



PIN-SIGHT™

User's Reference Guide

Version 2012.1.0

August 15, 2012

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Salt Lake City, Utah 84119-2026

United States of America

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Visit our website at www.pinsight.com

Thank you for purchasing Pin-Sight. It is important to us that our products are effective and user-friendly. Please contact us with any suggested changes you may have for this product or manual so we can better serve you.

Email us at info@cirris.com or call us at (800) 441-9910.

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About Pin-Sight

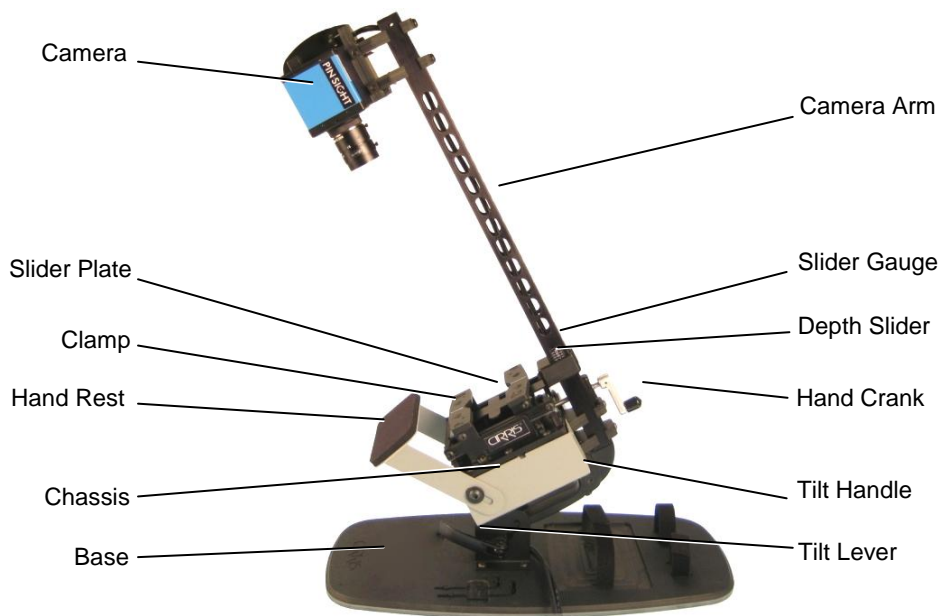
Introduction

Pin-Sight is a guided assembly aid for electrical connectors that virtually eliminates misplaced wires, verifies that contacts are locked in, and dramatically reduces overall assembly time. Pin-Sight also gets new operators up-to-speed with minimal training.

Overview

Pin-Sight uses a high resolution CCD camera mounted on an easy-to-use connector holder that is attached to a force sense gauge. The operator loads a connector into Pin-Sight, enters a wire or cavity ID, and an electronic target circle is superimposed over the real-time image of the connector on a video monitor. The target circle clearly shows the operator exactly where to insert the wire. The force sense gauge monitors insertion force. Once the pin is fully inserted, the operator pulls back on the wire to verify that the wire is locked in. A pass tone sounds when appropriate pull back force is met and a warning tone sounds if excessive force is applied. The Pin-Sight software is used to define connectors, save connector types in a build list for future applications, set pin and seal plug locations, and pin connectors.

Major Components



Cirris Customer Support

If you need assistance with Pin-Sight, Cirris customer support representatives are ready to assist you. In the USA, call Cirris customer service toll-free at 1-800-441-9910. Outside the USA, enter the URL www.cirris.com/contact.html in your internet web browser to locate the Cirris Sales office nearest you. You may also contact us by email at info@cirris.com.

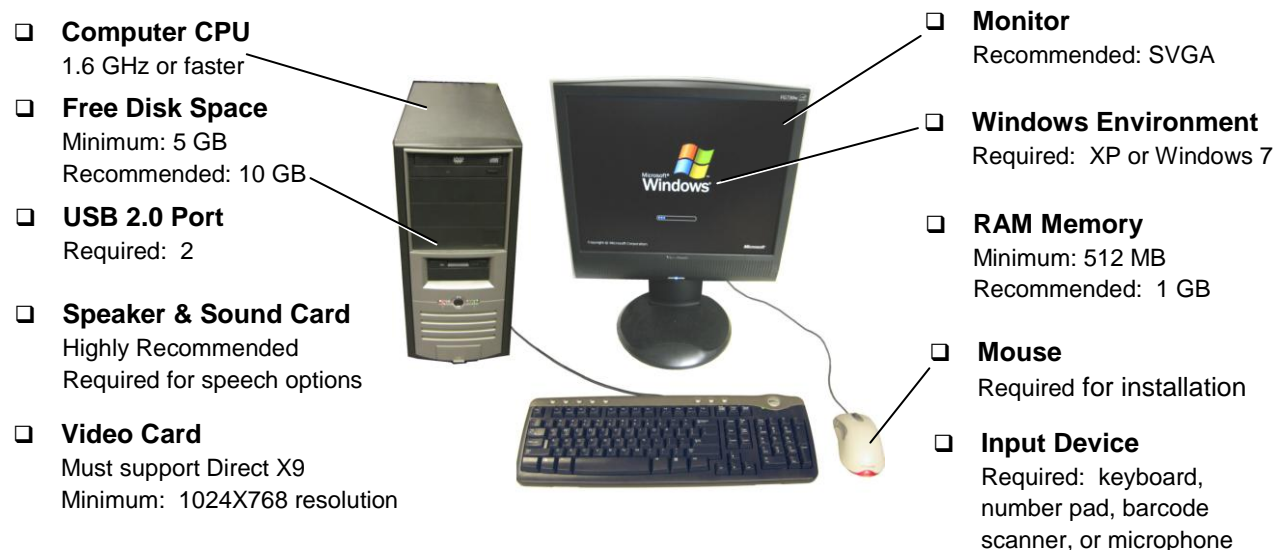
Getting Started

Itemized Checklist

Check to see that you received everything listed below (some of these items may be assembled to the base of the Pin-Sight).



System Requirements



Input Device Requirements (at least one of the following is required)

Barcode Scanner

- ☐ Must support Extended Code 39
- ☐ Must simulate keyboard input



Keyboard

- ☐ Must be compatible with Windows XP or Windows 7



Wired Headphones/Microphone

- ☐ Noise cancelling, recommended
- ☐ Mute button, recommended



Number Pad

- ☐ Must be compatible with Windows XP or Windows 7



Installing the Software

You *must* install the Pin-Sight software with an account that has Administrator rights.

When you have administrator rights on your PC:

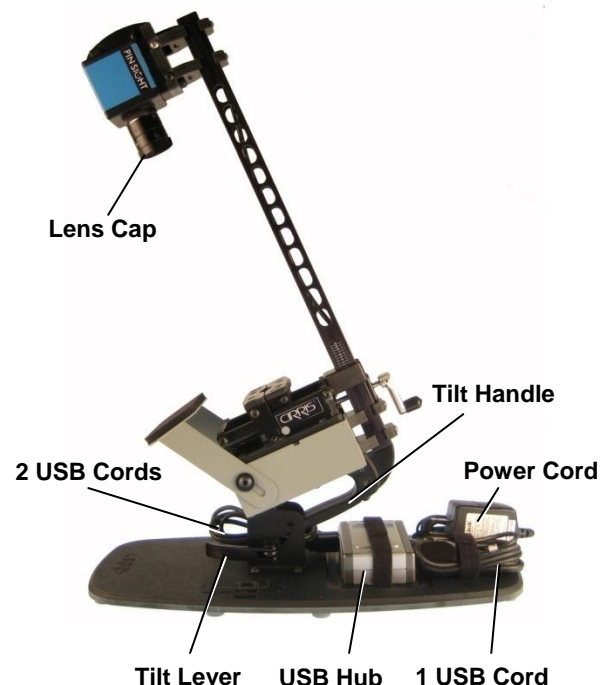
1. Exit all applications that you have running in Windows.
2. Insert the Cirris thumb drive into a USB port on your computer.
3. A screen may appear asking what you want windows to do and displays a list of options to choose from. Click on **Install Pin-Sight XXXX** (current version) and follow the installation steps provided.

Note: The “Imaging Control” CD is a back-up CD for the camera driver, see step 5 in the **Set Up** section below for more information.

Setting up Pin-Sight

Refer to the diagram below as you complete the set up instructions.

1. Remove the lens cap from the camera.
2. If you want to adjust the Pin-Sight tilt angle, unlock the Tilt Lever, adjust the tilt angle using the Tilt Handle, and re-lock the Tilt Lever.
3. Check to make sure the receptacle tip of the power cord is inserted into the USB Hub. Undo the Velcro strap for the power cord and insert the plug end of the power cord into a grounded outlet.
4. Check to make sure the 2 USB cords coming from the Pin-Sight device are connected to the USB Hub. Undo the strap for the USB cord that is next to the power cord and insert the loose end into a USB port on your PC.
5. When Pin-Sight powers up, the camera driver should auto-install. If prompted, install the camera driver. If the driver install does not auto-load, insert the Imaging Control CD into your computer and complete the installation.
6. Ensure that your input device is plugged in (see page 2 to view requirements).
7. If you purchased a barcode scanner system, plug the USB end of the barcode scanner into the USB Hub. You will hear a high-low beep which indicates that the scanner is working. For more information, see “Barcode Scanner System” on page 67.



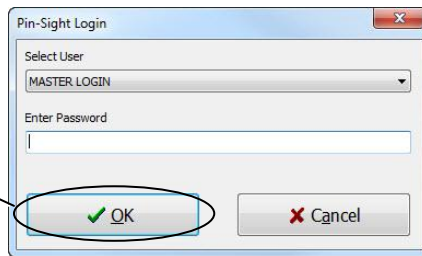
Verifying Camera Alignment

When you define a connector, the Pin-Sight camera saves the connector image in the Pin-Sight software. It's critical that Pin-Sight is aligned to effectively use the same image multiple times on the same machine or on different machines. The camera is aligned before shipping; however, alignment should be verified before each use of Pin-Sight.

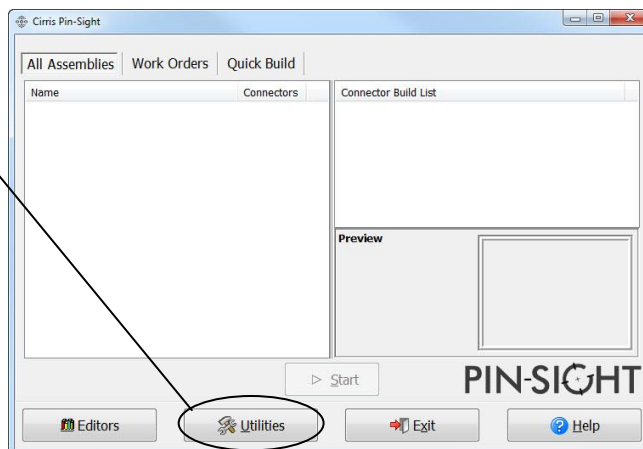
1. Double-click the Pin-Sight icon on your desktop to open the software.



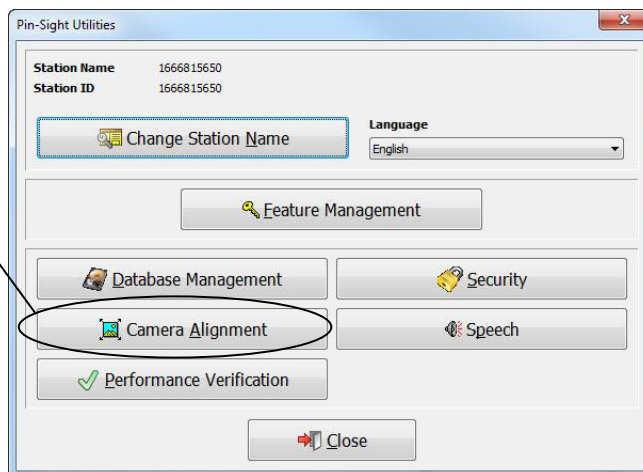
2. In the "Pin-Sight Login" window, click **OK**, or select a new user and enter your password.



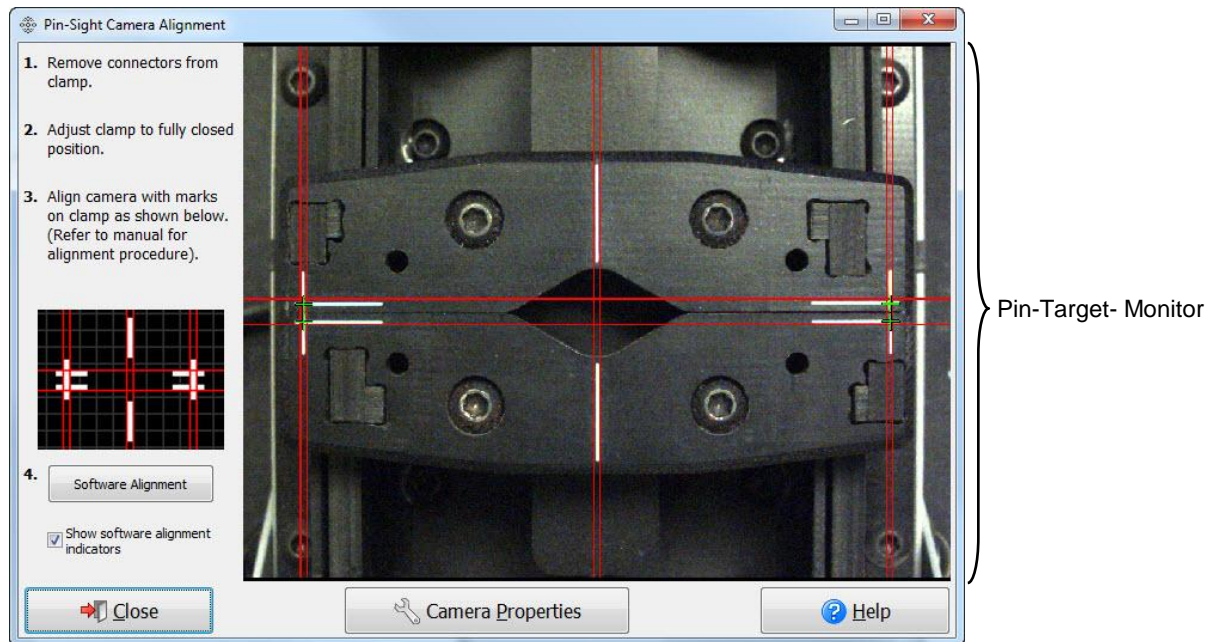
3. At the bottom of the "Cirris Pin-Sight" window, click **Utilities**.



4. In the "Pin-Sight Utilities" window, click **Camera Alignment**.



A live image of the Pin-Sight clamp displays on the **Pin-Target-Monitor** in the “Pin-Sight Camera Alignment” window (see below).



Troubleshooting: If the pin target monitor is blank, double-check connections; ensure that the lens cap on the camera is removed, and that the camera driver is installed on your PC (see Set Up on page 3).

If the lines on the monitor appear blurry, too light, or too dark on the monitor, adjust the Focus Ring of the camera to clarify your image. You can also adjust the Aperture Ring to lighten and darken your image. Follow the steps in the diagram to the right to adjust the ring settings.

Focus Ring
Aperture Ring



1. Slightly loosen the screw that holds the ring in place.



2. Turn the ring to adjust the setting.



3. Tighten the screw.



Note: You may want to adjust lighting, add a portable light source, or adjust the Pin-Sight tilt angle to best view the image.

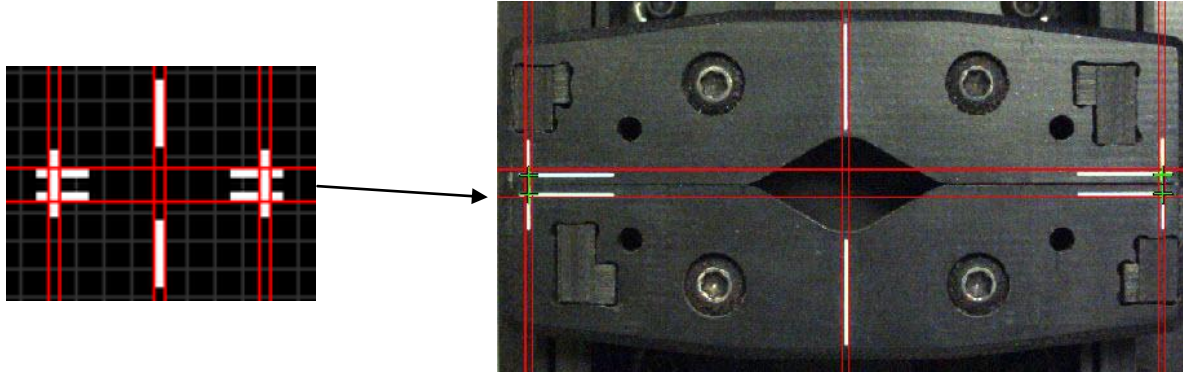
5. If a connector is in the clamp, loosen the clamp by turning the hand crank and remove the connector.
6. If the clamp is not closed already, slowly turn the hand crank until the clamp is fully closed.



Hand Crank

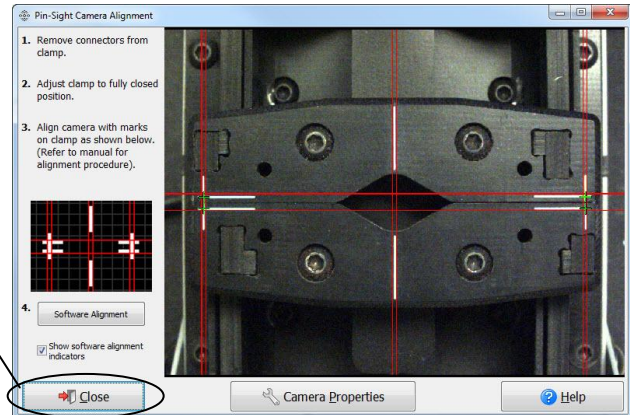
7. Verify the camera alignment (see below).

The camera is aligned if the white lines are between the red lines as shown below. A mechanical alignment is necessary if any of the white lines are outside of the red lines (see example on page 38).

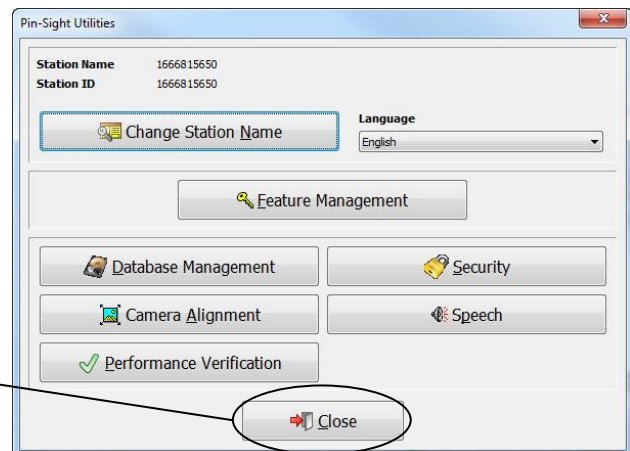


8. If your camera is aligned, click ‘Close’.

If your camera is not aligned, see “Aligning the Camera” on page 37, align the camera, and then close the “Pin-Sight Camera Alignment” window.



9. Click ‘Close’ to return to the “Cirris Pin-Sight Window”.



The Connector Editor

Connectors are set up in the Pin-Sight Connector Editor. This process includes inserting a connector, capturing the connector image, recording the connector settings, and placing targets on each connector cavity. In Pin-Sight version 2010.2.0 or newer, you may be able to skip this process if your connector(s) exist in the Cirris Connector Library. This Library is an optional feature containing connector types that have been pre-defined in the Pin-Sight software. For more information, see “Optional Features” on page 47.

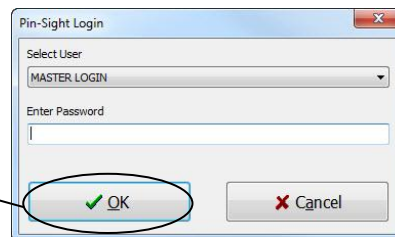
To open the Connector Editor:

1. If the Pin-Sight software is not open, double-click the Pin-Sight icon on your desk top.

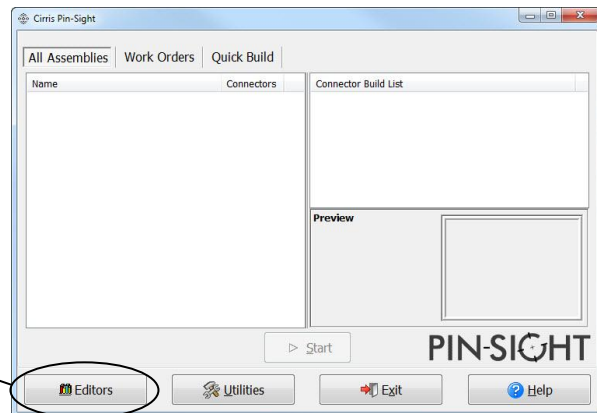


Note: If you don't see the Pin-Sight icon on your desktop, click Windows *Start, All Programs, Cirris Systems Corporation, Pin-Sight*.

