



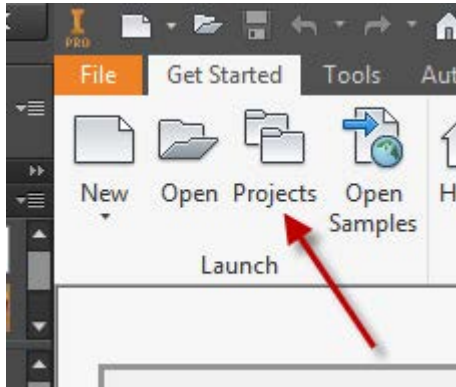
AUTODESK **INVENTOR**  
**Trial Projects**

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Electro-mechanical Workflow

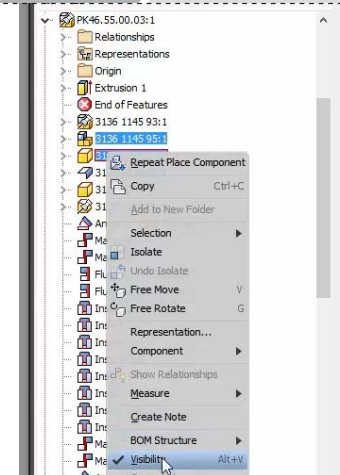
Design a wire harness assembly

1.



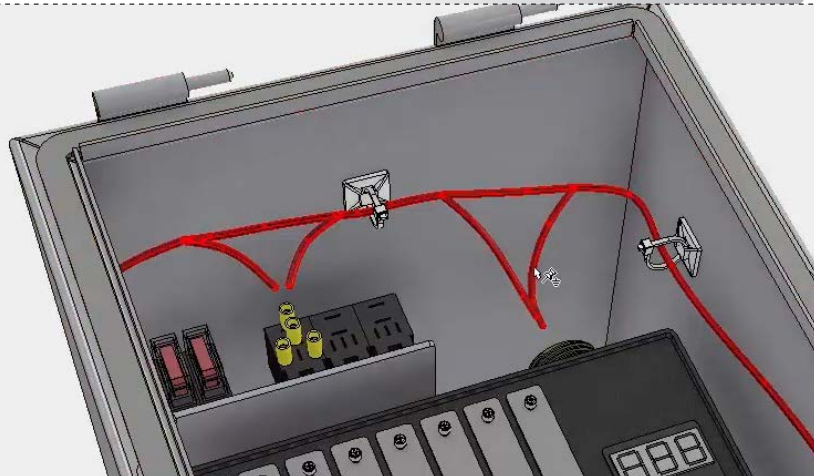
In Inventor, click the 'Projects' icon in the ribbon. Navigate to where you saved the project files and select *PK46.55.00.01.ipj*. Then open *PK46.55.00.01.iam*.

2.



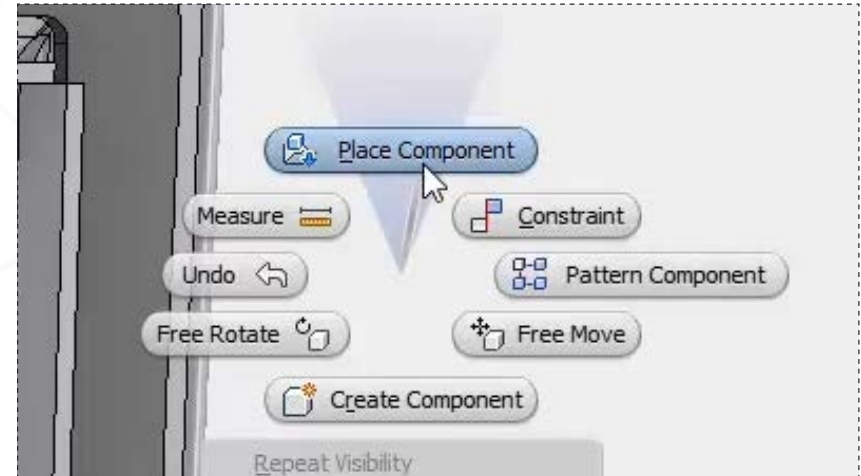
Expand the enclosure subassembly from the browser. Select the **door** and **lock** components, right-click, and then uncheck their 'Visibility'.

3.



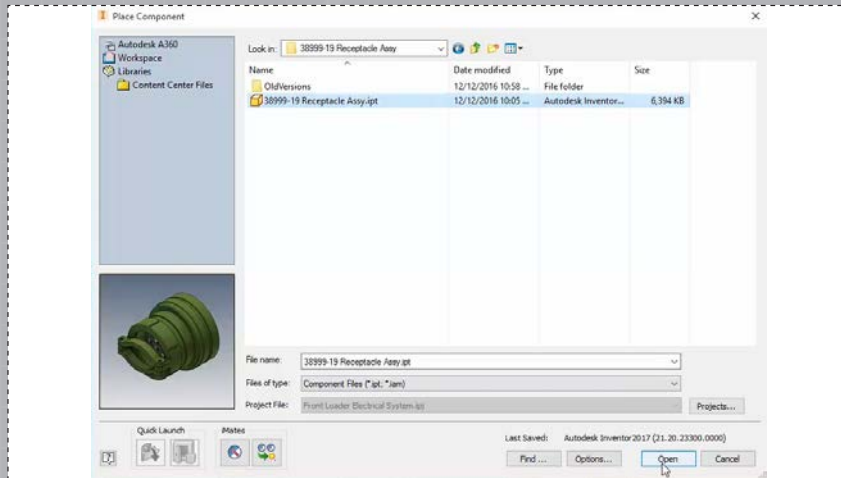
Note the existing wire harness, containing several segments.

4.



