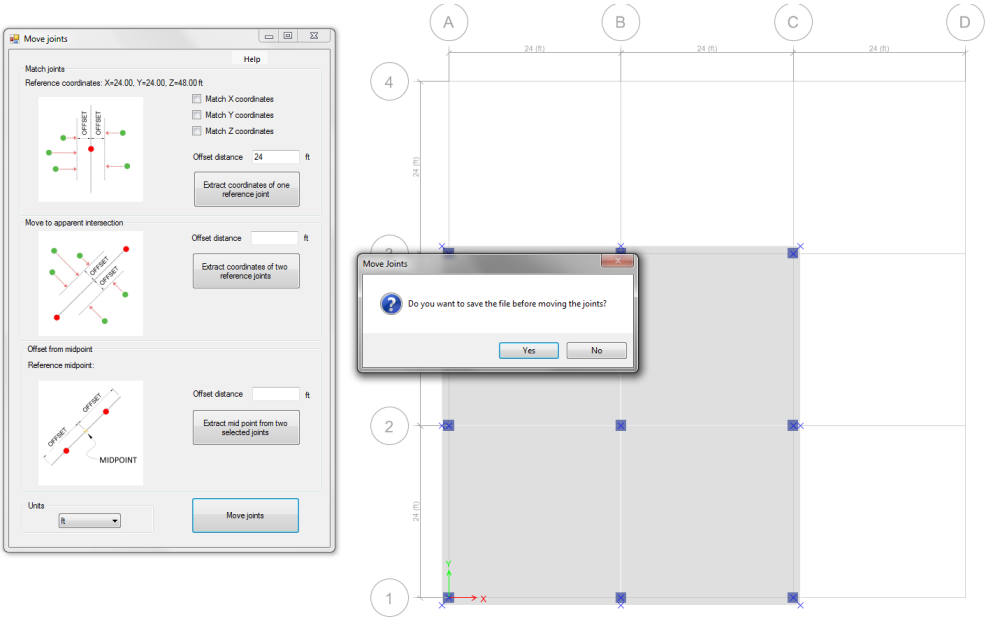

Figure 26

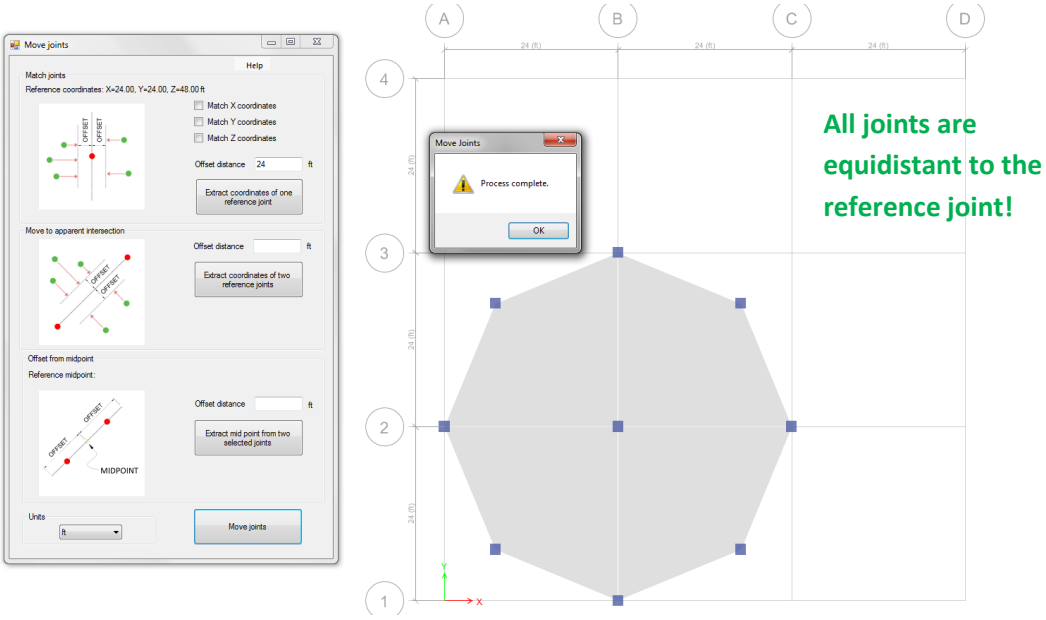

Figure 27

9. Support

Please let us know if you have further questions. Our contact email is *support@vantecsolutions.com*.