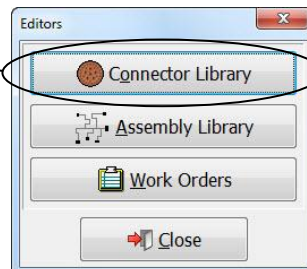
2. In the “Pin-Sight Login” window, click ‘OK’ or select a user and enter your password.



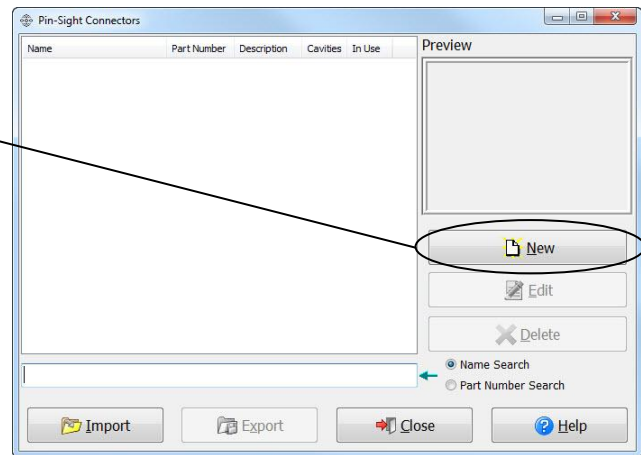
3. At the bottom of the “Cirris Pin-Sight” window, click ‘Editors’.



4. Click ‘Connector Library’.

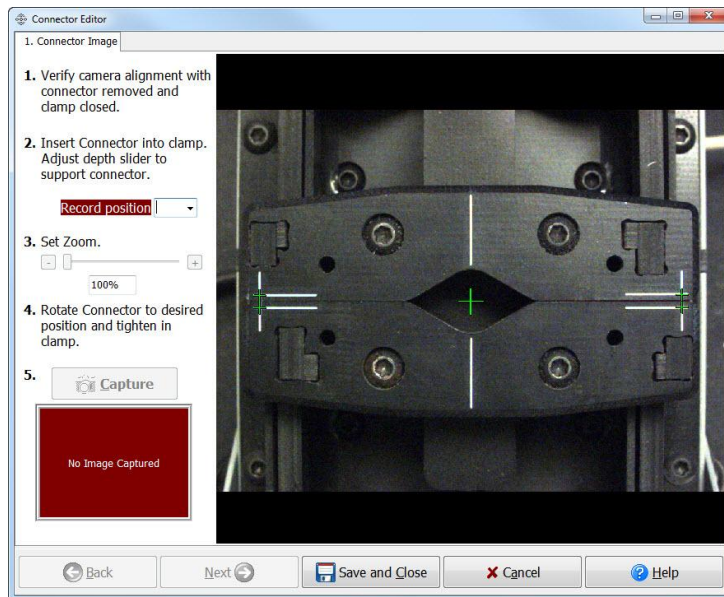


5. Click 'New'.



Connector Image

This tab is where you can set up connectors in the Pin-Sight software.



To set up a connector:

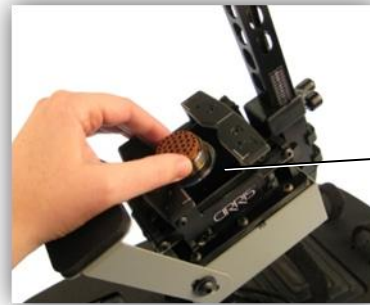
1. Verify the software alignment by closing the clamp all the way. Make sure the green cross indicators line up with the white lines on the clamp (step 1 in the Connector Image tab).



Note: If your camera is not working, see the troubleshooting steps on page 5. If your camera is not aligned, see “Software Alignment” on page 41.

2. Open the clamp just enough for your connector to drop into place on the Pin-Sight slider plate (step 2 in the “Connector Image” tab).

If you have a rectangle or square connector, you can purchase Cirris’ Flat Jaw Inserts. For more information, see “Flat Jaw Inserts” on page 73.



Slider Plate

3. Adjust the Slider Plate by moving the Depth Slider until the connector is at a height where the clamp will close on a feature of the connector that is fixed (or stationary) relative to the connector insert. Put the connector in a position that will simplify the reproduction of that position (step 2 in the “Connector Image” tab).

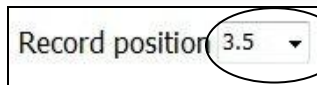


Slider Gauge

Depth Slider

Depth Position

4. Each number on the Slider Gauge is a depth position. Record the depth position for your connector in the “Record position” drop down box (step 2 in the “Connector Image” tab).



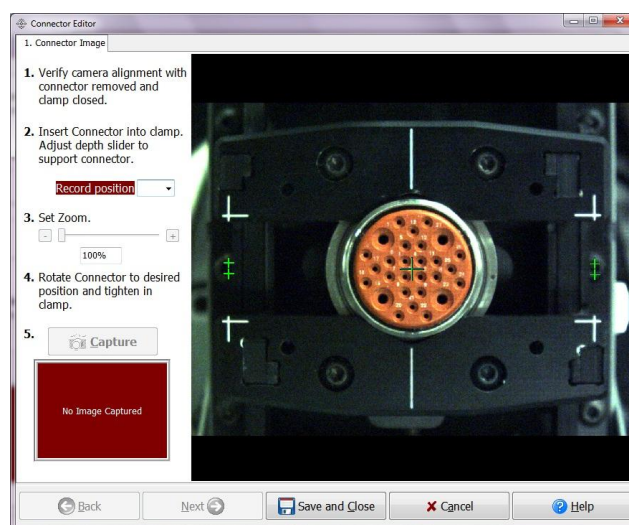
5. Rotate the connector to the desired position, and turn the hand crank to hold the connector in place but do not fully tighten yet (step 4 in the “Connector Image” tab).



Hand Crank

Clamp

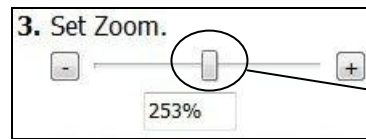
Your connector will display on the Pin-Target-Monitor.



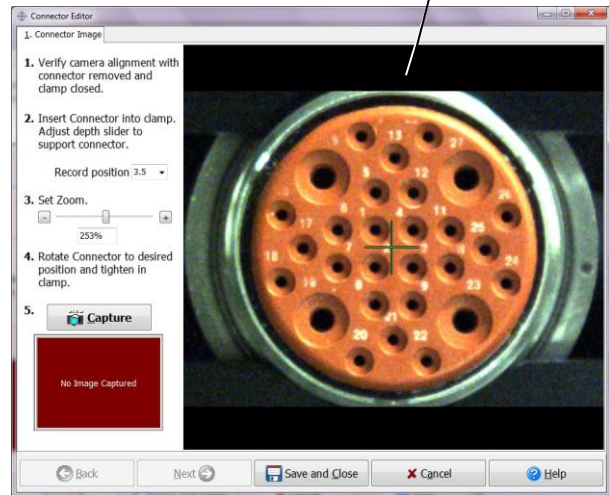
Pin-Target-Monitor

ADDING CONNECTORS

- Click and drag the “Set Zoom” slider until the connector is at the maximum viewable size on the monitor (step 3 in the “Connector Image” tab).
- Ensure that your connector is at the desired angle, adjust the connector if necessary, and tighten the clamp. Stop tightening when just enough pressure holds the connector firmly in place (step 4 in the “Connector Image” tab).

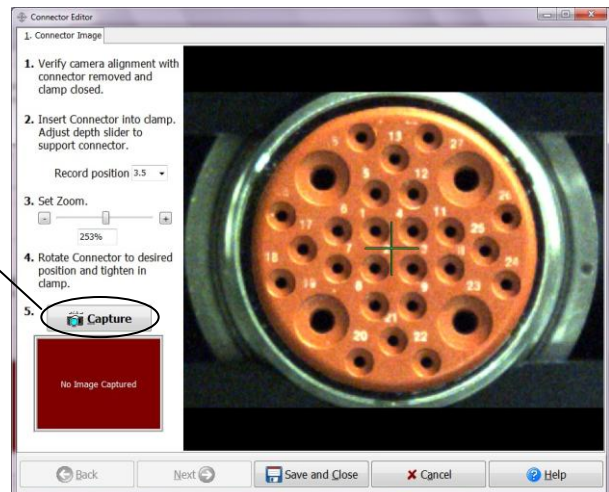


Adjust the connector image to fill the entire screen



Troubleshooting: If the image of your connector appears blurry, too light, or too dark on the monitor, refer to the troubleshooting steps that begin on page 5.

- When the connector image appears to your liking, click ‘**Capture**’. The captured image is the reference image used to define the precise location of the cavities (step 5 in the “Connector Image” tab).



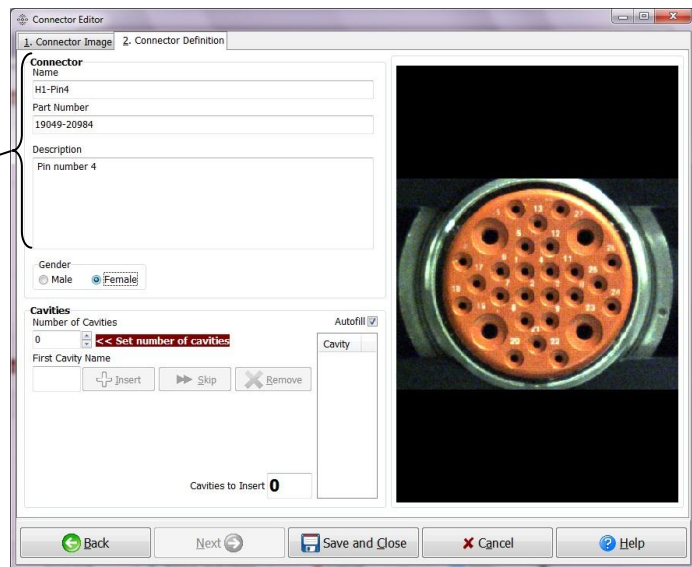
Note: If the image is not satisfactory after you click Capture, you can make further adjustments and click Capture again. You can change the reference image as many times as is needed.

- After you capture your image, at the bottom of the window, click ‘**Next**’.



Connector Definition

1. In the **Connector** section of the “Connector Definition” tab, enter a unique name or identifier for your connector. You can optionally enter a part number, description, and gender in the designated boxes.



2. In the ‘**Cavities**’ section, enter the number of cavities in your connector. Click on the up and down arrows or type in the number.
3. Check or uncheck the “Autofill” box (see below).



If the “Autofill” box is checked, after you insert the first cavity name, the software will attempt to auto-complete your “Cavity” list.

If the “Autofill” box is unchecked, you will need to enter a cavity name in the “First Cavity Name” text box then click ‘**Insert**’ or ‘**Skip**’ as each subsequent name or number is presented.



4. Enter the first cavity name on your connector in the “First Cavity Name” text box and click ‘**Insert**’.

When using Autofill:

If the cavity names are numerical, after you insert the first cavity name (number), the Pin-Sight software will auto-complete the list in numerical order.

The screenshot shows the 'Cavities' window with 'Number of Cavities' set to 28. The 'Next Cavity Name' field is empty. The 'Autofill' checkbox is checked. The 'Cavity' list on the right contains numerical values from 20 to 28. The 'Cavities to Insert' box at the bottom right shows the value 0.

If the cavity names are alphabetical, the Pin-Sight software will auto-complete all common letters only stopping on uncommon letters. You can either 'Insert' an uncommon letter or 'Skip' an uncommon letter by clicking on the corresponding buttons.

The screenshot shows the 'Cavities' window with 'Number of Cavities' set to 28. The 'Next Cavity Name' field contains the letter 'I'. The 'Autofill' checkbox is checked. The 'Cavity' list on the right contains common letters A through H. A red error message states: "'I' is not a common cavity name. Edit or Skip if needed, click Insert to continue." The 'Insert' button is highlighted with a green circle. The 'Cavities to Insert' box at the bottom right shows the value 20.

All cavities in your connector have been entered when the "Cavities to Insert" box says 0.

The screenshot shows the 'Cavities' window with 'Number of Cavities' set to 28. The 'Next Cavity Name' field is empty. The 'Autofill' checkbox is checked. The 'Cavity' list on the right contains letters X, Y, Z, a, b, c, d, e, f. The 'Cavities to Insert' box at the bottom right shows the value 0.

Removing a Cavity Name

To remove a single cavity name:

In the "Cavity" column, click on the name you want to delete and click 'Remove'.

To remove multiple cavity names:

Hold down Shift or Ctrl while clicking to highlight the cavity names to be removed, and then click 'Remove'.

The screenshot shows the 'Cavities' window with 'Number of Cavities' set to 28. The 'Next Cavity Name' field is empty. The 'Autofill' checkbox is checked. The 'Cavity' list on the right contains letters X, Y, Z, a, b, c, d, e, f. The 'Remove' button is highlighted with a red circle. The 'Cavities to Insert' box at the bottom right shows the value 0.

- When all the cavity names are entered, click 'Next'.



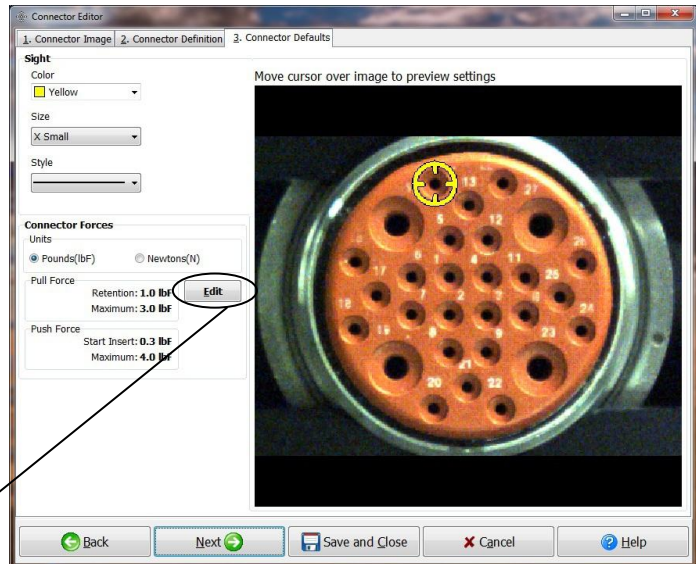
Connector Defaults

In this tab, you can edit the cavity settings. These settings will be used for all cavities in the connector. You will be able to edit the settings for individual cavities in the next tab.

In the **Sight** section, you can change the default settings for how the target circle displays on the Pin Target Monitor. As you experiment with the settings, you can move your cursor over the monitor to preview the settings. Select the colors, sizes, and line-styles that best fit your connector.

In the **Connector Forces** section, you can set the push and pull force settings. Pin-Sight ships with default settings, but you will want to experiment with the Force Gauge to determine the proper push/pull settings for your connector. The units can be set to Pounds (pull range = 1lbF - 8 lbF/ push range = 1lbF - 6 lbF) or Newtons (pull range = 1 N - 36 N/ push range = 1N - 27 N).

To open the Force gauge, click **'Edit'**.

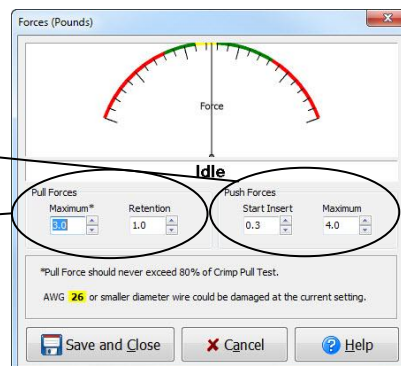


Note: If you have the Pin-Sight version that does not have a Force Sensor, skip to “Cavity Positions” on page 16.

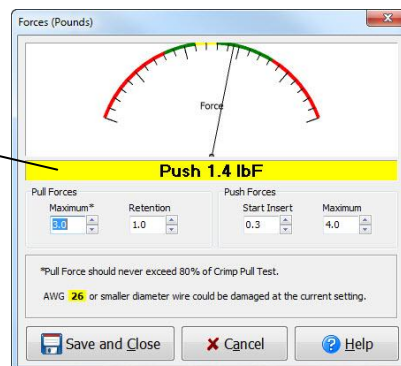
Force Gauge Overview:

The two Push Force settings are “Start Insert” (min) and “Maximum.”

The two Pull Force settings are “Maximum” and “Retention” (min).



When you insert or pull on a wire, the force measurement will appear in a yellow information bar on the force gauge.



Push Forces

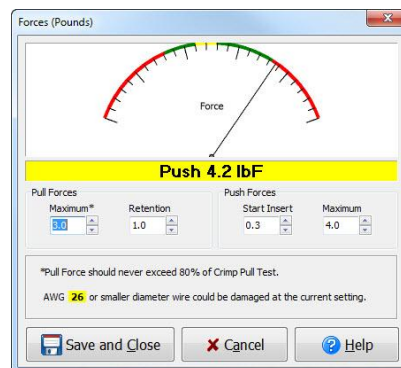
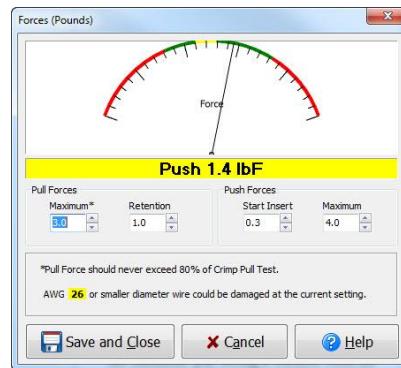
The “Start Insert” force setting is the minimum amount of force required to recognize that the operator has begun inserting. To determine the Start Insert setting:

1. Use an insertion tool to insert a wire into a cavity on your connector. The needle must move into the green line on the gauge during insertion.

If you can seat the wire without the needle moving into the green line, set the “Start Insert” setting to a lower number.

2. Set the “Maximum” push setting to warn the operator when they are pushing too hard and may cause damage.

The Maximum push setting is reached when the needle moves into the red line, and an “error” tone sounds.



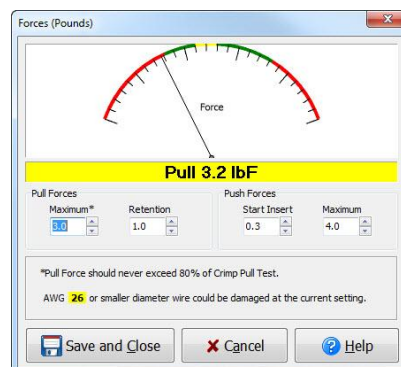
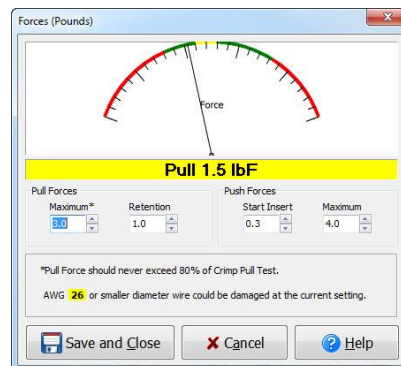
Pull Forces

“Retention” is the pull back setting. To determine the Retention setting:

1. Pull straight back on a wire that has been inserted but not locked in.
2. Set this setting high enough so that you can’t get the contact, which is not locked in, to cause the needle to touch the green line.
3. When the needle reaches the Retention setting, a “good” tone will sound.
4. Set the “Maximum” pull setting to warn the operator when they pull back too hard on a wire. For more information, see “Maximum Pull Settings” on the next page.

The Maximum pull setting is reached when the needle moves into the red line and an “error” tone sounds.

Hint: For proper contact retention, make sure to pull the wire straight back, not at an angle.



Maximum Pull Settings

The “Wire Size” table displays the maximum values that the pull force may be set to based on wire size. Each value is 80% of the minimum crimp pull force used to test the tensile strength of a pin crimped to a wire.

Wire Size (Maximum Pull)		
Wire AWG	lbF	N
30	1.2	5.3
28	1.6	7.1
26	2.4	10.7
24	4.8	21.4

These values are from NASA MSFC-STD-781

The “Contact Size” table displays the maximum values that the pull force may be set to based on contact size.