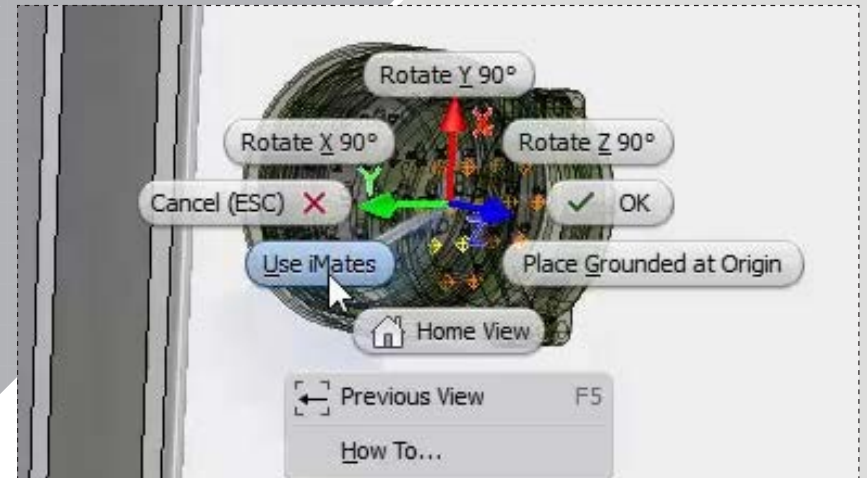
Right-click and select 'Place Component' from the marking menu.

5.



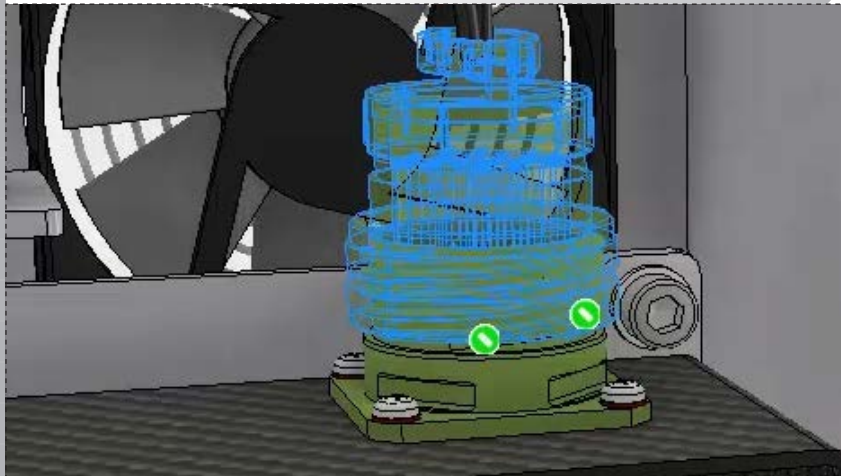
Within the Vender Data folder, search for the **38999-19 ReceptacleAssy.ipt** file and select 'Open'.

6.



Right-click and select 'Use iMates' from the marking menu.

7.



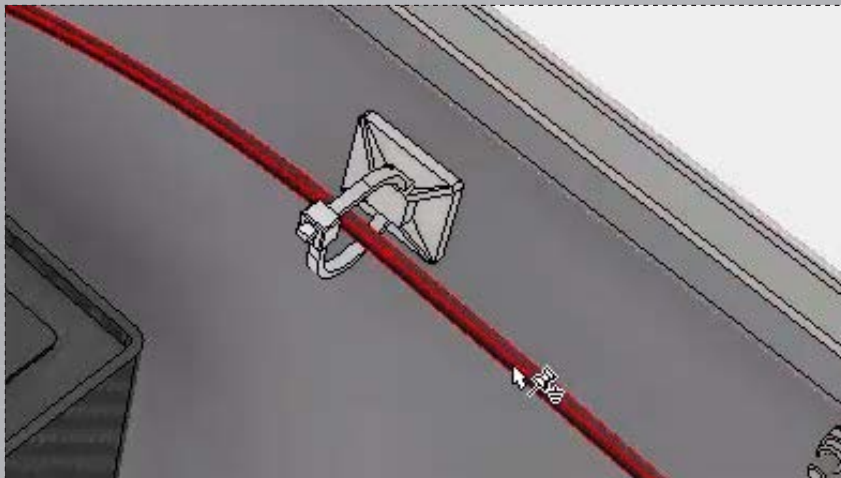
Note the two iMates recognized by these components.

8.



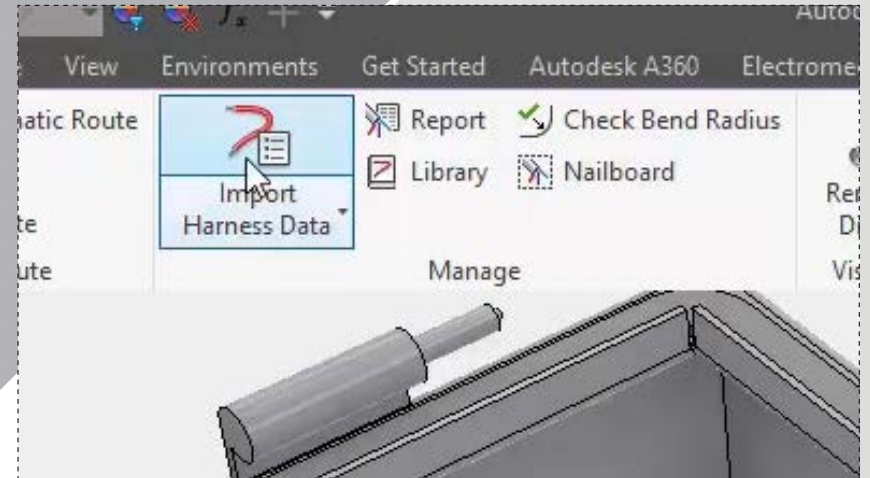
Right-click again and select 'Place at all matching iMates'.

9.



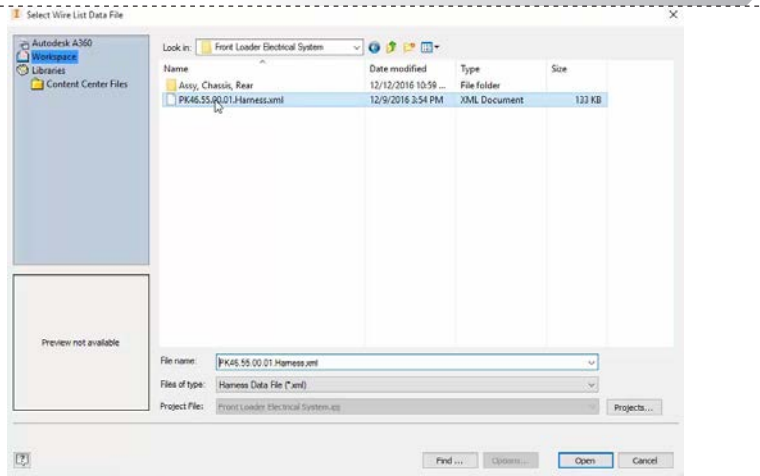
To continue adding to the existing wire harness, double-click on it in the graphics window to enter 'Cable and Harness' environment.