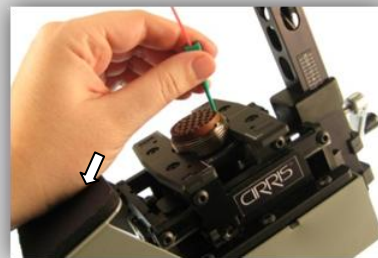
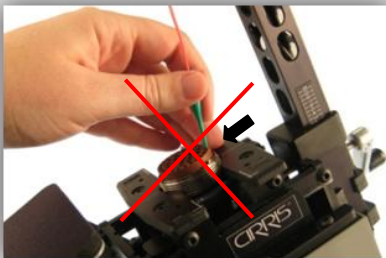
Contact Size (Maximum Pull)		
Contact Size	lbF	N
22	5.0	22.2
22D	5.0	22.2
22M	5.0	22.2
20	5.0	22.2

These values are from NASA MSFC-STD-781

Important! Both tables contain values within the highest available settings (8 lbF/36 N) for Pin-Sight. Do not exceed the amounts listed in either of these tables when selecting your “Maximum” force setting!

Caution! When you are pinning or pulling a wire, do NOT touch the clamp, connector, or camera arm with your free hand as this will affect the force gauge...

...we recommend using the hand rest.



Refer to the diagram on the left side of the Pin-Sight chassis.

- When the forces are at the desired settings, click **‘Save and Close’**.



- When the settings on the “Connector Defaults” tab are set to your preference, click **‘Next’**.

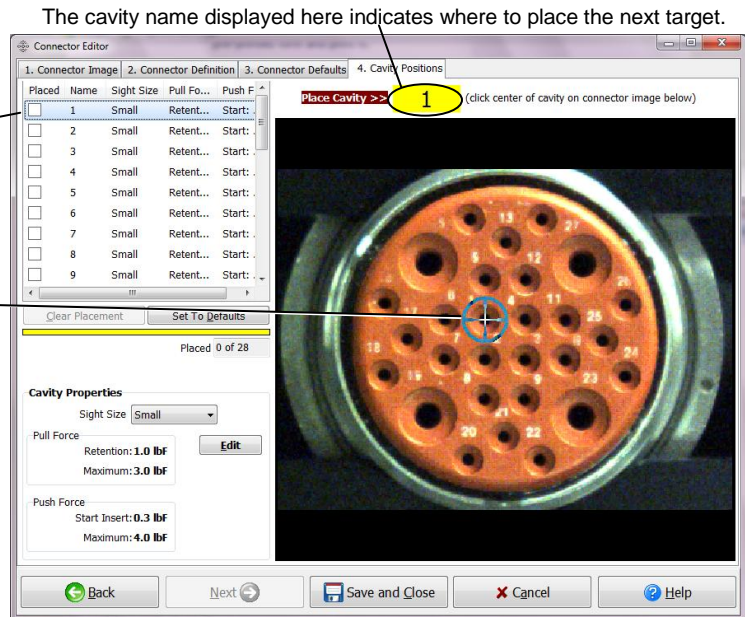


Cavity Positions

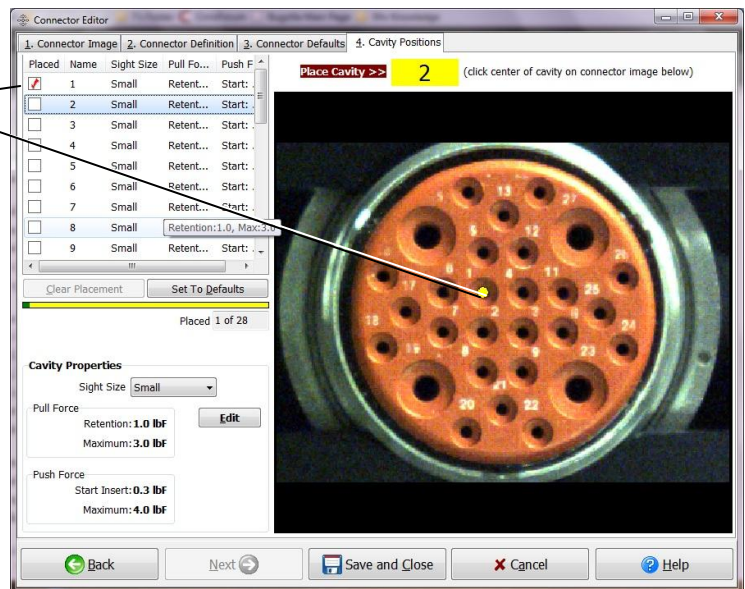
This tab displays the list of cavity names and their properties. In this window, you can change the properties of your cavities individually and place a marker that indicates the cavity location on each cavity of your connector image once placed. Each marker will appear as a small yellow dot in the center of each cavity.

To place the first marker:

1. The first cavity name will be highlighted here. Move your cursor over the connector image until the pin target is centered on the first cavity, and then click to place the marker.



A red checkmark will appear in the "Placed" column of the cavity name that corresponds to each placed marker.



ADDING CONNECTORS

The software will prompt you to place a marker on the next consecutive cavity.

2. Place markers on each cavity as prompted.

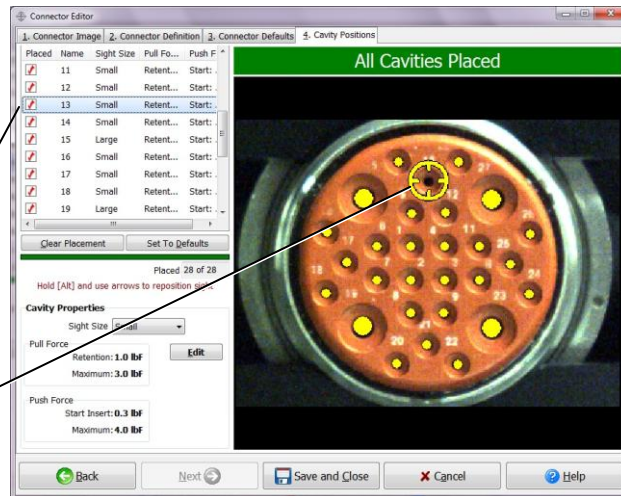
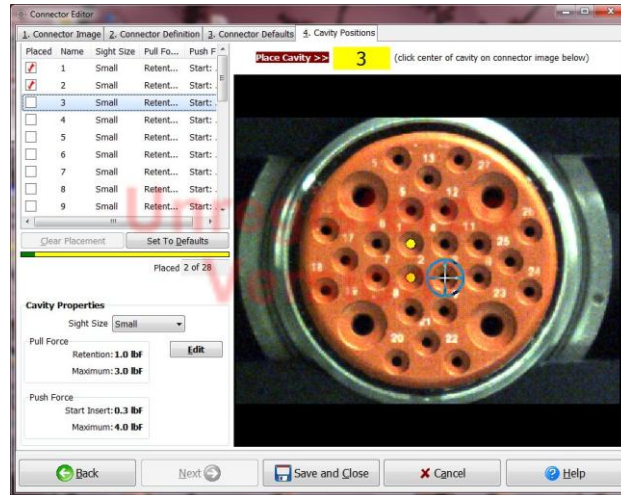
The **Cavity Properties** section allows you to change target sizes to vary from the default settings.

The **Forces** section allows you to change the Push and Pull settings of an individual cavity or multiple cavities.

Troubleshooting: To change the settings for one or more placed markers, highlight the cavity name(s) in the list, or click on the marker you would like to change, and change the settings.

To move a placed marker:

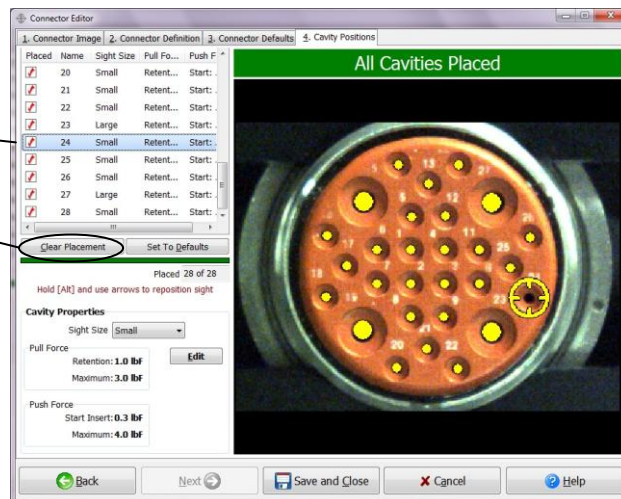
1. Highlight the cavity from the list or click on the marker you wish to move.
2. The highlighted cavity displays as a target circle. Hold down “Alt” and press the arrow keys on your keyboard to move the target circle.



Note: If you would like to change the target circle size, go back to the “Connector Defaults” tab in the “Sight” section, make the desired adjustments, and then return to tab 4.

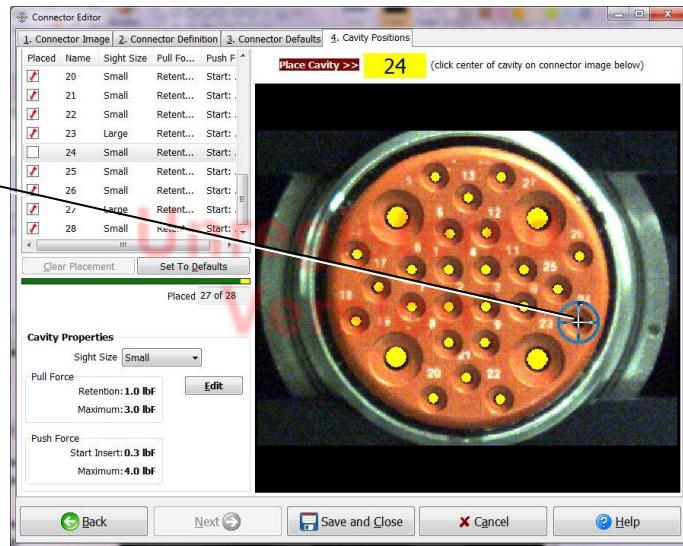
To remove a placed marker:

1. Highlight the cavity from the list, or click on the marker.
2. Click ‘Clear Placement’.

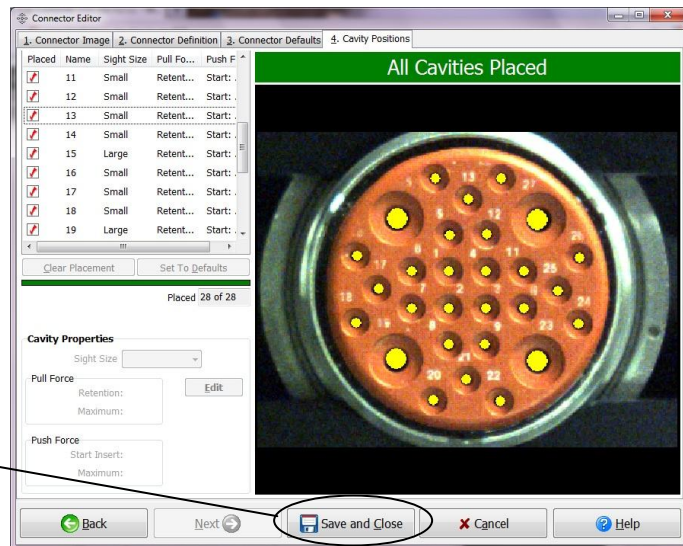


ADDING CONNECTORS

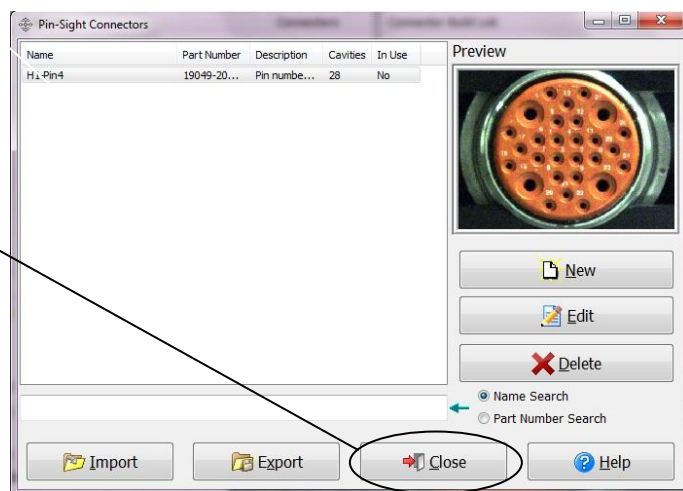
3. Move your cursor back to the center of the cavity and click to replace the marker.



4. When each marker has been placed, click 'Save and Close'.



5. The "Pin-Sight Connectors" window will be open on your screen, click 'Close'.

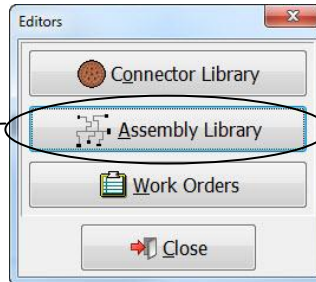


Creating Assemblies

When you have one or more connectors in the Connector Library, you can create Assemblies. An Assembly contains one or more build lists for each connector in a wire-harness assembly. For information on Exporting and Importing assemblies and build lists, see page 59 in the Appendix.

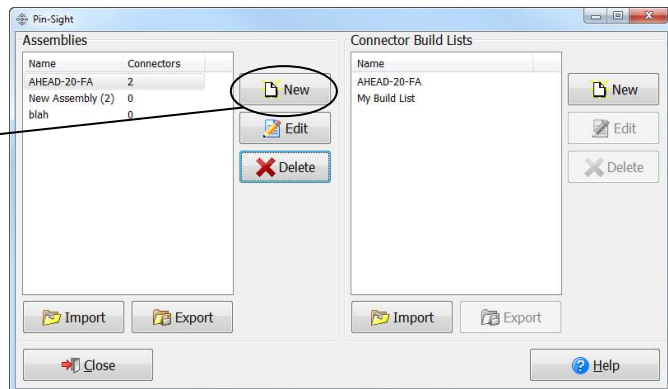
To create an Assembly:

1. In the “Editors” window, click ‘**Assembly Library**’.



Notice the “Assemblies” view on the left and the “Connector Build Lists” view on the right.

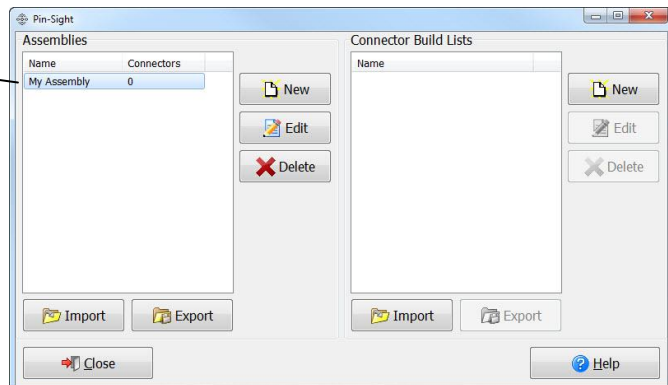
2. To the right of the Assemblies” view, click ‘**New**’.



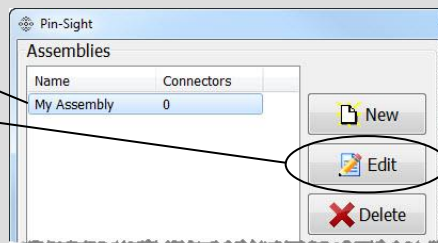
3. Type in a name for your assembly, and press **Enter** on your keyboard to save the name.

For the assembly name, you may want to use the wire harness or test program part number, part name, or description.

Keep this window open to continue.



Hint: To rename your assembly, slow-click on the name, or select the name and click ‘**Edit**’.

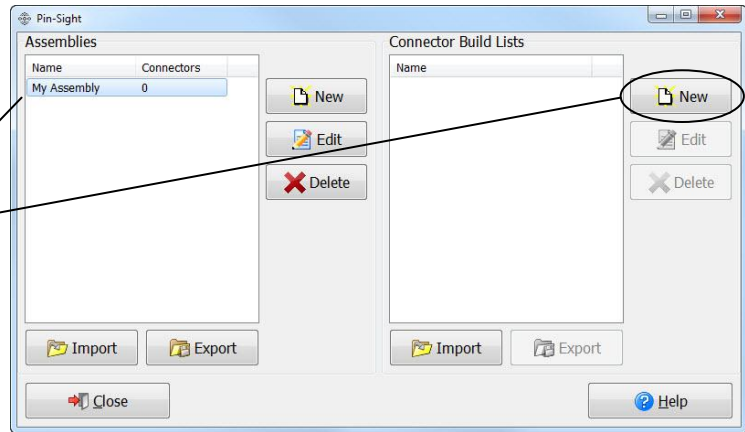


Creating Build Lists

Build lists are the assembly instructions for a specific connector.

To create a build list:

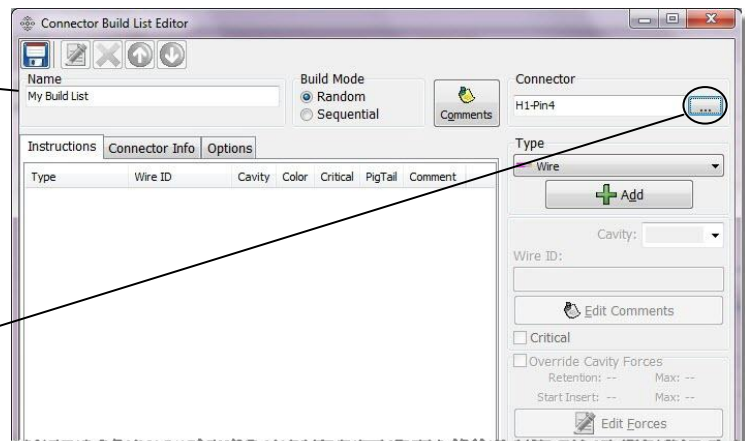
1. In the “Assemblies” view, click on the assembly that you want to create a build list for to highlight it.
2. To the right of the “Connector Build Lists” view, click ‘New’.



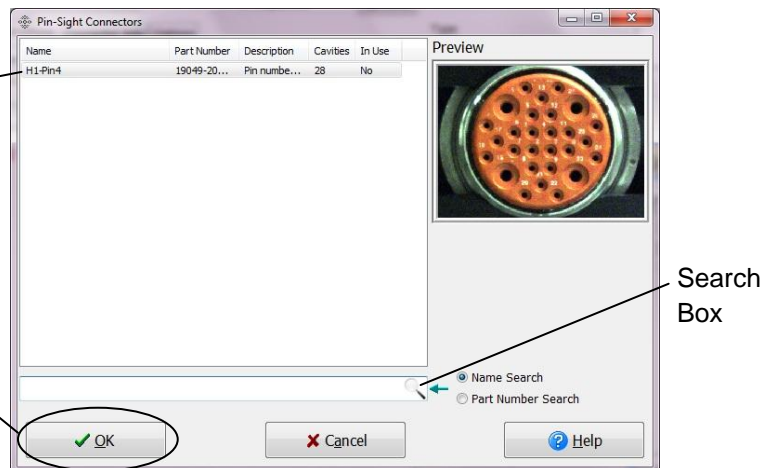
3. In the Connector Build List Editor, name your build list.

Hint: Cirris recommends using the part number of your connector and a reference designator.

4. Under “Connector,” click the “Connector” extension box.



5. Select the connector for the current build list from your connector library, or if using the optional Cirris Connector Library, enter the part number in the Search box. Then click ‘OK’.



Connector Build List Editor Overview

Build Mode

Random- Select this mode to pin your connector by entering wire ID's in any order you choose. The only automatic instructions will be instructions that do not have wire ID's.

Sequential- Select this mode to pin your connector in the sequential order of your build list. Instructions will execute automatically. You can override an instruction by entering a wire ID.

Comments

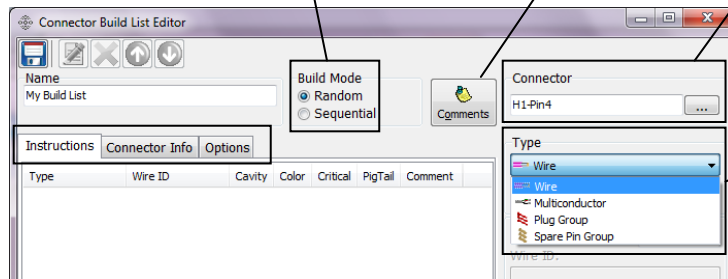
You can add comments to assist the operator during the pinning process. Comments can be inserted into the build list at the beginning, inside, or at the end.

Connector

Select the connector for the build list here.

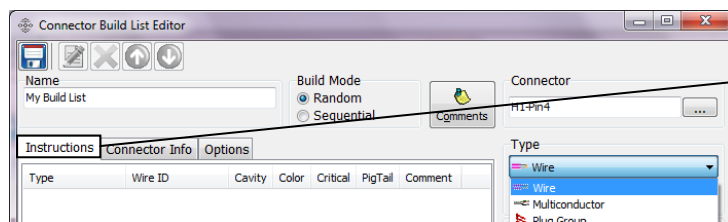
Type

Four types of components can be in a build list: wires, multiconductors, plugs (seal plugs), and spare pins. See page 22 to add Wires and Multiconductors. See page 23 to add Spare Pins and Seal Plugs.



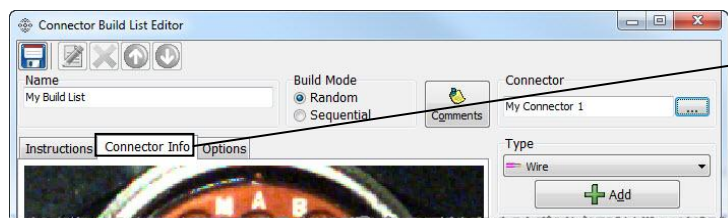
Instructions Tab

This tab allows you to view, edit, and sort your build list as you create it.



Connector Info Tab

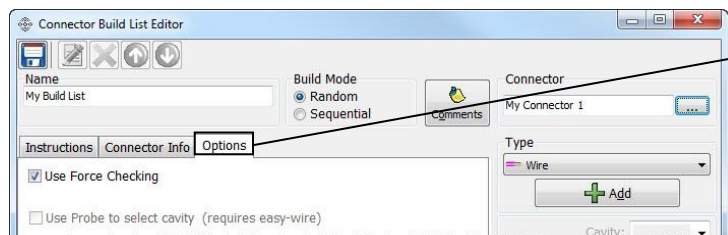
This tab displays the connector information including: image, name, part number, total cavities, empty cavities, and description.



Options Tab

Use Force Checking allows you to turn Force Checking on and off. **(Important!)** If your Pin-Sight does not have a Force Sensor, make sure you uncheck this box to avoid problems).

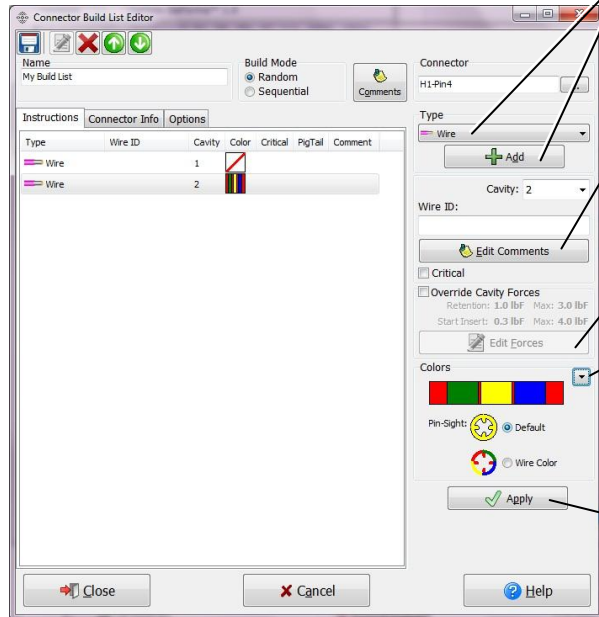
Use Probe to select cavity (available in a future release) allows you to use Pin-Sight with a Cirris easy-wire CR or CH2 tester for second-sided pinning. You probe the second-end of a wire and the easy-wire software tells Pin-Sight where the wire goes.



Wires

Select “Wire” for all single wires in a build list.

To add a wire:

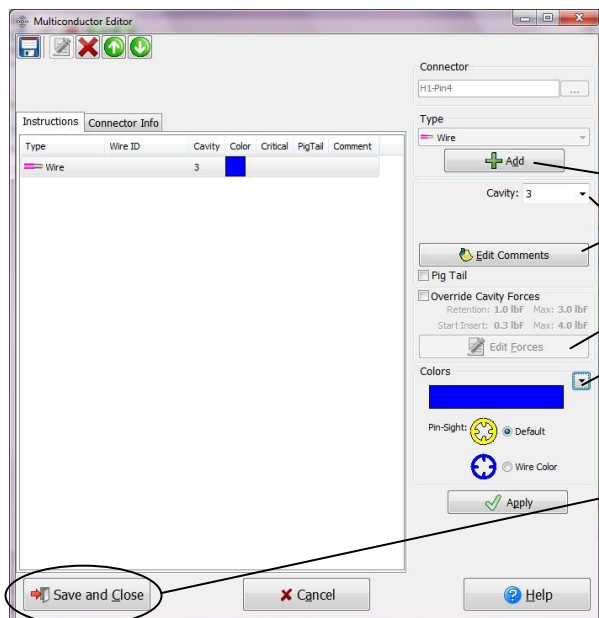


1. Select **Wire** from the “Type” drop down and click ‘Add’.
2. The next available cavity appears in the Cavity text box. If desired, select a different cavity from the drop down list. Enter the Wire ID for the wire.
3. Click ‘Edit Comments’ to add a comment for this instruction to appear before, during, or after the instruction is called out and inserted. Check the “Critical” box if this wire needs extra caution or attention.
4. In the “Forces” section, you can edit the push and pull force settings of the wire.
5. In the “Colors” section, select the drop down button to change the wire’s base color and the stripe color(s) if applicable. Also, select how you want the target circle to appear on the monitor (as the default color, which was selected in the Connector Defaults tab, or as the wire color).
6. Click ‘Apply’ to save, or click ‘Add’ in the “Type” section to add the next wire and enter its properties. Repeat these steps until all single wires have been entered.
7. If you are done adding components, skip to page 24; if not, add another component as described below.

Multiconductors

A Multiconductor is a group of two or more wires in one outer jacket.

To add a multiconductor:

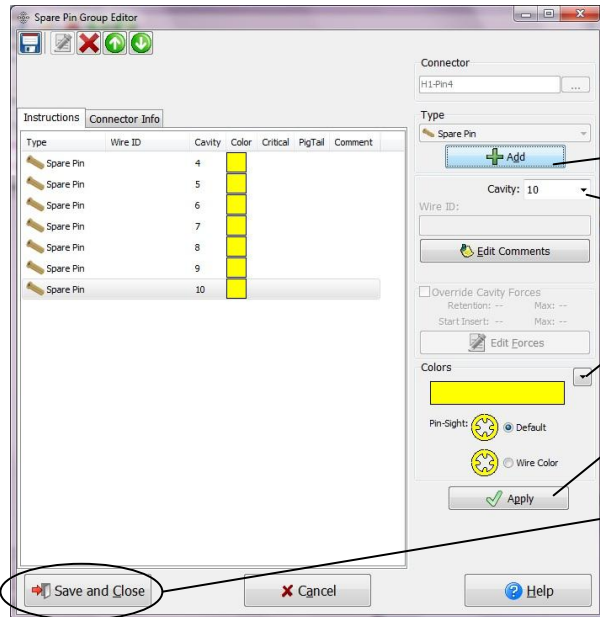


1. Select **Multiconductor** from the “Type” drop down list and click ‘Add’.
2. Click ‘Add’ to add a wire instruction.
3. Select the cavity, add a comment for each wire if desired, and select Pig Tail if the wire is spliced to a ground wire.
4. Edit the force settings if desired.
5. Select the wire color. Then click ‘Apply’ to save, or click ‘Add’ to add each wire instruction and its properties to the multiconductor.
6. When all wire instructions in the multiconductor are entered, click ‘Save and Close’.
7. Enter the wire ID for this multiconductor (via keyboard or barcode scan).
8. If you are done adding components, skip to page 24, if not, add a Spare Pin group or Plug group as described below.

Spare Pins

Spare Pins are pins that do not have wires. Their function is to fill unused cavities.

To add a spare pin group:



1. Select **Spare Pin Group** from the “Type” drop down list and click ‘Add’.

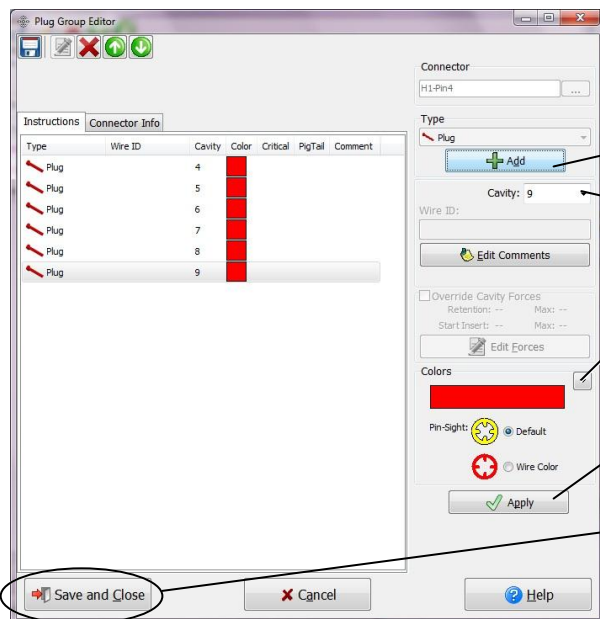
The “Spare Pin Group Editor”, similar to the one described above, opens allowing you to define each Spare Pin.

2. Click ‘Add’ to add a new Spare Pin instruction.
3. Select the spare pin cavity.
4. If desired, click ‘Edit Comment’ to add a comment that will display when the instruction is in progress.
5. Select a base color then select the desired target circle color for the spare pin.
6. Click ‘Apply’ to save, or click ‘Add’ to add another spare pin instruction.
7. When all spare pins have been entered, click ‘Save and Close’.
8. If you are done adding components, skip to page 24; if not, add a Seal Plug group as described below.

Seal Plugs

Seal Plugs fill empty cavities and can be inserted into the same cavities as spare pins. If spare pins and seal plugs share a cavity, insert the spare pin instructions first.

To add a Seal Plug or Seal Plug group:



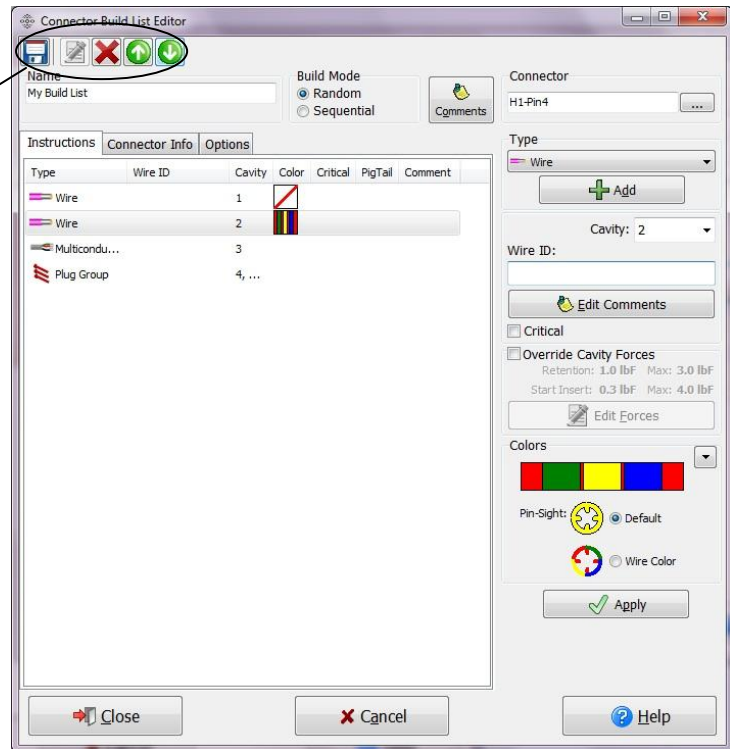
1. Select **Plug Group** from the “Type” drop down list and click ‘Add’.

The “Plug Group Editor”, similar to the one described above, will open allowing you to define each Plug.

2. Click ‘Add’ to add a plug instruction.
3. Select the seal plug cavity.
4. If desired, click ‘Edit Comment’ to add a comment that displays when the instruction is in progress.
5. Select the plug base color and the desired target circle color (you may want to select a differing color for better contrast when you insert the plugs).
6. Click ‘Apply’ to save, or click ‘Add’ to add another seal plug instruction.
7. When all seal plugs have been entered, click ‘Save and Close’.

Navigating in the Connector Build List Editor

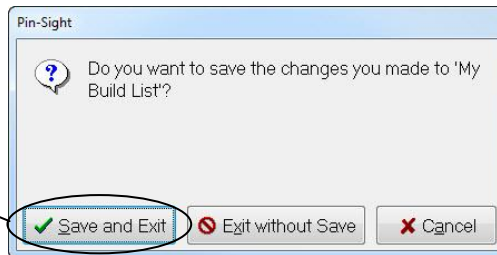
In this editor, you can save, edit, and delete instructions in your build list. You can also change the order of your build list by highlighting an instruction and clicking the green circle buttons with the white arrows to move the instructions up or down the list.



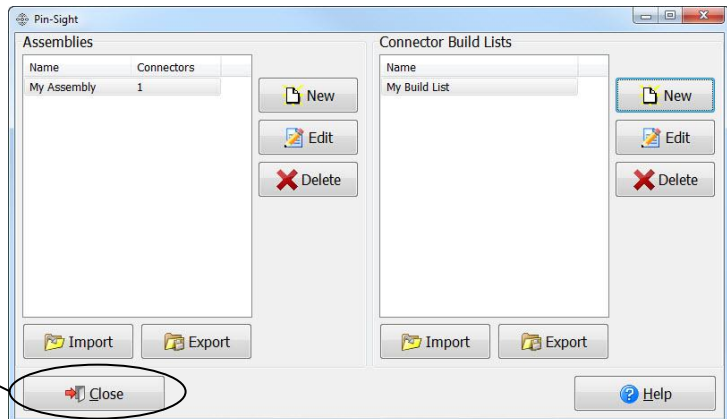
1. When the build list is in the order you prefer, click '**Close**'.



2. Click '**Save and Exit**' to save your build list.



3. The Assemblies and Connector Build Lists views will be open on your screen, click '**Close**' to continue.

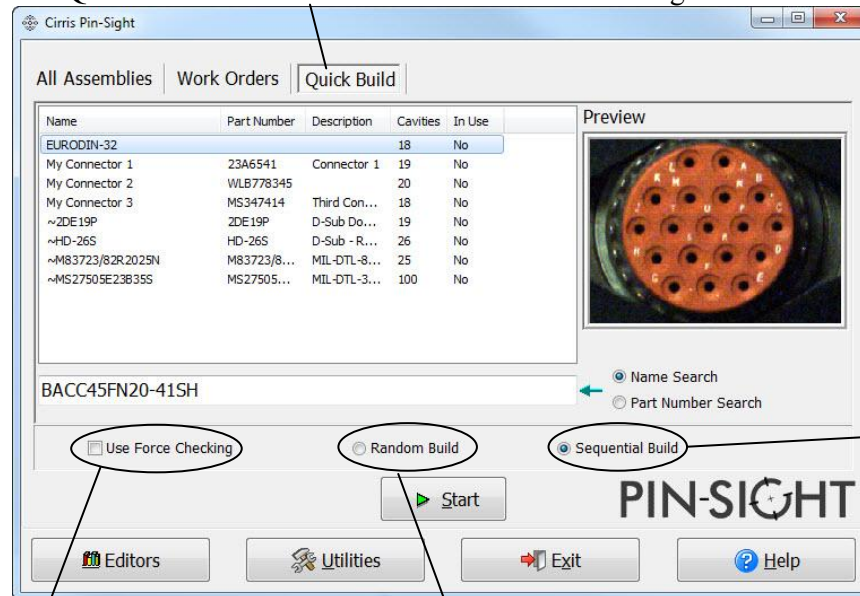


Pinning with Quick Build

Quick Build allows you to bypass the “Creating a Build List” process in the Pin-Sight software. You can effectively pin with Quick Build if you know before pinning, which wires go into which cavities on your connector. When you pin your connector with Quick build, you can enter a cavity name or number and Pin-Sight will place a target on that cavity. If you are not pinning with “Quick Build”, skip to “Creating Work Orders” on page 26.

Quick Build Overview

The Quick Build tab is the third tab in the “Cirris Pin-Sight Window”.



With **Sequential Build** Pin-Sight will sequence through the cavities in the order they are listed in the build list.

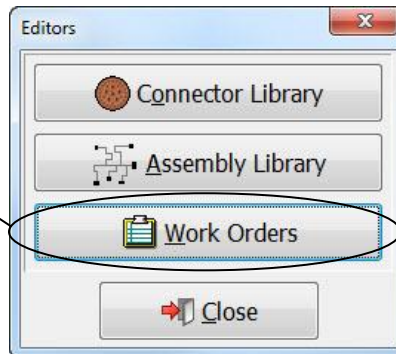
Select **Use Force Checking** to enable the force gauge while pinning.

With **Random Build** you enter a cavity name and Pin-Sight highlights the cavity.

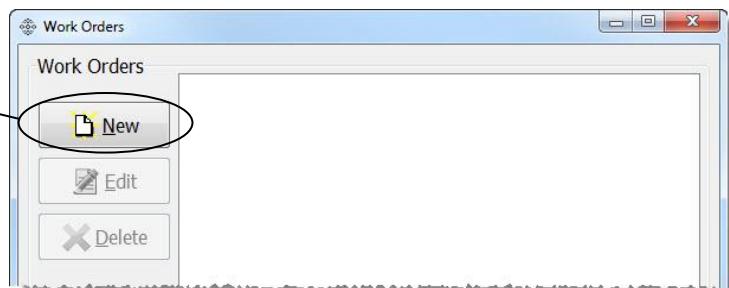
Creating Work Orders

In the Pin-Sight software, you can organize multiple assemblies, or numbers of assemblies, into work orders (sometimes called Shop Orders). If you have revision changes that occur as part of your process, Cirris has created an optional software feature called “Work Order Revision Control” that can automatically update build programs for you. For more information, see “Optional Features” on page 47. If you are using Work Orders, complete the following steps. If you are not using Work Orders, skip to “Pinning a Connector” on page 29.

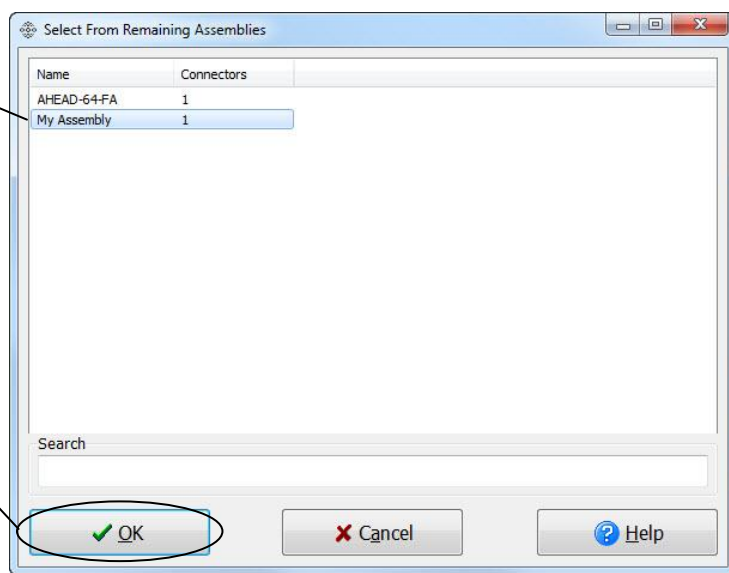
1. In the “Editors” window, click **‘Work Orders’**.



2. Click **‘New’**.



3. Select the assembly(s) you wish to add to the Work Order, and click **‘OK’**.



CREATING WORK ORDERS

4. In the “Work Order Name” box, enter a name for your work order.

5. To build more than one of the same assembly in a work order, highlight the desired Assembly from the “Assemblies” view, specify the additional number of assemblies to build in the “Quantity To Add” text box to the right of the “Serial Numbers” view, or click the ‘+ (add)’ button.

The screenshot shows the 'Pin-Sight Work Order Editor' window. At the top, the 'Work Order Name' is 'My Work Order'. Below this are two main sections: 'Assemblies' and 'Serial Numbers'. The 'Assemblies' section has a table with 'Name' and 'Quantity' columns, containing one row: 'My Assembly' with a quantity of 5. To the right of this table are 'Add' and 'Remove' buttons. The 'Serial Numbers' section has a table with 'Serial Number' and 'Assembly' columns, containing five rows: 'My Assembly (1)', 'My Assembly (2)', 'My Assembly (3)', 'My Assembly (4)', and 'My Assembly (5)', all assigned to 'My Assembly'. To the right of this table is a 'Quantity To Add' text box with the value '1' and a green '+' button. Below the 'Serial Numbers' table is a 'Delete' button. At the bottom of the window are 'Save and Close', 'Cancel', and 'Help' buttons.