10.



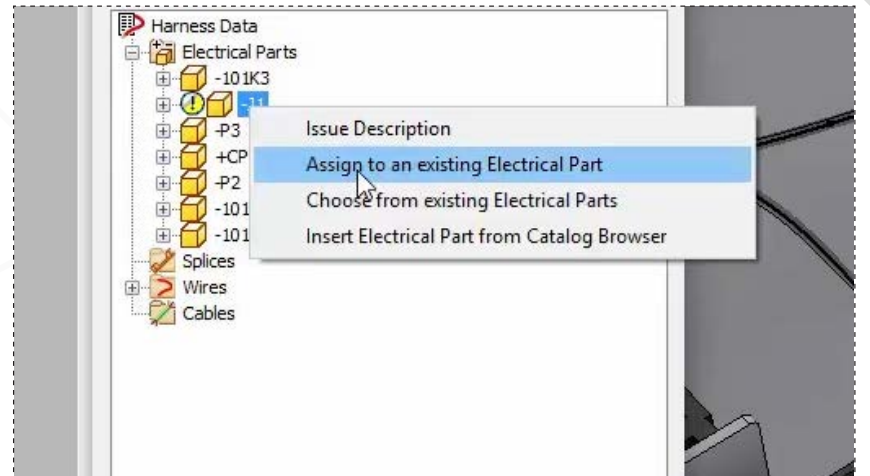
In the ribbon, within the 'Cable and Harness' tab, click 'Import Harness Data'.

11.



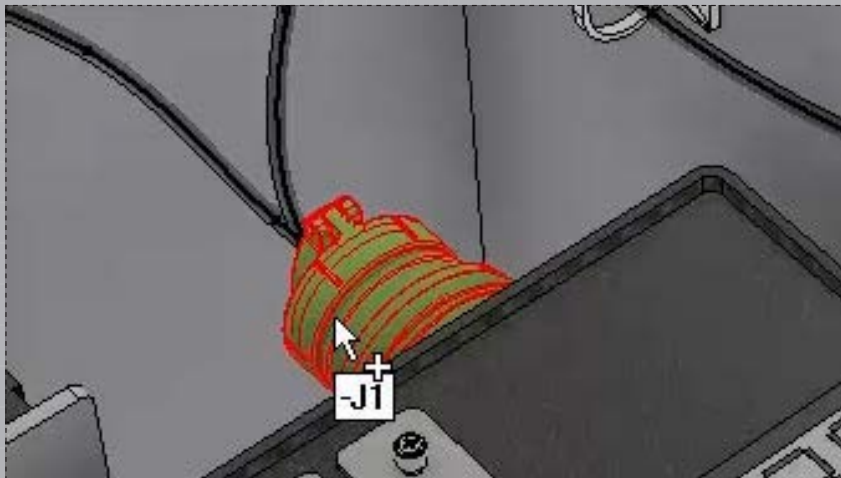
Browse to the **PK46.55.00.01.Harness.xml** file located in the Front Loader Electrical System folder, and click 'Open'. Click 'OK' in the import dialog to continue.

12.



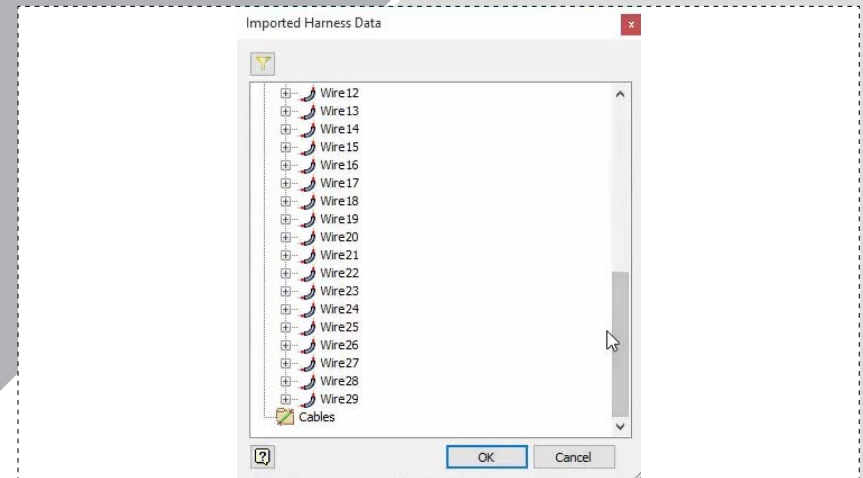
In the 'Imported Harness Data' dialog, expand the Electrical Parts folder, right-click the part displaying the error, and select 'Assign to an existing Electrical Part'. Note that this part is the new receptacle you inserted earlier.

13.



Select the receptacle in the graphics window, and then select 'OK'.

14.



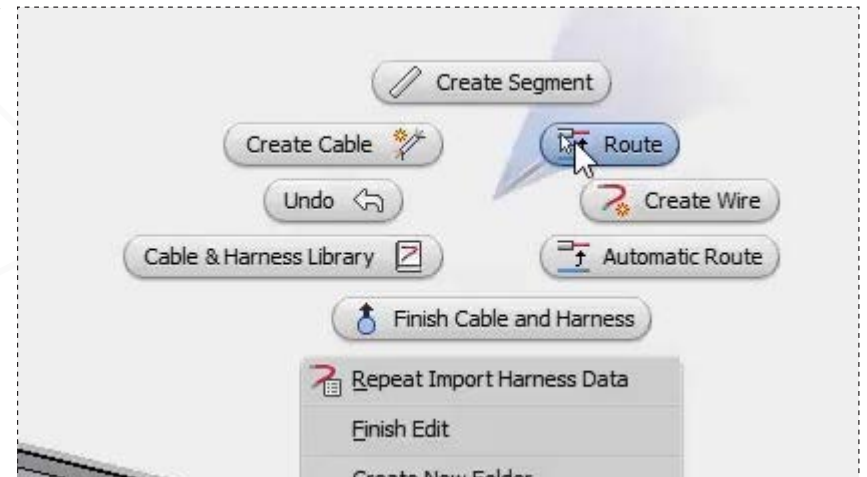
Note the wires that will be created from the imported data, and then click 'OK'.

15.



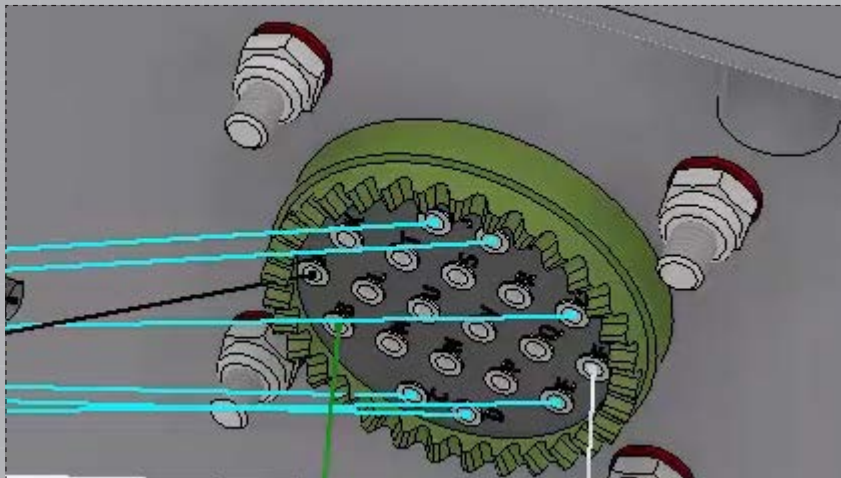
Close the 'Imported Harness Data' dialog to continue.

16.



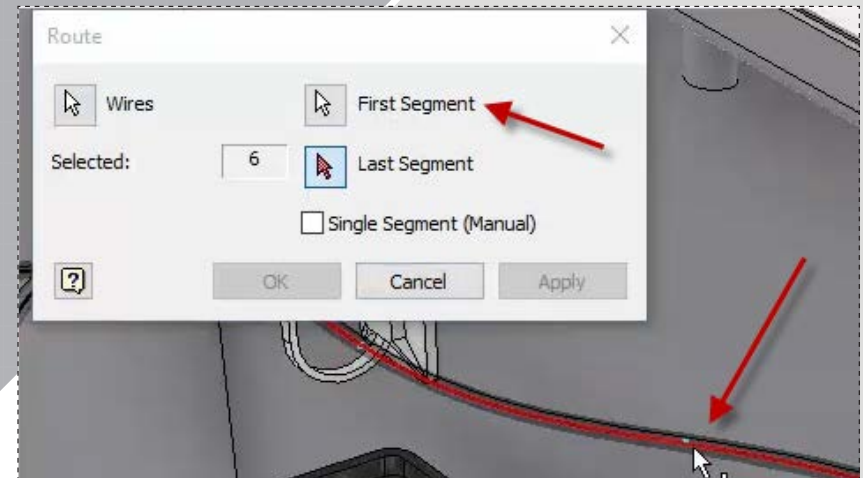
Right-click in the graphics window and select 'Route' to add some of the wires to the existing harness.

17.



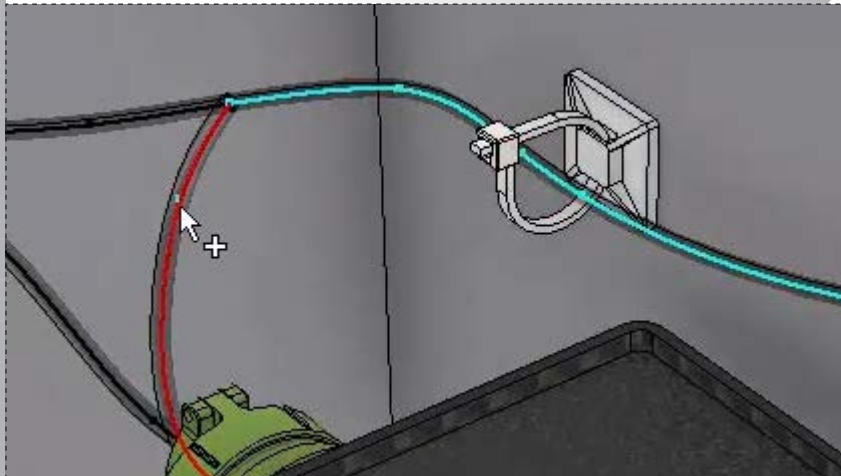
Select the white, grey, orange, red, and both blue wires to update. (Six in total)

18.



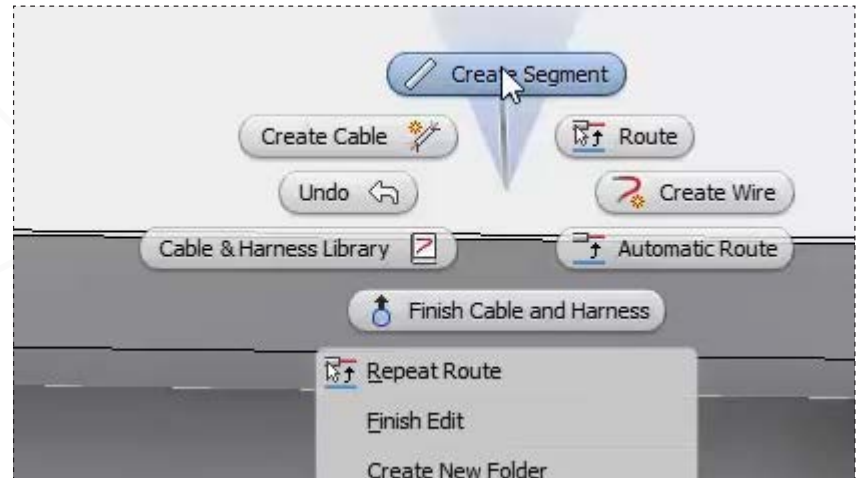
Select the 'First Segment' for the new path as shown.

19.