6. If you want to add additional assemblies to this work order, click ‘Add’.

If you are done adding assemblies, skip to step 8.

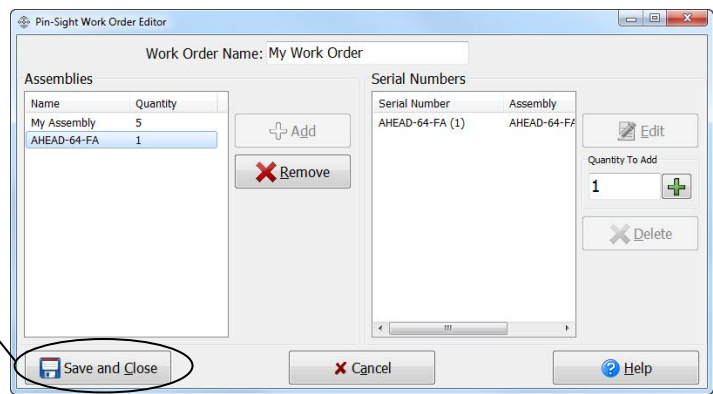
This screenshot is similar to the previous one, but the 'Work Order Name' is now 'New Work Order'. The 'Assemblies' table still shows 'My Assembly' with a quantity of 5. The 'Serial Numbers' table is the same. The green '+' button next to the 'Quantity To Add' text box is now circled, and a line points from the instruction text to it. The 'Add' button is also circled, and a line points from the instruction text to it. The 'Delete' button is now disabled (grayed out).

7. In the “Select Assembly” window, highlight the assembly you wish to add to the work order and click ‘OK’.

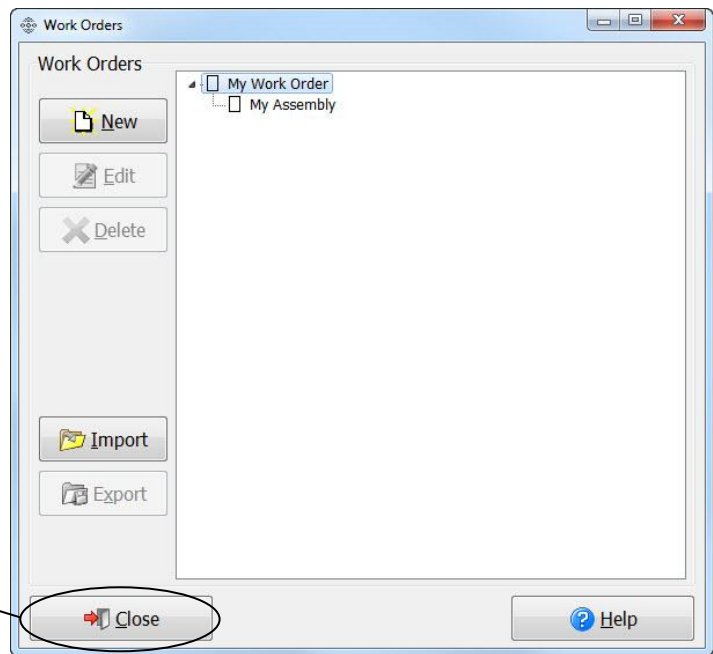
The screenshot shows the 'Select From Remaining Assemblies' window. It has a table with 'Name' and 'Connectors' columns, containing one row: 'AHEAD-64-FA' with a value of 1. Below the table is a 'Search' text box. At the bottom of the window are 'OK', 'Cancel', and 'Help' buttons. The 'OK' button is circled, and a line points from the instruction text to it.

CREATING WORK ORDERS

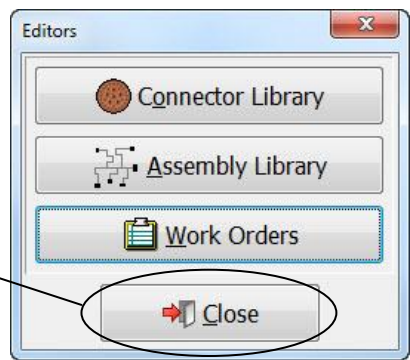
8. In the “Pin-Sight” Work Order Editor, click ‘**Save and Close**’.



9. Click ‘**Close**’.



10. Click ‘**Close**’.



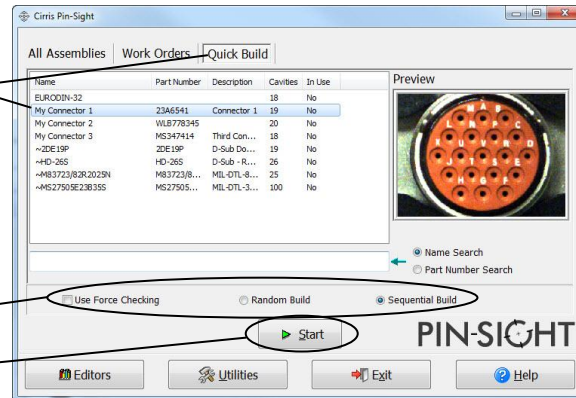
Pinning a Connector

To use barcodes as you pin your connector, see “Creating Barcodes” on page 65.

1. Open the Pin-Sight software and log in.
2. Follow the instructions that apply to your environment below:

If you are using Quick Build:

- a. Click the “Quick Build” tab, and select the desired Connector from the list, or enter a connector part number in the Search box.
- b. Select “Use Force Checking” to enable the force gauge if desired, and select either “Random Build” or “Sequential Build”. For details, see page 25.
- c. Click ‘**Start**’.

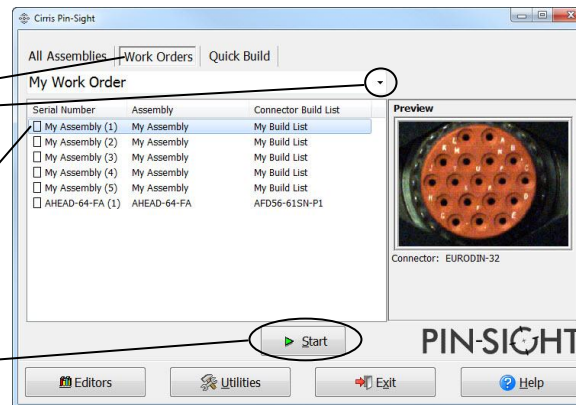


If you are using Work Orders:

- a. Click the “Work Orders” tab, and select the desired Work Order from the drop down list.
- b. Select the assembly containing the build list that you want to pin.

Hint: The list can be sorted by clicking on the column heading of each column.

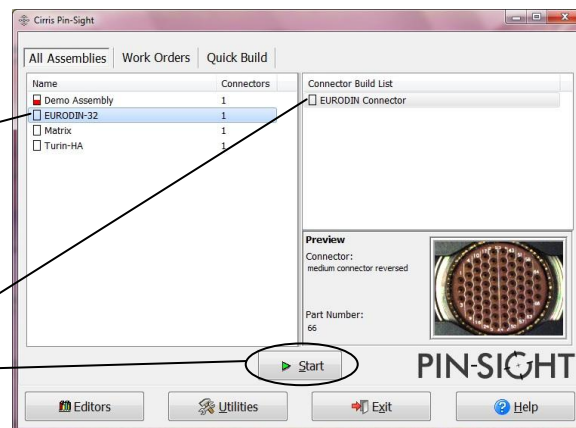
- c. Click ‘**Start**’.



If you are not using Quick Build or Work Orders:

- a. From the “All Assemblies” tab, select the desired assembly.

The build list(s) for that Assembly will display on the right side of the screen.
- b. Select the build list for the connector that you want to pin and click ‘**Start**’.



PINNING A CONNECTOR

The camera will start up. You will see a live image of the Pin-Sight clamp and two target cavities that will be used as an alignment guide. You will be prompted to “Align” your connector.

1. Adjust the Depth Slider to the number specified in the red information bar.
2. Turn the Pin-Sight hand crank until the clamp is open just enough to drop the connector onto the slider plate.
3. Turn the hand crank until the clamp is loosely closed on the connector (you should still be able to rotate the connector).

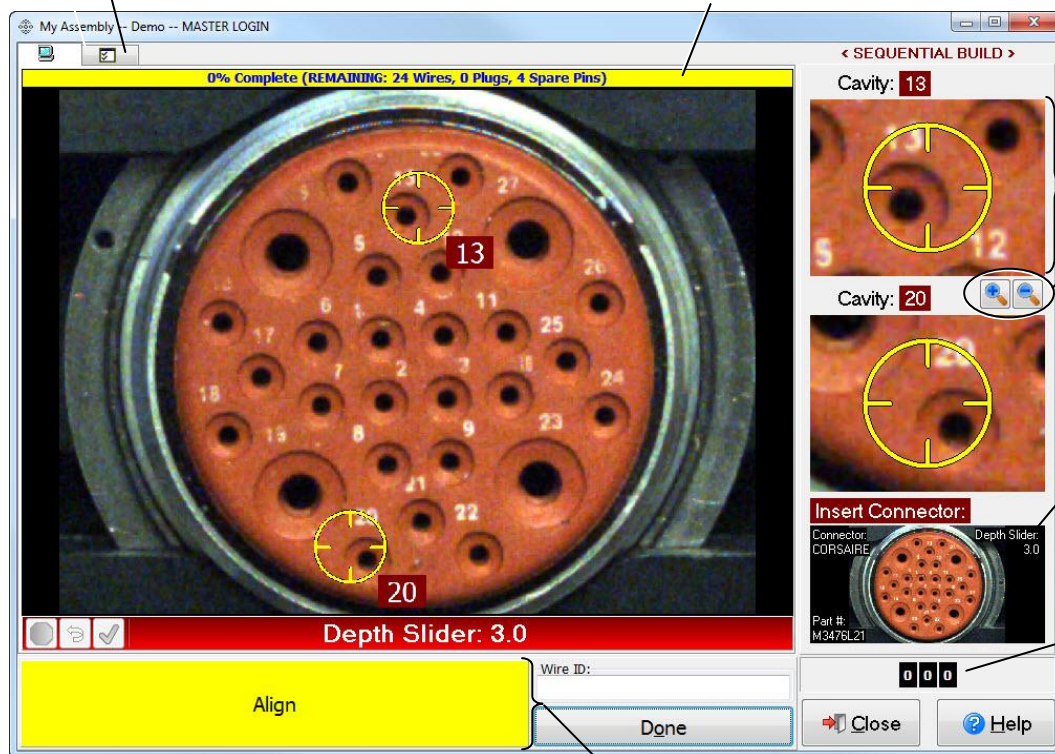


Troubleshooting: If the pin connector video window is blank double-check connections, ensure the lens cap on the camera is removed, and ensure the camera driver is installed on your PC (the camera driver install is on the Imaging Control CD that came with your Pin-Sight).

Connector Video Window Overview

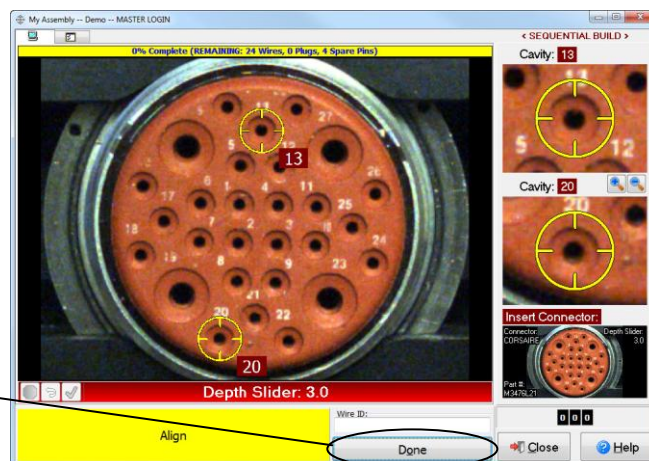
The Instruction List tab displays the progress of your build list indicating if your instructions are complete.

The yellow information bar tells you the completion status and how many instructions you have remaining.



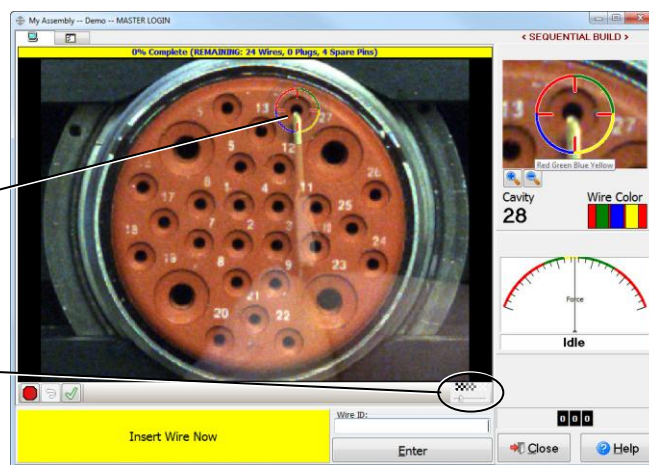
To align your connector:

1. Adjust your connector until the two targeted cavities are centered with their corresponding target circles (be as accurate as possible).
2. Turn the hand crank to tighten the clamp around the connector (stop when there is just enough pressure to hold the connector firmly in place) and click **'Done'**.



For effective pinning:

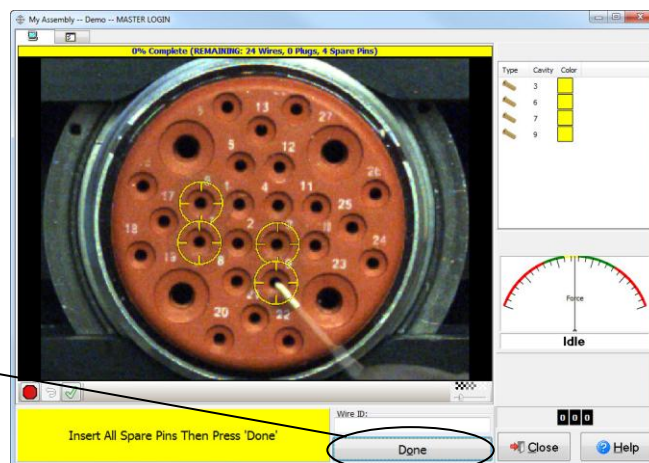
1. Look at the video connector instead of the actual connector.
2. Come in from an angle, then straighten and insert the pin or seal plug.
3. By adjusting the Transparency setting, you can create a "see through" image of your hand and previously inserted wires.



Inserting Spare Pin and Seal Plug Groups:

If an unlabeled spare pin group/seal plug group is at the top of the build list, those targets will be your first instruction.

1. Insert the spare pins or seal plugs, or both, into the targeted cavities and click **'Done'**.

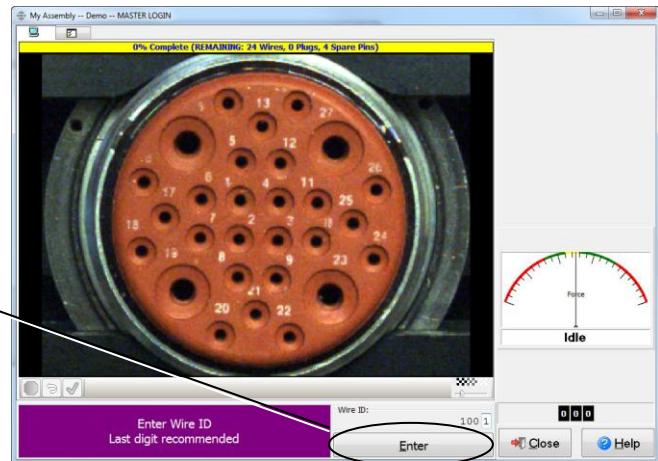


Hint: Insert spare pins to a point where the tops of the pins are visible. Do a visual check on the monitor to ensure the pins are in the correct cavities. Then push in the pins all the way.

Inserting Wires:

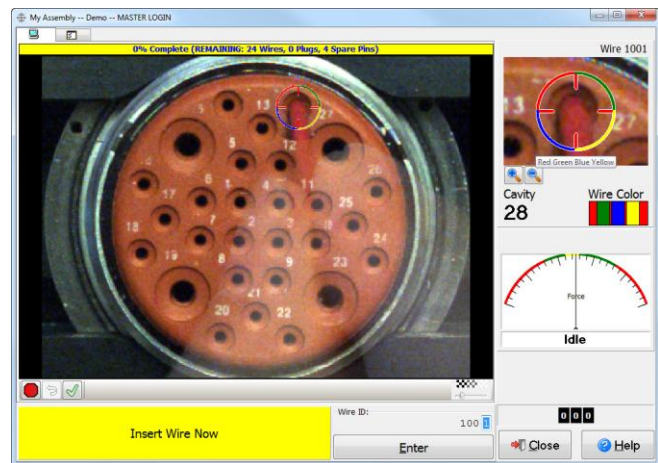
If a labeled wire or multiconductor is at the top of your build list, the instruction bar will prompt “Enter Wire ID” as your first instruction.

1. Enter the last number of the wire ID (via keyboard, barcode, or voice command) in the “Wire ID” text box, and click ‘Enter’.



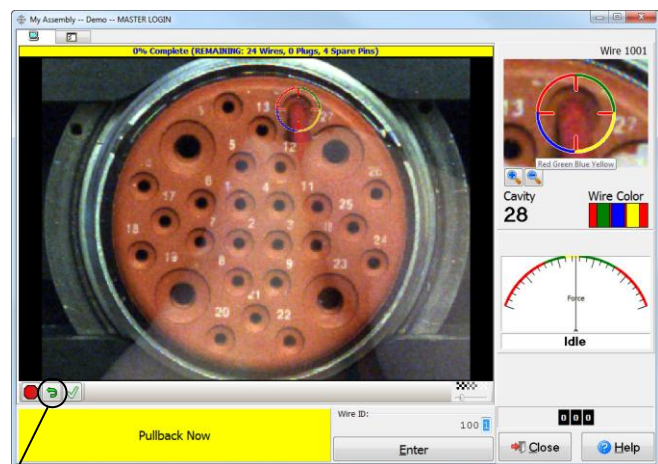
The software will prompt you to insert the wire. The pin-target appears on the correct cavity, and the instruction bar will prompt “Push Until Locked.”

2. Start inserting the pin, but before it is locked in, check the zoomed in view to assure you’re in the correct cavity and then push the pin in until you feel the pin lock into the connector (notice the force gauge needle move as you push).



The instruction bar then prompts, “Pull Back Now.”

3. Pull straight back on the wire until the needle on the force gauge reaches the pull setting and you hear a “ding” sound; you will then be prompted to enter the next wire.
4. Repeat steps 1-3 until all of your wires have been inserted.

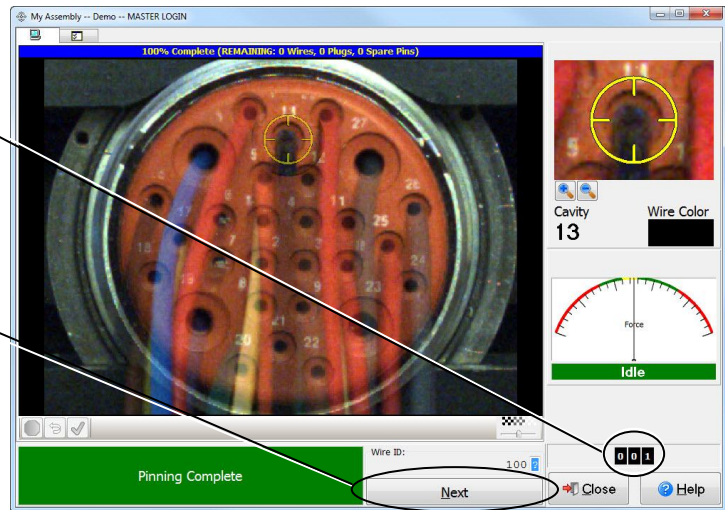


Troubleshooting: If a wire comes out of the cavity on pull back, the instruction box will continue to prompt “Pull Back Now.” Click ‘Redo’ to re-set the force gauge and try again.