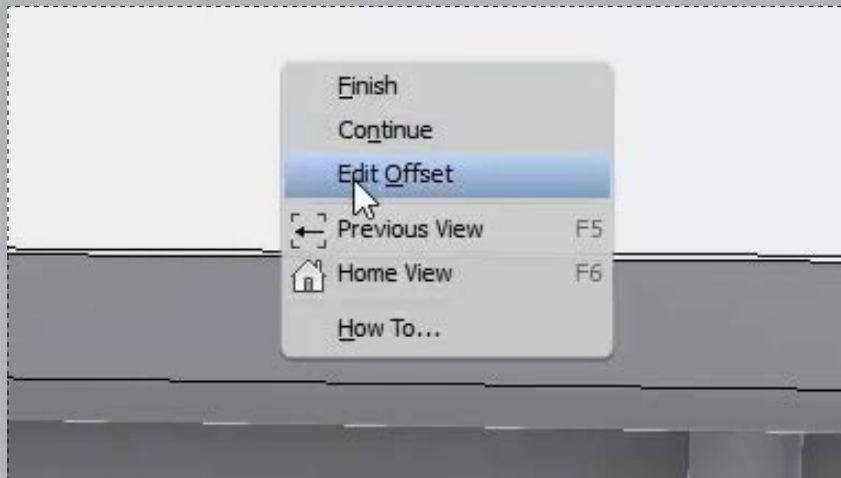
Select the 'Last Segment' for this route as shown, and then click 'OK' to reroute the selected wires.

20.



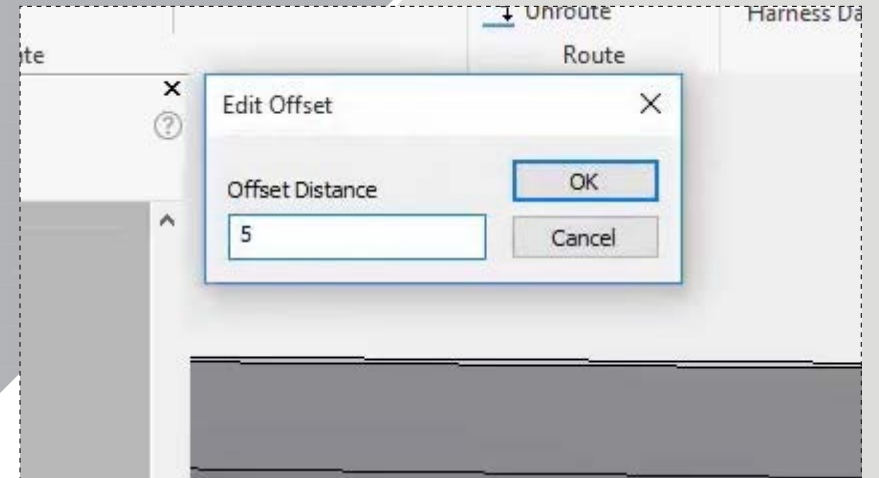
Right-click and select 'Create Segment' to begin creating a new harness segment.

21.



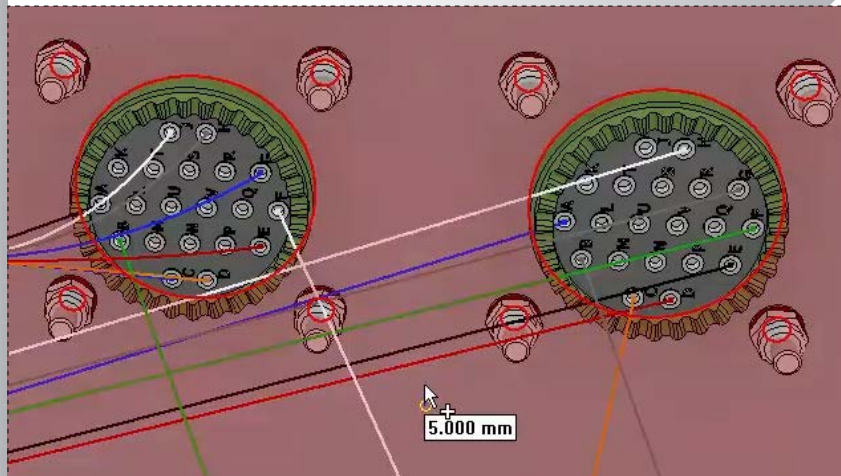
Right-click again and select 'Edit Offset'.

22.



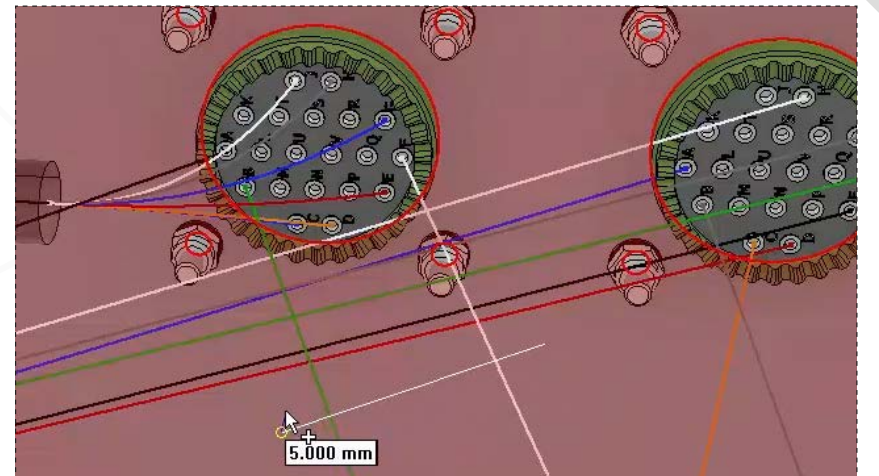
Enter 5mm for the 'Offset Distance' and click 'OK'.

23.