PINNING A CONNECTOR

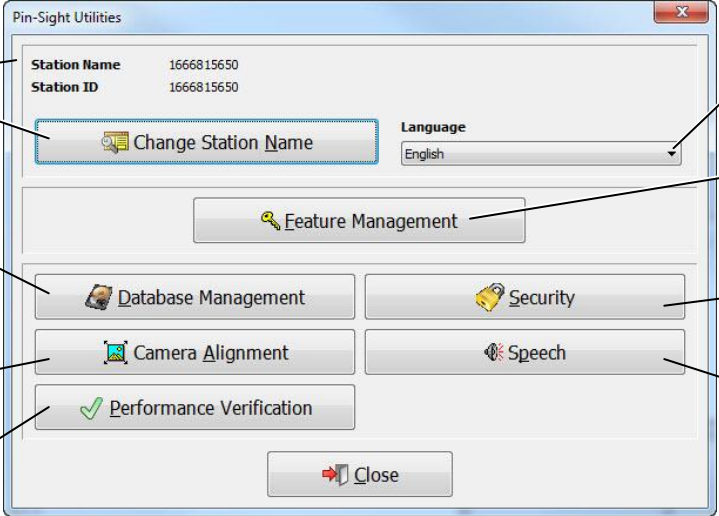
When you complete your last instruction, the instruction bar displays “Pinning Complete”, and the “Total Built” count increases by one.

5. To build another connector with the same build list, click **‘Next’**.
6. When you are finished building with this build list, click **‘Close’**.



Pin-Sight Utilities

In the Pin-Sight Utilities window, you can do the following:



Change your station name

Connect to a different database and manage the current database

Verify the camera alignment and adjust the alignment if needed

Verify calibration of the force gauge (optional)

Change the Pin-Sight language

Manage software features

Manage security and user settings

Adjust speech settings and enable speech recognition

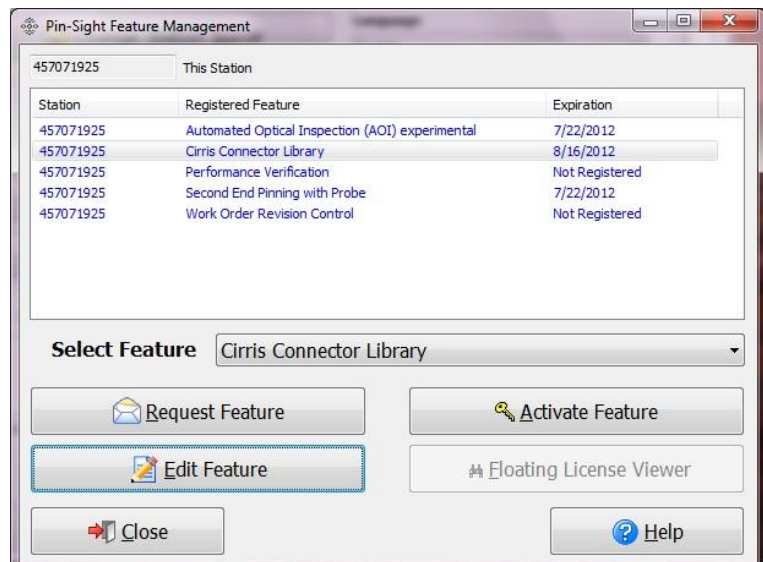
Record Station ID

The Pin-Sight Utilities window displays your station ID number. It is important to record the Station ID of each Pin-Sight station. Knowing the Station ID will facilitate moving the database to another installation if a computer goes down.

Feature Management

In this window, you can access the windows to request, activate, and edit Pin-Sight's optional features. You can also access the Floating License Viewer if you purchase floating licenses. When a feature is registered, an expiration date will be listed.

This window allows you to manage and view the status of all your stations in one location. Information for the station you are working on is displayed in blue. Floating Licenses are displayed in green, and other stations that have licensed features are displayed in black (for more information, see "Optional Features" on page 47).



Pin-Sight Feature Management

457071925 This Station

Station	Registered Feature	Expiration
457071925	Automated Optical Inspection (AOI) experimental	7/22/2012
457071925	Cirris Connector Library	8/16/2012
457071925	Performance Verification	Not Registered
457071925	Second End Pinning with Probe	7/22/2012
457071925	Work Order Revision Control	Not Registered

Select Feature: Cirris Connector Library

Request Feature

Activate Feature

Edit Feature

Floating License Viewer

Close

Help

Database Management

You can attach the Pin-Sight software to a network by purchasing the optional Networking Server Install from Cirris. If you are using a network, in this window, you can connect to a different database, manage the backup file location, and determine how often backup occurs. You can also schedule and perform database maintenance and delete unnecessary data you have created within the Pin-Sight software.

To attach to a network:

1. Verify that “Cirris Server Software” is installed on the computer that will act as the server (check with your I.T. department). If you do not have the “Cirris Server Software” installed, call a Cirris sales representative at 1-800-441-9910.

Important! Make sure the “Cirris Server Software” and then the Pin-Sight software have been upgraded to the latest versions in that order. If the versions don’t match, this process may not work.

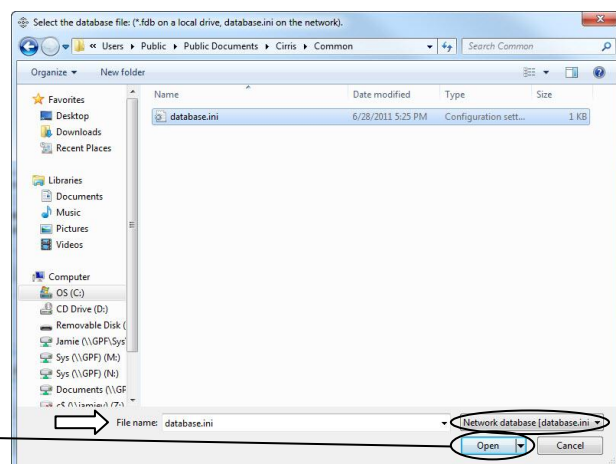
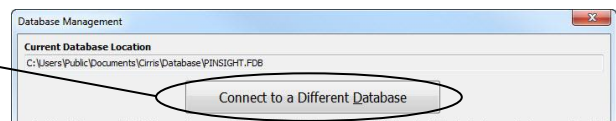
2. If you created build lists on a stand-alone station, you can use the process in steps 3 and 4 below to transfer those build lists to the network database server (if you are not transferring build lists, skip to step 4).
3. From Window’s Explorer on your stand-alone computer, navigate to the location of the PINSIGHT.fdb file that was created when you installed the “Cirris Server Software”. The default file locations are as follows:

- **Windows XP** - *C:\Documents and Settings\All Users\Shared Documents\Cirris\Database*
- **Windows 7** - *C:\Users\Public\Public Documents\Cirris\Database*

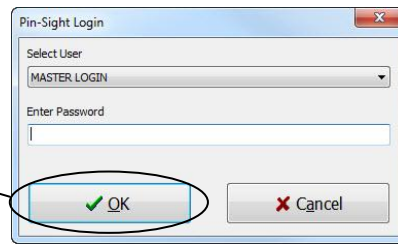
4. Make a copy of the PINSIGHT.fdb file on the stand-alone computer and replace the original PINSIGHT.fdb file on the network database server computer with the copied file.

If you created build lists on multiple stand-alone stations, you can only copy the build lists from one stand-alone station to the network database. Build lists from other stand-alone stations must be exported and then imported to a station that is connected to the network database.

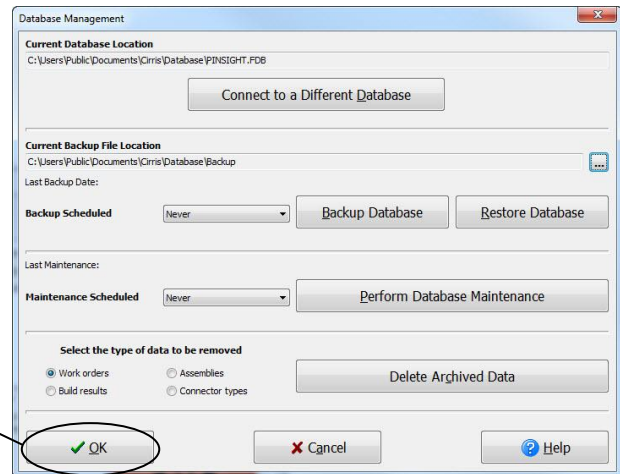
5. In the “Database Management” window, click **‘Connect to a Different Database’**.
 6. In the “Select the database file” window, make sure **Network database [database.ini]** is in the “Files of type” box at the bottom.
 7. Browse to the location of the database.ini file that was created when you installed the “Cirris Server Software”. The default file locations are as follows
- **Windows XP** – *C:\Documents and Settings\All Users\Shared Documents\Cirris\Common*
 - **Windows 7** - *C:\Users\Public\Public Documents\Cirris\Common*
8. Click on (highlight) the **database.ini** file and click **‘Open’**.



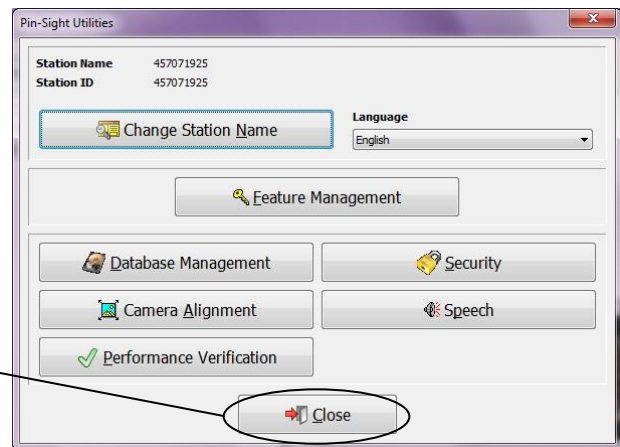
9. The “Pin-Sight Login” window will be open. Click ‘OK’ or login with a user name and password.



10. The “Database Management” window will be open. Click ‘OK’.



11. The “Pin-Sight Utilities” window will be open, click ‘Close’ to return to the “Cirris Pin-Sight” window.

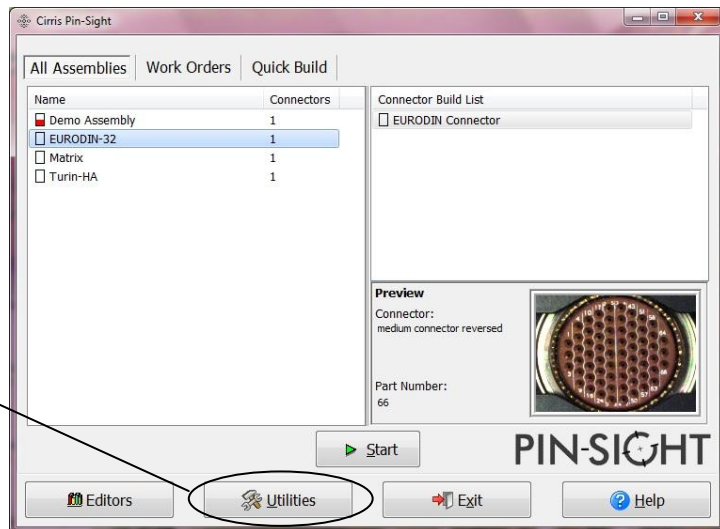


Aligning the Camera

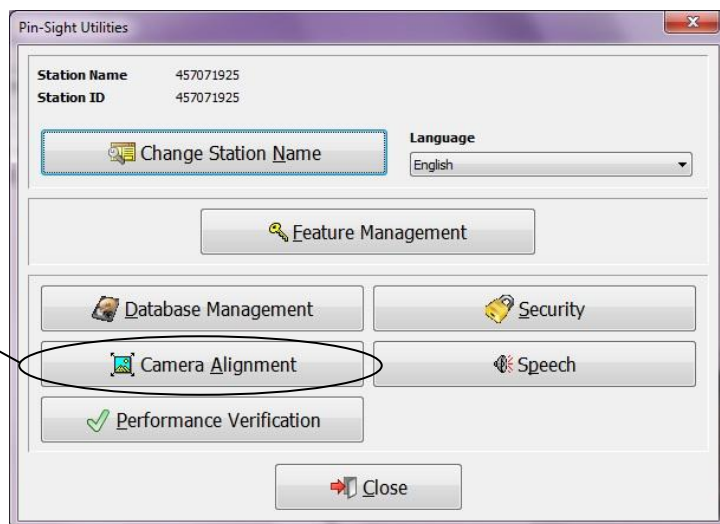
Pin-Sight has a mechanical alignment (physical) and a software alignment. The mechanical alignment centers the clamp with the center view of the camera. The software alignment compensates for the fine-adjusting that is often needed after the camera is mechanically aligned. You want to mechanically align the camera the best you can, and then use the software alignment if needed. However, if a camera is already close to alignment, a software alignment can be solely accomplished at any time to compensate.

1. Double-click the Pin-Sight icon and login to the software.

2. At the bottom of the “Cirris Pin-Sight” window, click ‘Utilities’.



3. Click ‘Camera Alignment’.



Mechanical Alignment

You can align the camera with the Torx wrench located on the Pin-Sight base. During the alignment process, use the white lines on the clamp in conjunction with the red lines in the software to complete one or more of the four types of alignment. See the diagram below to view the alignment types and their descriptions.

Horizontal Alignment:

The two vertical white lines in the center are a guide for adjusting the camera left or right.

Skew Alignment:

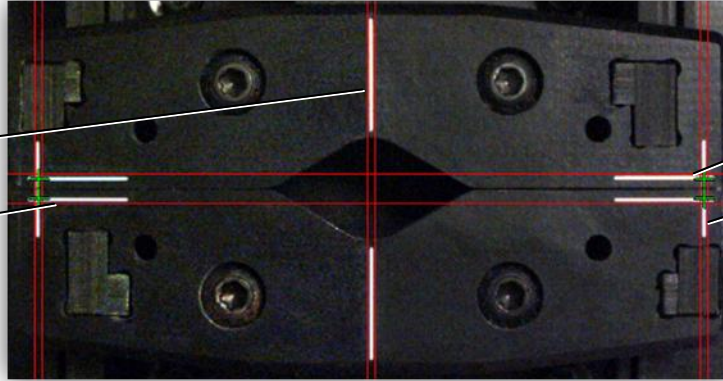
The four horizontal white lines are a guide for adjusting the camera if it is skewed (see the example below).

Vertical Alignment:

The four horizontal white lines are a guide for adjusting the camera up and down.

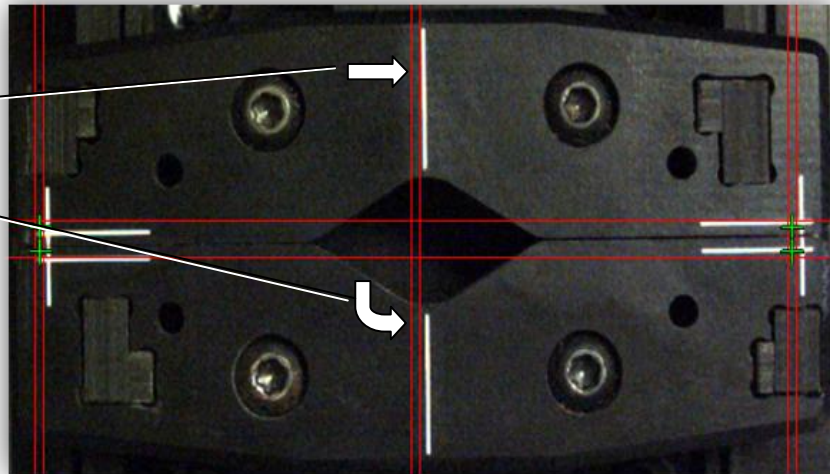
Camera Distance Alignment:

The two vertical white lines at the sides are guides for adjusting the distance from the camera to the clamp.



Example:

- ❑ This camera is out of alignment horizontally and
- ❑ slightly skewed to the right.

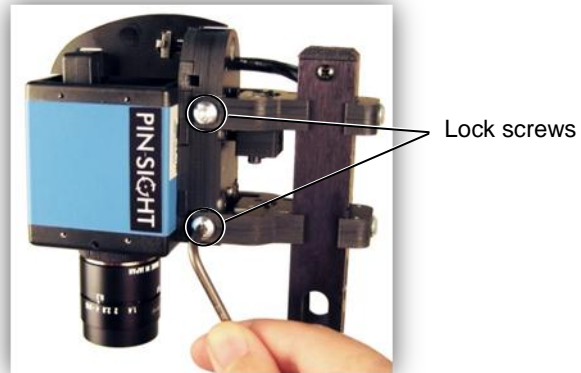


***Before you adjust the camera, here are some helpful tips:**

- ❑ If you adjust one alignment type and then another, the previous alignment may look incorrect during the other alignment process. The previous alignment is most likely still correct and will appear so again after the lock screws for the other alignment type are re-tightened.
- ❑ When you loosen a screw to do an adjustment, make sure you only slightly loosen the screw to keep the camera from getting further out of alignment. Then make the adjustment and re-tighten the screw.
- ❑ If the camera is skewed, adjust the skew first if additional adjustments are needed.

To adjust the skew or vertical alignment:

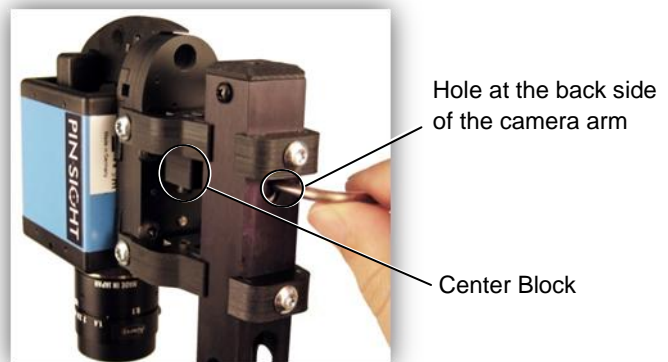
1. Loosen the two lock screws located on the right and to the rear of the Pin-Sight camera.



2. **If you are adjusting the skew**, slightly twist the camera left or right until the camera is no longer skewed on the video monitor. Re-tighten the lock screws.

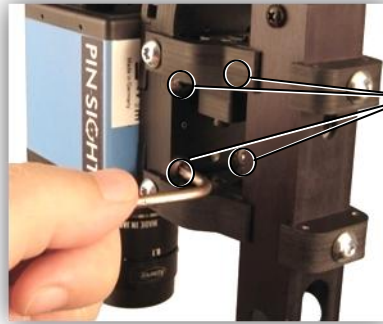


If you are adjusting the vertical alignment, insert the long end of the Torx wrench through the hole at the back of the camera arm. Turn the screw located on the center block to vertically shift the camera. When the camera is vertically aligned, re-tighten the lock screws.



To adjust the Horizontal Alignment:

1. Loosen the four lock screws that are parallel to the back of the Pin-Sight camera.
2. Turn the screw located near the upper right side of the Pin-Sight camera to horizontally shift the camera. When the camera is horizontally aligned, re-tighten the lock screws.



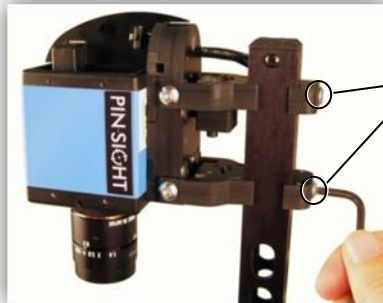
Lock screws (top right screw not visible in photo).



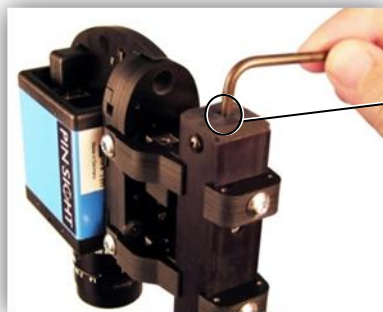
Lock screw

To adjust the Camera Distance:

1. Loosen the two lock screws located on the back of the camera arm.
2. Turn the screw at the top of the camera arm to increase or decrease the distance from the camera to the clamp. Re-tighten the lock screws.