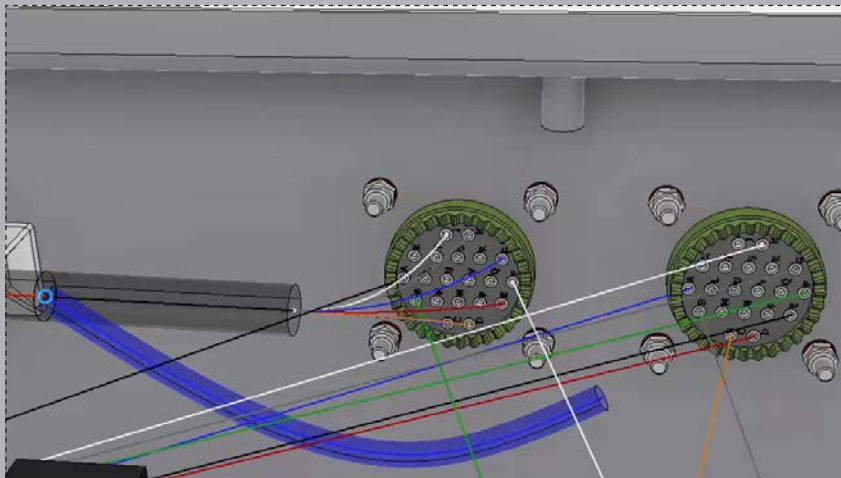
Select a point below, and in between the two receptacles to begin defining the new section's location.

24.



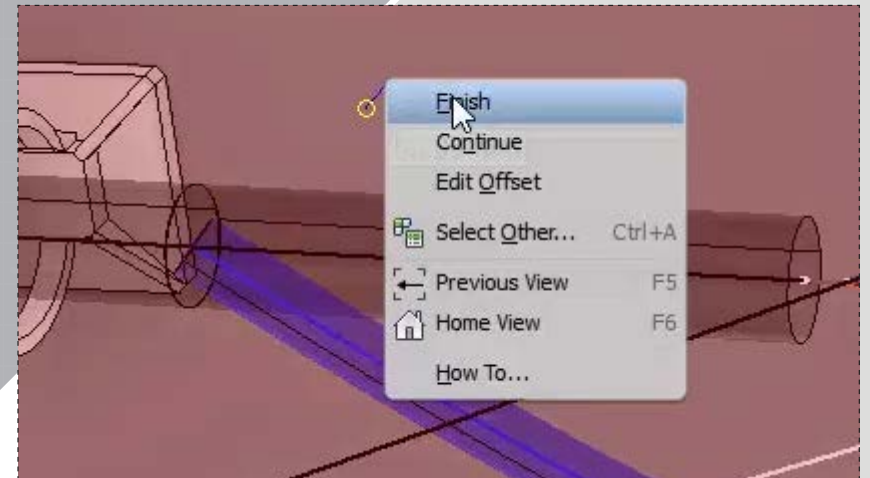
Continue the line, clicking a second time below the first receptacle.

25.



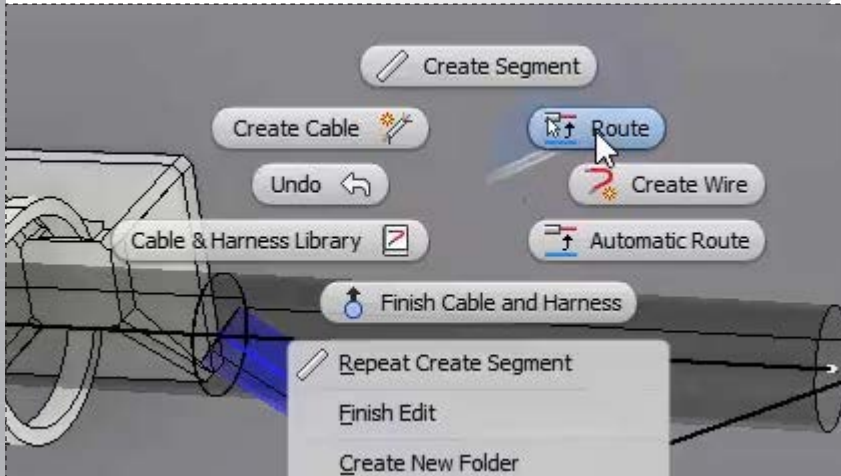
End the route by clicking a third time on the existing segment.

26.



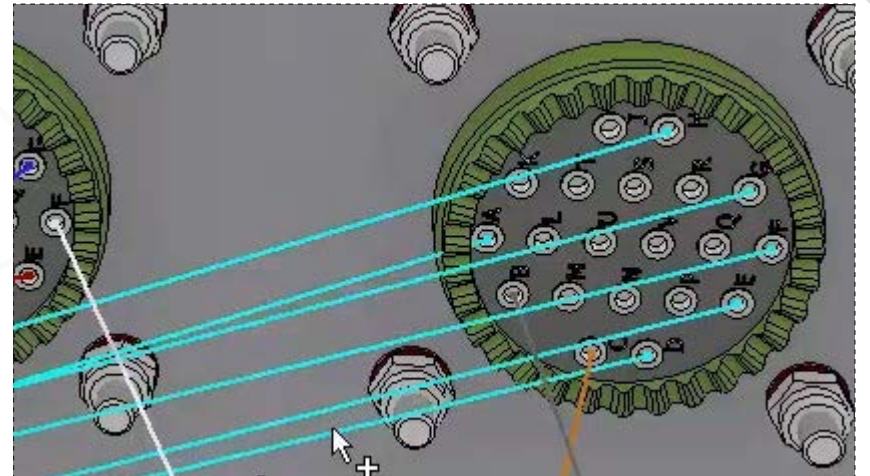
Right-click and select 'Finish' to complete the segment.

27.



Select 'Route' in the marking menu to begin routing more wires through the new segment.

28.

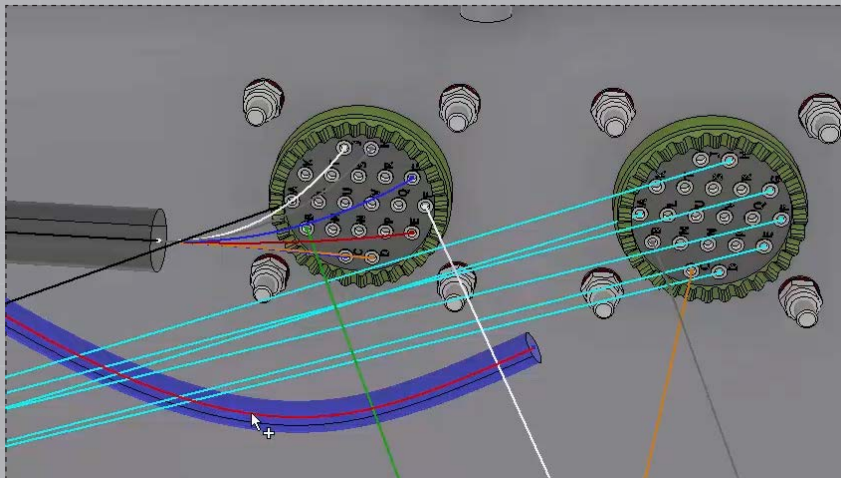


Select the white, blue, grey, green, black and red wires from the other receptacle for the wires to route.