Lock screws



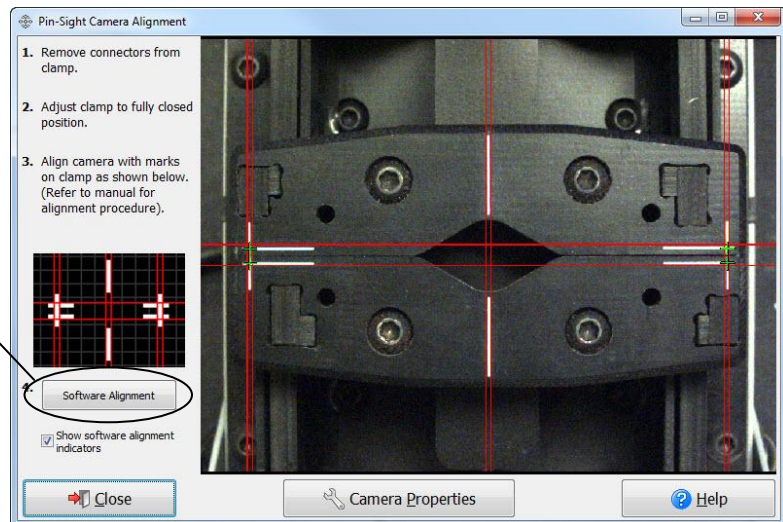
Lock screw

Software Alignment

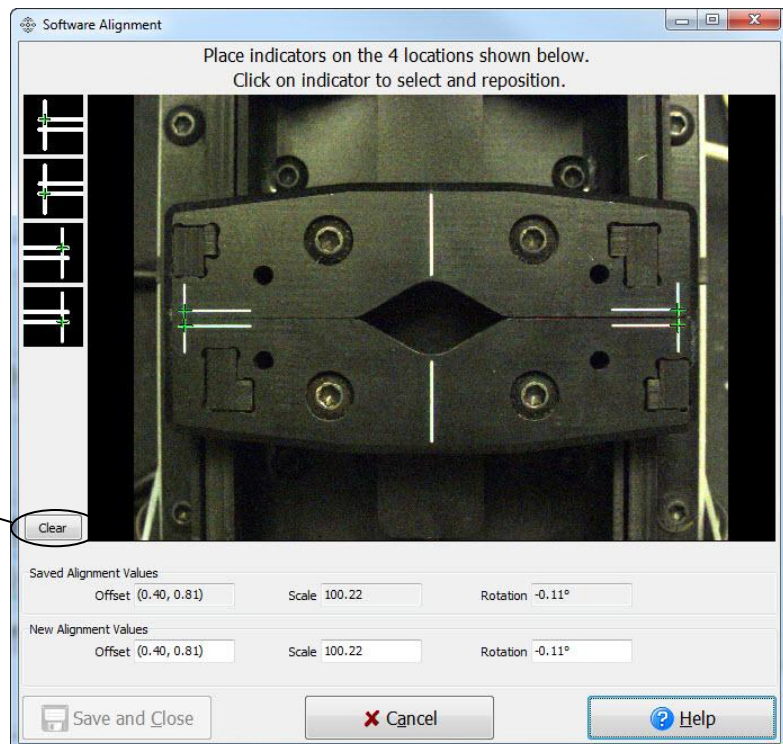
The software alignment is measured in the Pin-Sight software by the green crosses that are visible on the video monitor. The green crosses can be adjusted to line up with the white lines on the Pin-Sight clamp if the mechanical alignment is not exact. Alignment values are calculated from the position of the green crosses and stored in the actual Pin-Sight device. This gives the software the ability to compensate for mechanical misalignment and ensures that information captured on one Pin-Sight can be reproduced on another Pin-Sight. An accurate software alignment is critical when creating and using information stored in a network database.

To complete a software alignment:

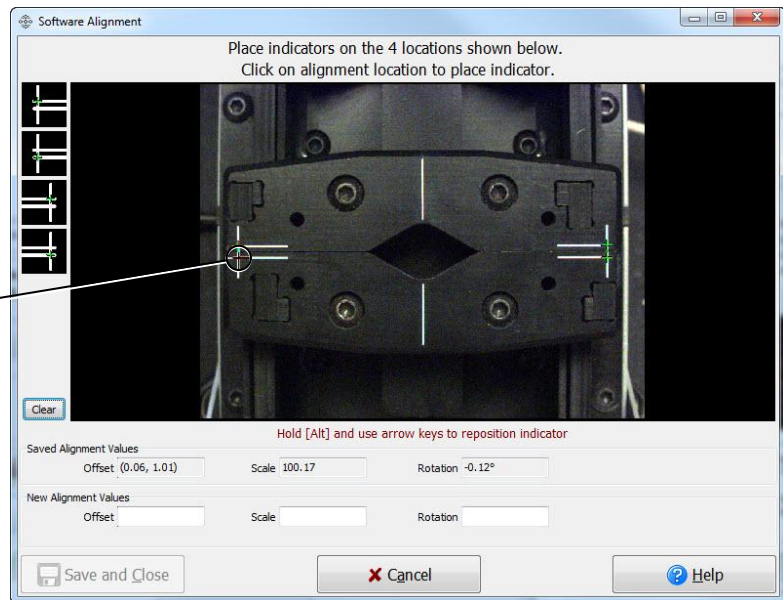
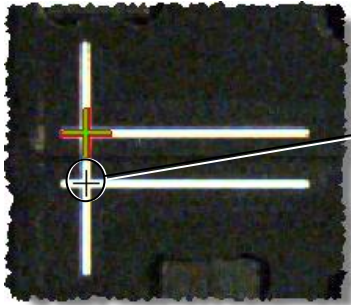
1. In the “Pin-Sight Camera Alignment” window, click **‘Software Alignment’** (step 4).
2. The “Software Alignment” window will open. For the best results, maximize the “Software Alignment” window to fill the entire screen.



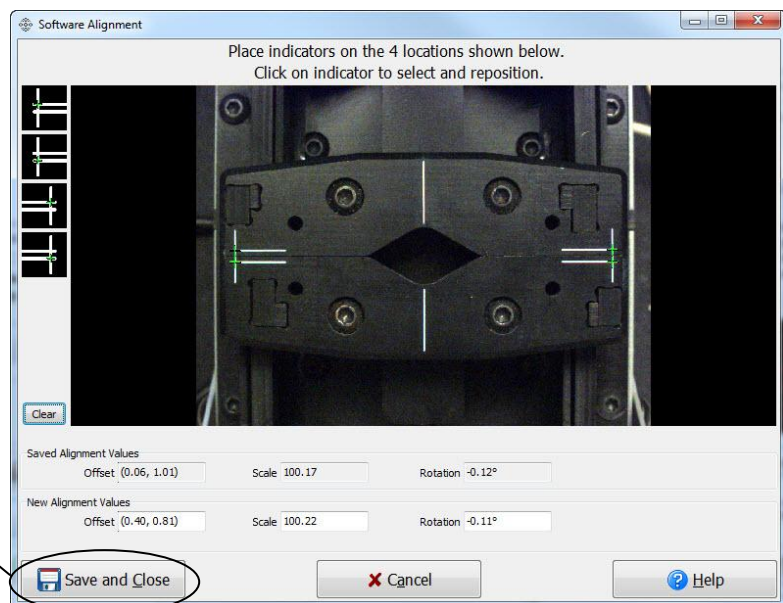
3. To clear the green crosses from screen, click **‘Clear’**.



4. Align the crosshairs of your cursor with each of the four designated locations as shown; click your mouse to place the indicators.



5. Adjust the placed indicators if needed: Click on (highlight) the indicator. Then hold down the Alt key and press the arrow keys on your keyboard until the indicator is aligned.



6. When all four indicators are aligned, click **'Save and Close'**.

Security

In the “Setup Security” window, you can manage user rights in the Pin-Sight software by creating sets of unique user names and passwords. You can also set the security settings for all stations connected to the database. Security rights control the selected user or station capabilities by allowing you to enable or disable options in the software.

To create a New User:

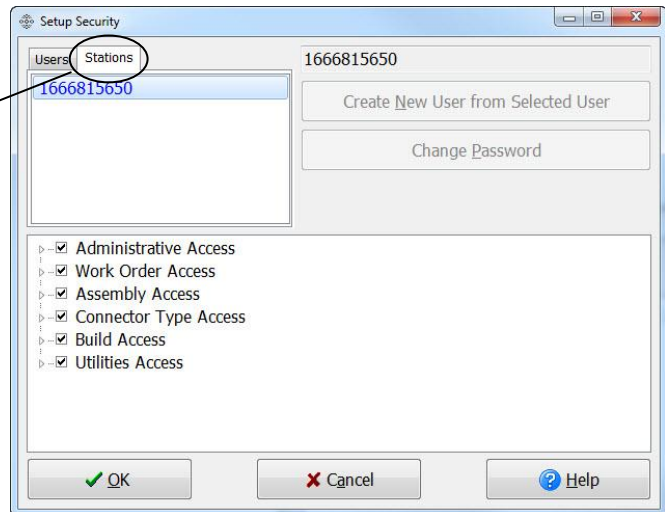
1. From the “Users” tab, highlight any user in the “User” list and click **‘Create New User from Selected User’**.
2. The new user name will appear as the original user name followed by the word “copy.” Rename the copy.
3. Set the security settings in the “Users” tab as desired.



To access the security settings for each station:

1. In the “Setup Security” window, click the **‘Stations’** tab.

Hint: If you check the security setting box for a user, but not for a station, the option will not be available. Therefore, to enable an option, the security setting must be checked in both the “Users” tab and the “Stations” tab. You can override the station settings if desired (see the security setting descriptions on the next page).



Security Settings

Administrative Access allows you to edit a connector that is being used by a connector build list if enabled. In the Users tab, this setting can only be enabled under a New User name (disabled by default).



Caution! Changing an “In Use” connector affects the historical data of anything referencing that connector.

Work Order Access allows you to edit, delete, import, and export Work Orders (enabled by default).

Assembly Access allows you to create, edit, delete, import, and export Assemblies (enabled by default).

Connector Type Access allows you to create edit, delete, import, and export Connector Types (enabled by default).

Build Access allows you to build work orders and assemblies if enabled. Build Access also has the following options:

- **Change Instruction Completion Status** allows you to enable or disable this  Mark Instruction Completed button in the Video Monitor Window. As you build an assembly, you can click this button to change an instruction status to complete without having to physically complete the instruction (enabled by default).
- **Allow Click to Start Instruction** allows you to double-click on an instruction in this  Instruction List tab of the Video Monitor Window to begin an instruction if enabled. This option can only be enabled under a New User name (disabled by default).
- **Allow Speed ID for Instruction Selection** allows you to start an instruction by typing in a partial wire ID instead the entire ID (enabled by default). For more information, see **Speed ID** on page 69.

Utilities Access allows you to change the station name, language options, database options, security options, system setup options, and feature management options (enabled by default)

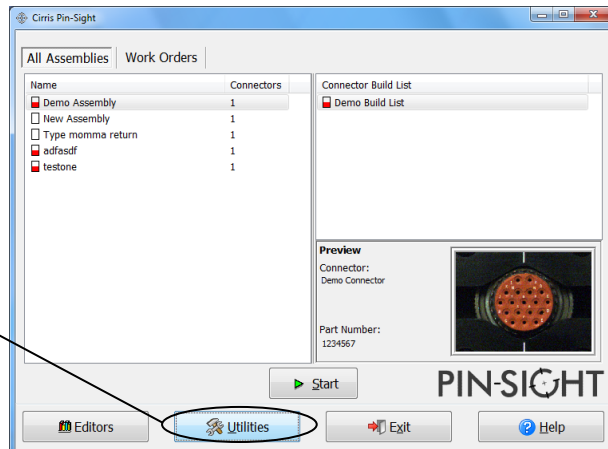
Override Station Security Settings is specific to the “Users” tab. This option allows you to override the station settings and apply the rights of the user without having to select the same setting in “Stations” tab.

Speech

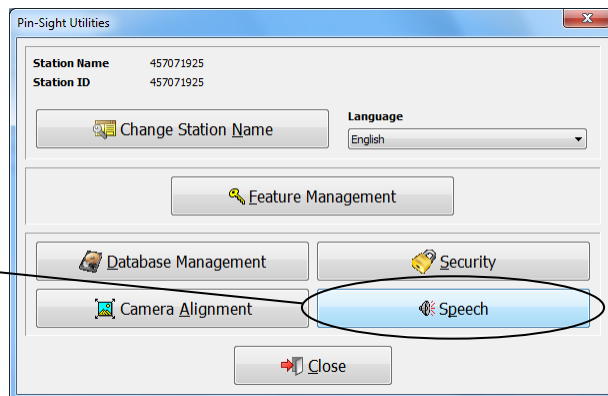
“Text to Speech” is an automated voice that calls out instructions as you build an assembly. “Speech Recognition” allows you to select the cavity and execute instructions in the build process through voice recognition. Cirris recommend enabling Speech Recognition on a Windows 7 Operating System with a wired, single-sided headset and microphone. For Speech Recognition to work, you must first set up your microphone, see below.

To set up your microphone in Windows 7:

1. From the “Cirris Pin-Sight” window, click **‘Utilities’**.

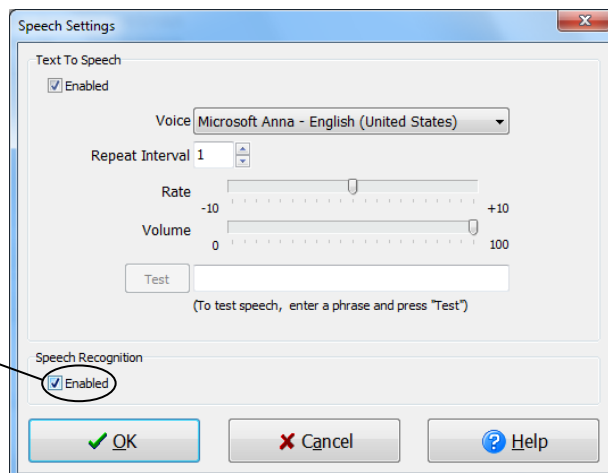


2. Click **‘Speech’**.



In the “Speech Settings” window, you can change the sound of the voice, the number of seconds before an instruction is repeated, the rate of speed, and the volume.

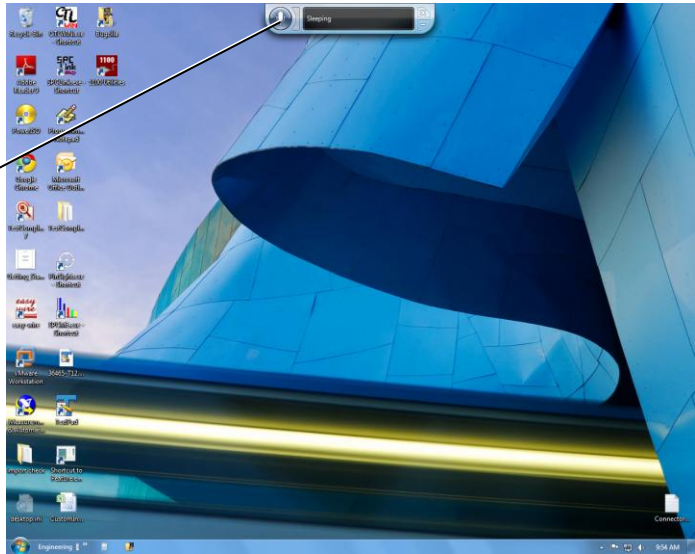
3. To enable Speech Recognition, check this box.



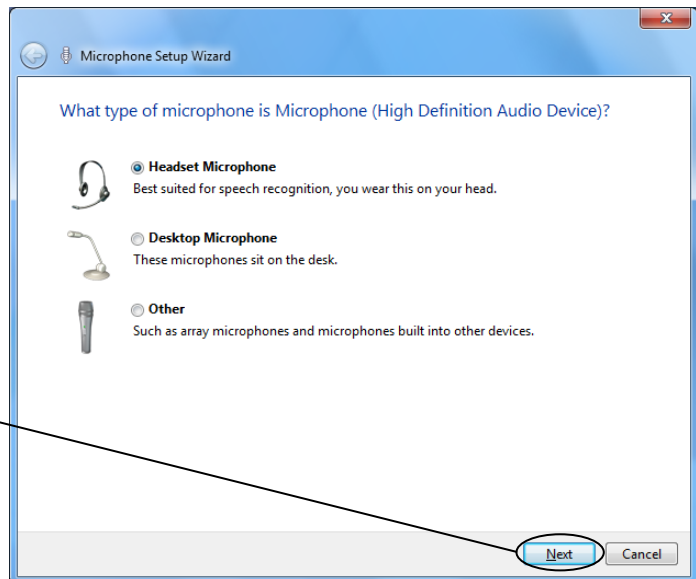
4. Exit out of Pin-Sight.

The speech recognition bar will appear at the top of your desktop.

5. Right-click on the microphone button.
6. In the right-click menu, click **'Configuration'**, and then click **'Set Up My Microphone'**.



7. In the "Microphone Setup Wizard", select the type of microphone, and click **'Next'**.
8. Follow the instructions in each window clicking **'Next'** until you get to the last window.
9. In the last window, click **'Finish'**.



Optional Features

Pin-Sight Features Overview

Pin-Sight's optional features are listed below:

Cirris Connector Library

This library contains over 20,000 standard military connectors that have been pre-defined in the Pin-Sight software. The pre-defined data includes an auto-generated image of the connector and the cavity target positions. Therefore, instead of defining each connector, you can simply enter the connector part number and immediately build your assembly. To import the Cirris Connector Library, see page 49. For a list of the current connector families in the Cirris Connector Library, see "Cirris Connector Library Database" on page 72.

Performance Verification

Performance Verification allows you to verify the proper operation of your Pin-Sight force sensor. For more information, see the Pin-Sight Performance Verification manual.

Second-Ended Pinning with Probe (available in a future release)

This feature allows you to attach a "completed" first- end connector to a Cirris easy-wire tester (CR or CH2) connected to the same PC as your Pin-Sight. This allows you to perform pull-back testing on all connectors. Using the tester's probe as the wire I.D. input for Pin-Sight speeds up the assembly process since you don't have to manually enter the wire I.D's. For more information, contact Cirris. To enable this option, see "Connector Build List Editor Overview" on page 21.

Work Order Revision Control

This feature can assist you by automatically updating Pin-Sight Build Lists when revision changes come down from engineering. When enabled, it checks for the current revision each time an operator loads a Build List and updates to the latest revision if applicable. It can even provide "un-pinning" and "re-pinning" instructions for connectors in the Work Order that have already been completed. For information on pricing and how to enable this feature and format the file, contact Cirris.

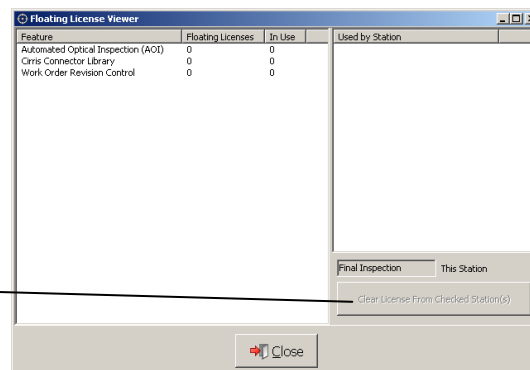
Floating Licenses

These licenses enable a specified number of stations attached to the database to use the registered feature if a license is available. A station license only allows a feature to be used on the station that the license is registered to. When a station starts using a floating license, that floating license checks out of the database. When a station exits the Pin-Sight software, its floating license checks back into the database. The feature you wish to use is available if all the floating licenses are not in use.

Floating License Viewer

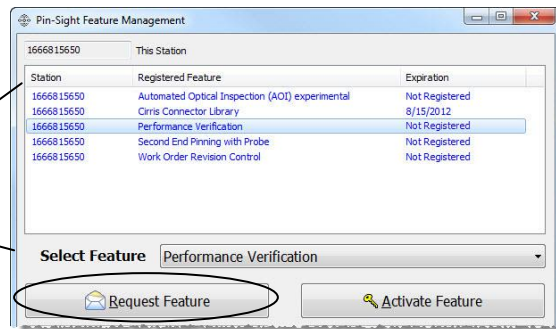
This window displays which features have floating licenses, the stations that are using floating licenses, and how many are in use. If a PC malfunction causes a station to go down unexpectedly, its floating license will remain checked out. In this event, the Floating License Viewer allows you to check the license in by clearing the license from the station.

You can register floating licenses when you request a feature (see the next page).

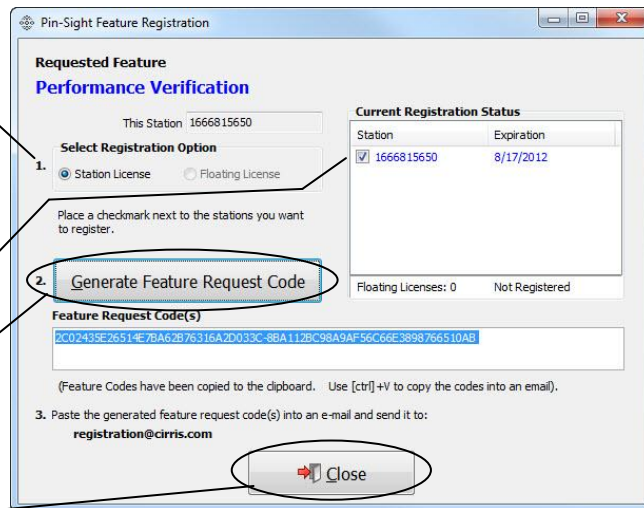


Request and Activate a Feature

1. In the “Cirris Pin-Sight” window, click ‘Utilities’.
2. Click ‘Feature Management’.
3. Select the desired feature, and click ‘Request Feature’.