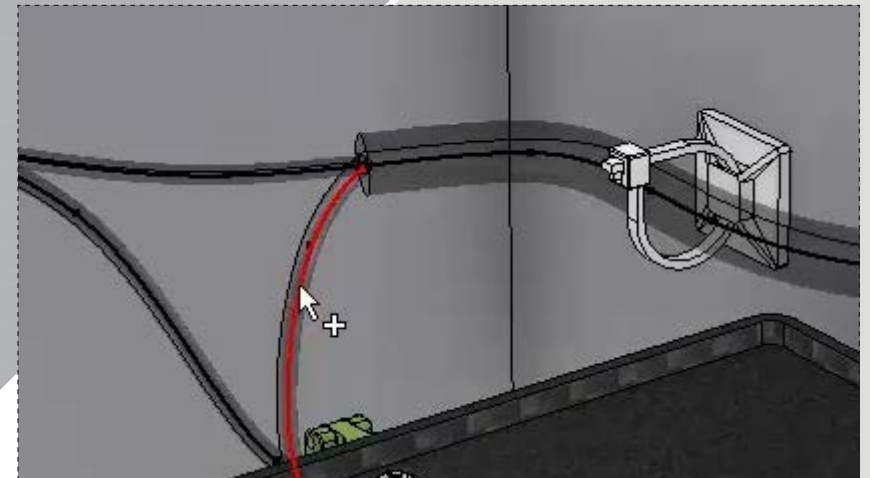
# PART 1: ELECTRO-MECHANICAL WORKFLOW

29.



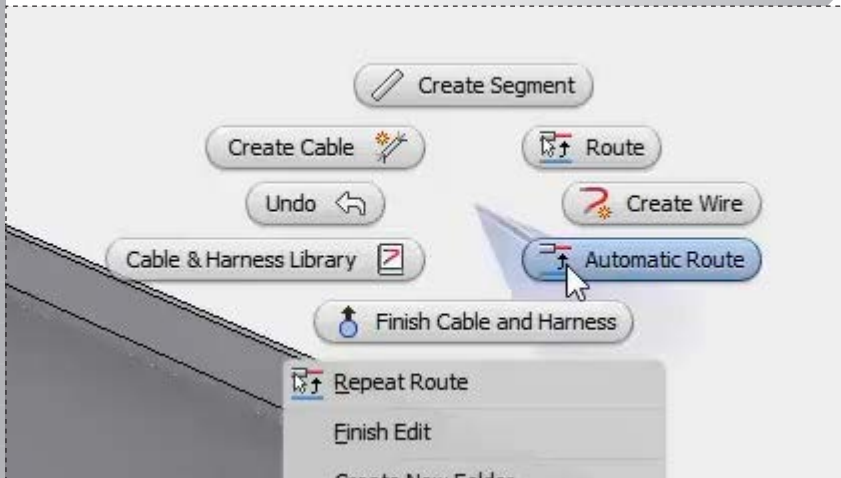
Select the path you just created for the 'First Segment'.

30.



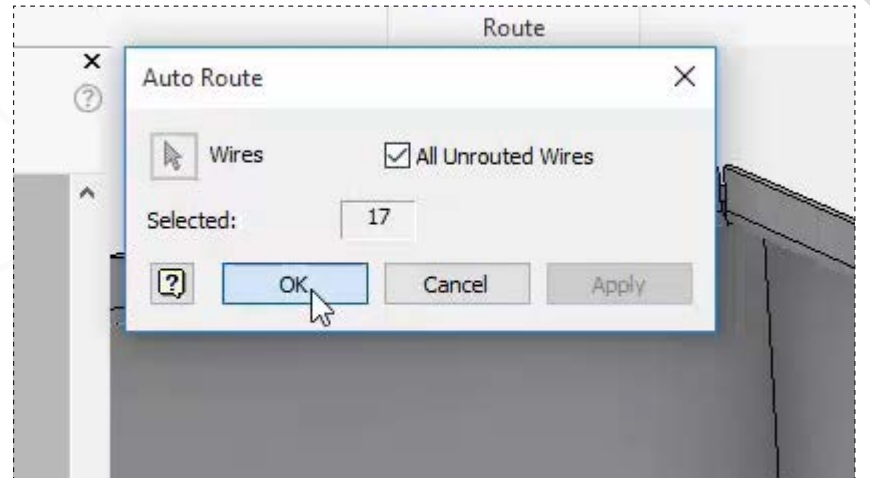
Select the segment shown for the 'Last Segment', and then click 'OK'.

31.



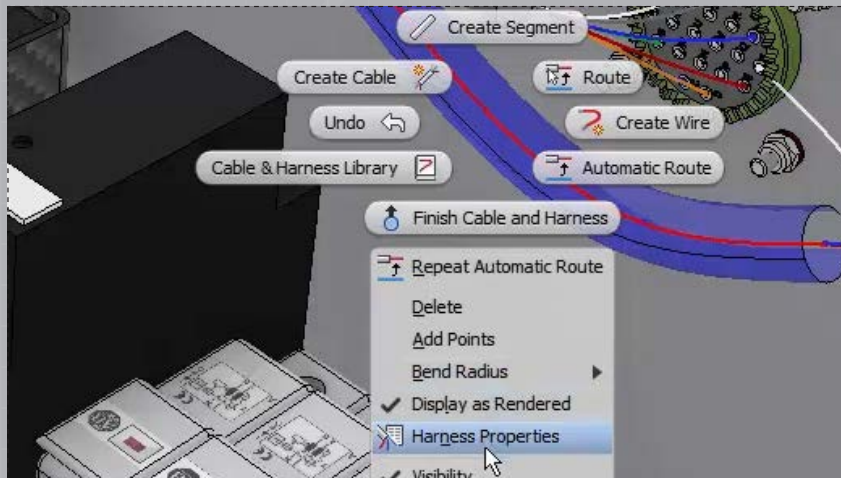
Right-click and select 'Automatic Route' to route the remaining wires in the assembly.

32.



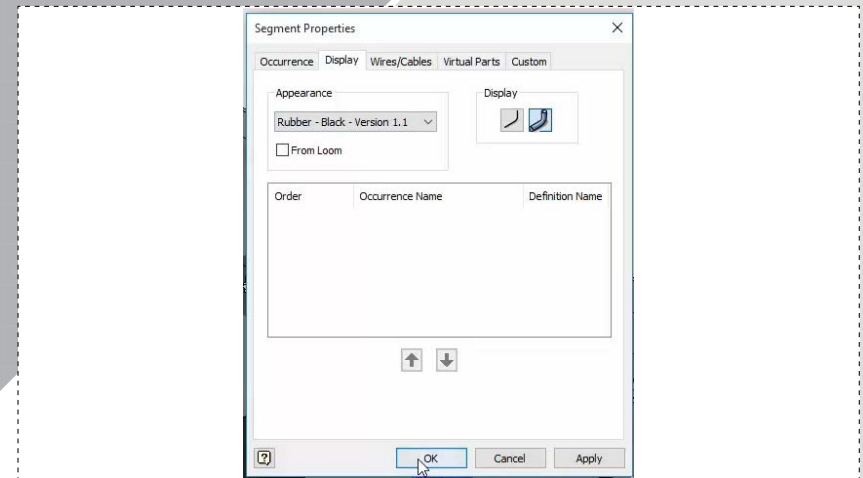
Check 'All Unrouted Wires' in the 'Auto Route' dialog, and then click 'OK' to route them through the existing segments.

33.



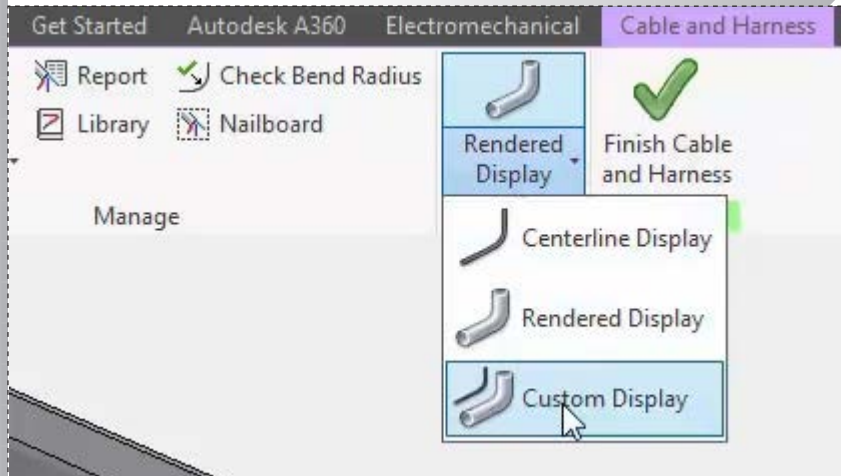
To change the color of the route segment you created, right-click on it and select 'Harness Properties'.

34.



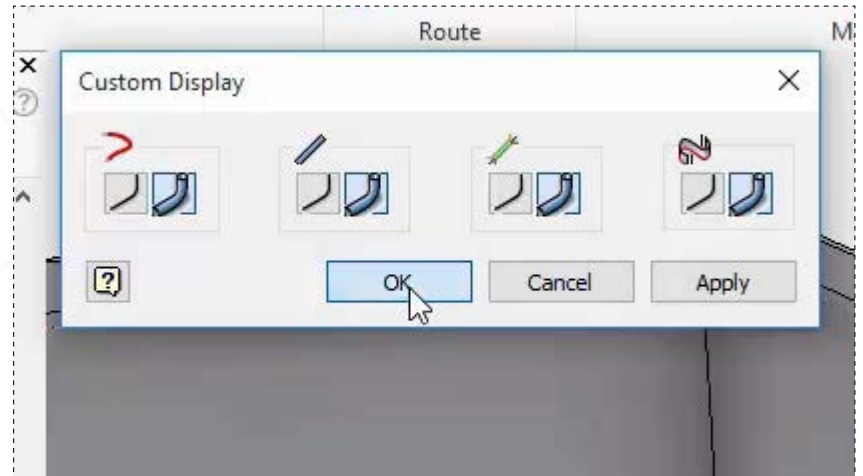
In the 'Display' tab, uncheck 'From Loom', select Rubber – Black – Version 1.1 for the 'Appearance', and then select 'OK'.

35.



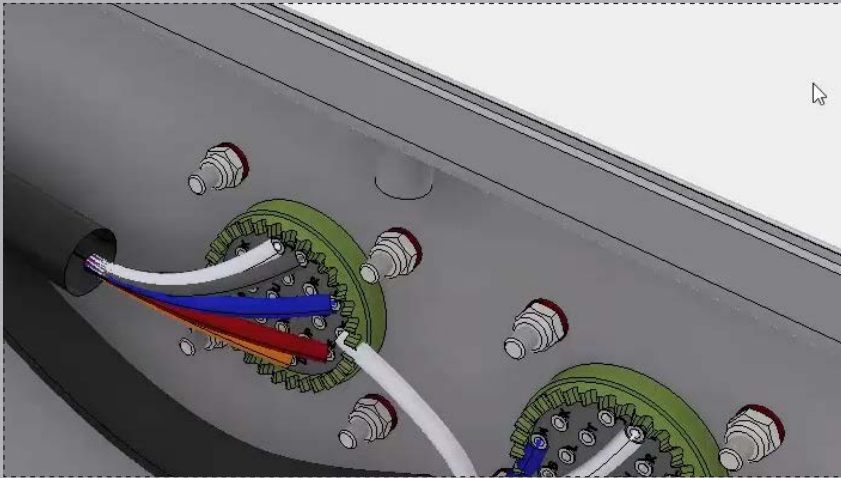
Select 'Custom Display' from the 'Visibility' panel to change the display for the individual wires.

36.



Click on the 'Rendered Style' in the 'Custom Display' dialog, and then 'OK'.

37.



Click 'Finish Cable and Harness' to complete the assembly edit.  
Save your progress to finish.



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