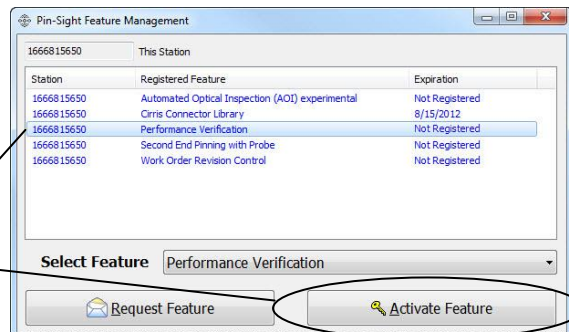


4. In the “Pin-Sight Feature Registration” window, select a registration option:
 - **Station License**- ties the registration to a specific station.
 - **Floating License**- when selected, you can specify the number of licenses (only available if connected to a network database).
5. Under “Current Registration Status”, select the desired station(s).
6. Click ‘Generate Feature Request Code’.
7. Email the code to registration@cirris.com, and click ‘Close’.



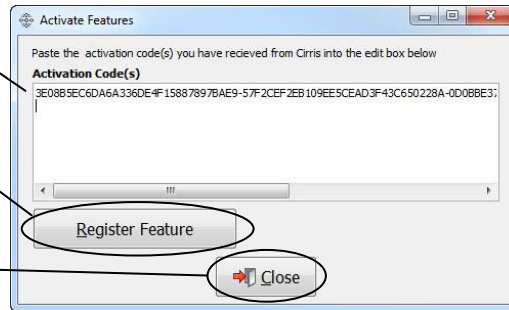
Note: For immediate service, call a Cirris sales/service rep at 1-800-441-9910.

8. When you receive the activation code from Cirris, go back to the “Pin-Sight Feature Management” window. Select your feature, and click ‘Activate Feature’.



OPTIONAL FEATURES

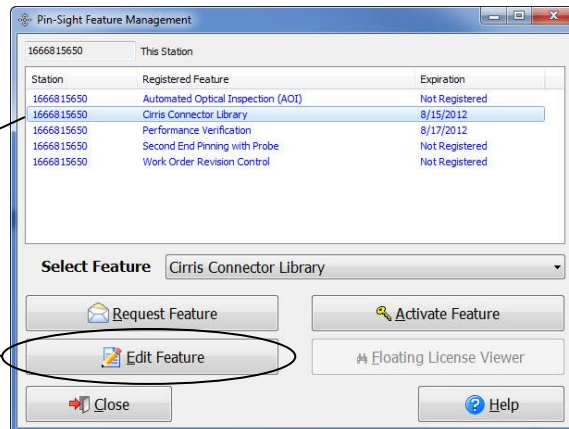
9. Paste the activation code into the box, and click **'Register Feature'**.
10. In the "Feature Activation Successful" dialog box, click **'OK'**.
11. In the "Activate Features" window, click **'Close'**.



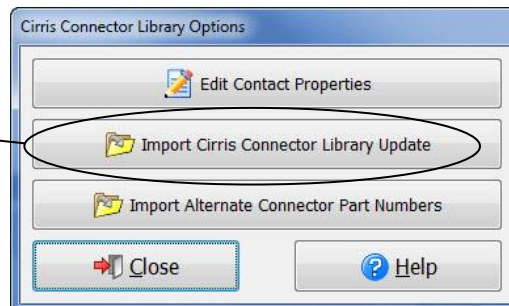
Importing the Cirris Connector Library

To enable the "Cirris Connector Library", you must first purchase and activate the "Cirris Connector Library" feature (see "Request and Activate a Feature" on page 48). You can then import the library and define your own contact property settings for all contacts used by the connectors in the library. You can also import Alternate Connector Part Numbers in the form of a .csv file to give a custom name to a Cirris Connector. Updates to the Cirris Connector Library can be imported into the Pin-Sight software.

1. In the "Cirris Pin-Sight" window, click **'Utilities'**.
2. Click **'Feature Management'**.
3. Select **Cirris Connector Library** and click **'Edit Feature'**.



4. In the "Cirris Connector Library Options" window, click **'Import Cirris Connector Library Update'**.



OPTIONAL FEATURES

5. Select the file **CirrisConnectorLibrary_XX_XX_XXXX**, and click **'Open'** (XX_XX_XXXX will be the creation date of the updated file).

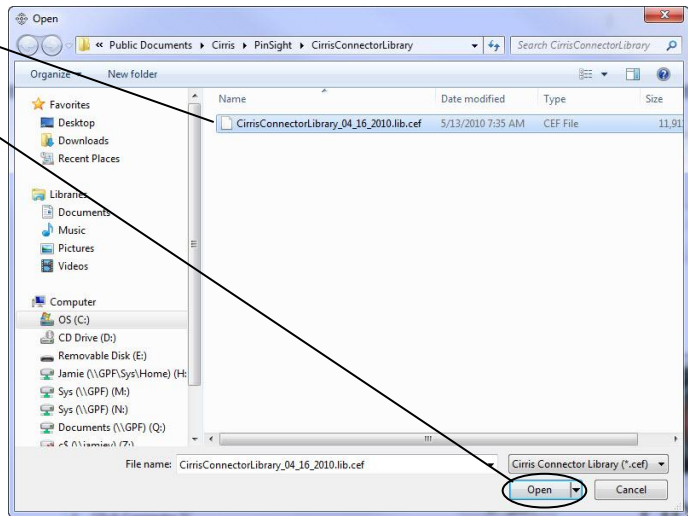
Troubleshooting: If the folder containing the file does not open automatically, browse to the correct file location, see below.

Windows XP:

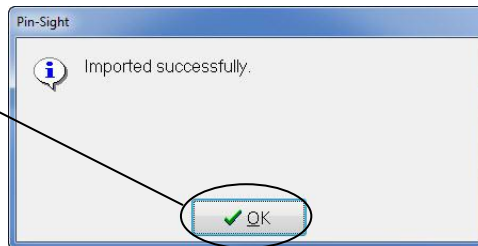
C:\Documents and Settings\All Users\SharedDocuments\Cirris\PinSight\CirrisConnectorLibrary

Windows 7:

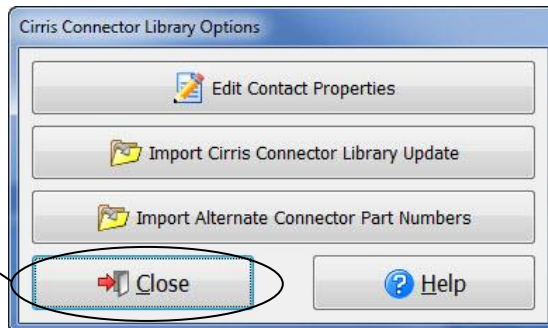
C:\Users\Public\Public Documents\Cirris\PinSight\CirrisConnectorLibrary



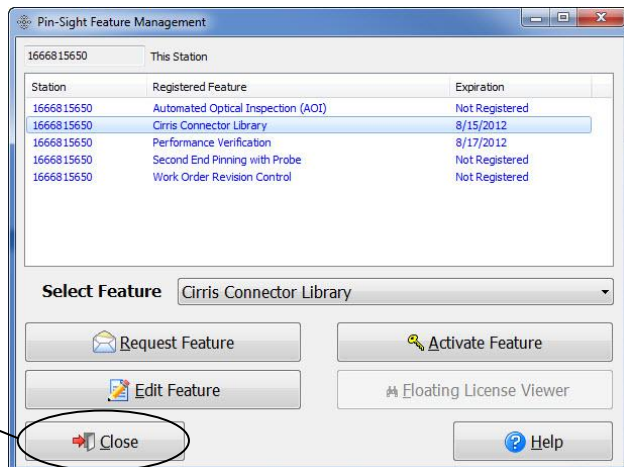
6. When a window opens displaying "Imported successfully", click **'OK'**.



7. Click **'Close'**.

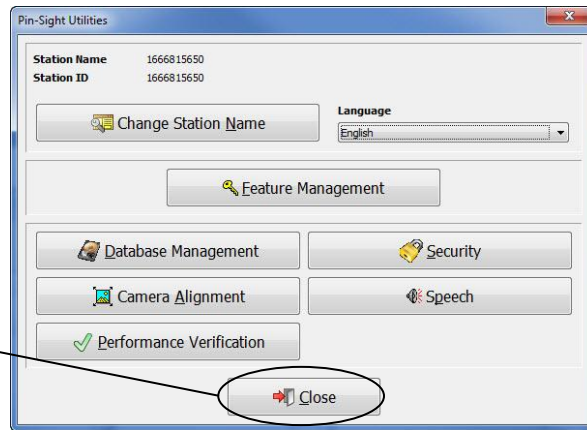


8. Click **'Close'**.



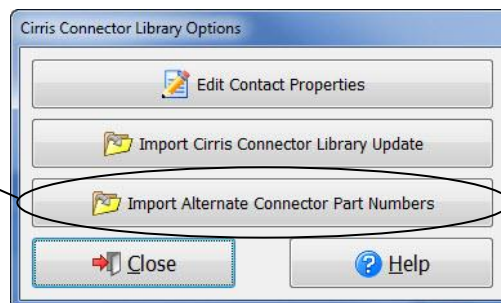
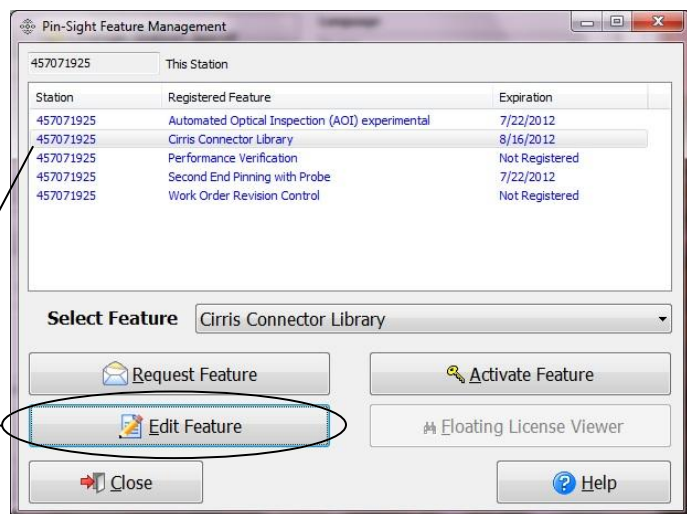
OPTIONAL FEATURES

- Click '**Close**' to return to the "Cirris Pin-Sight" window.



To import Alternate Connector Part Numbers:

- From the "Cirris Pin-Sight" window, click '**Utilities**'.
- In the "Pin-Sight Utilities" window, click '**Feature Management**'.
- In the "Feature Management" window, select **Cirris Connector Library**, and then click '**Edit Feature**'.
- In the "Cirris Connector Library Options" window, click '**Import Alternate Connector Part Numbers**'.

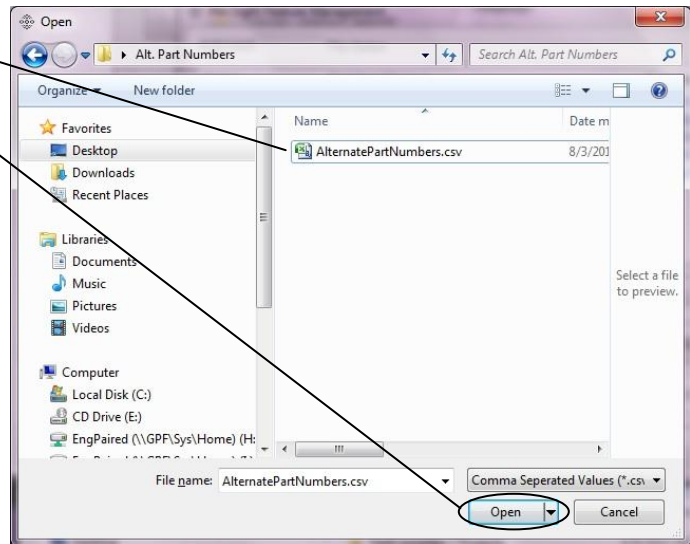


OPTIONAL FEATURES

5. Select the alternate connector file (must be a .csv file) and click **'Open'**.

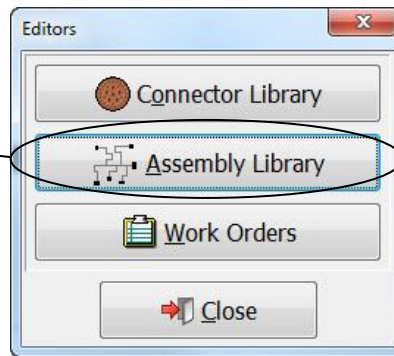
Example: csv file in Microsoft Office Excel

	A	B
1	[table]	ConnectorAlias
2	ALIAS	CONNECTORNAME
3	H274-9	JMS27505E23B35S
4	Au90.4	ms27473t14b18s
5	P233490	MS27505E23B35S
6	[end]	
7		



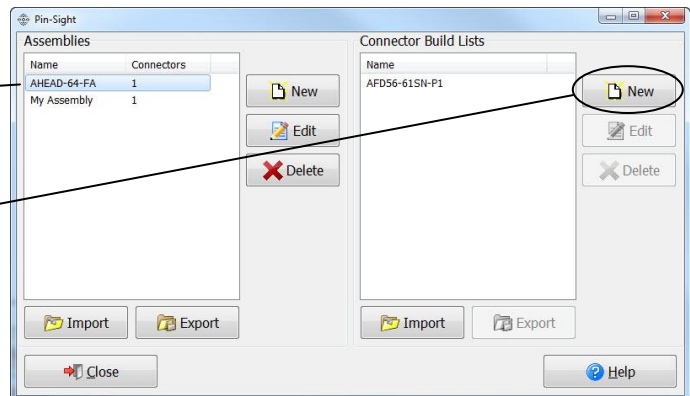
To select a Cirris Connector:

1. In the "Editors" window, click **'Assembly Library'**.



2. In the "Assemblies" view, create a new assembly or highlight the assembly you want to create a build list for.

3. To the right of the "Connector Build Lists" view, click **'New'**.

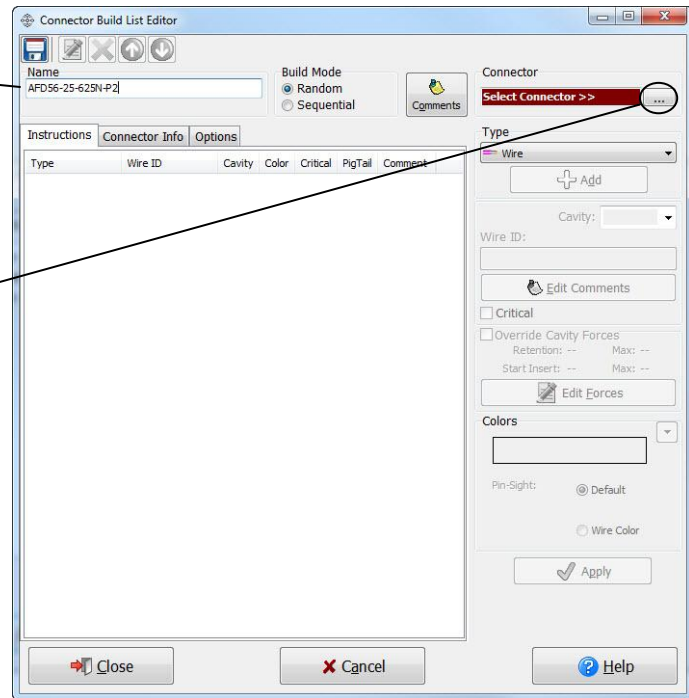


OPTIONAL FEATURES

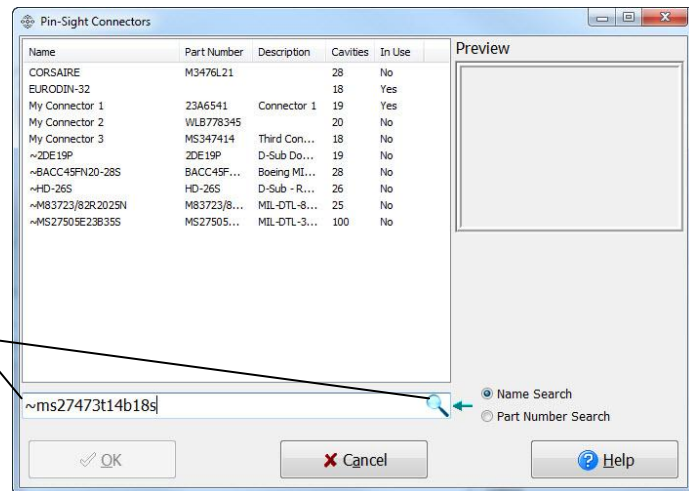
4. In the Connector Build List Editor, name your build list.

Cirris recommends including the part number of your connector and a reference designator.

5. Click the “Select Connector” extension box.



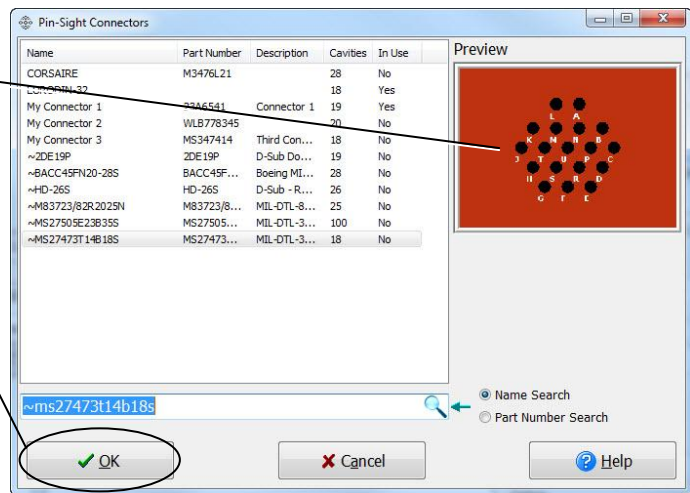
6. In the “Pin-Sight Connectors” search box, enter a tilde (~) followed by the connector part number. Then click the search icon.



Hint: The connector part numbers must be an exact match.

OPTIONAL FEATURES

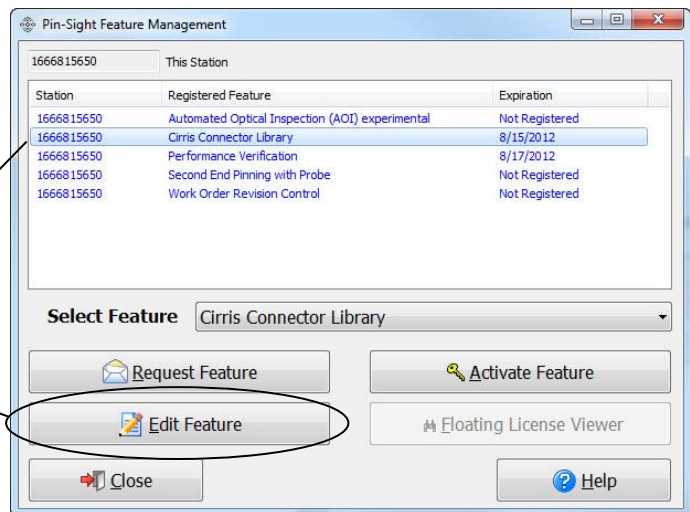
- If the connector appears in the “Preview” window, click ‘OK’.



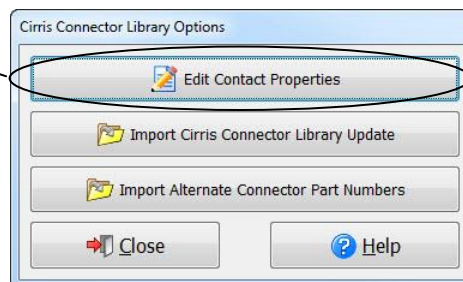
Troubleshooting: If the connector does not appear in the “Preview” window, that connector is not currently in the Cirris Connector Library. To add your connector manually, see “Adding Connectors” on page 7.

To edit contact properties for Cirris Connectors:

- In the “Cirris Pin-Sight” window, click ‘Utilities’.
- Click ‘Feature Management’.
- Select ‘Cirris Connector Library’, and click ‘Edit Feature’.



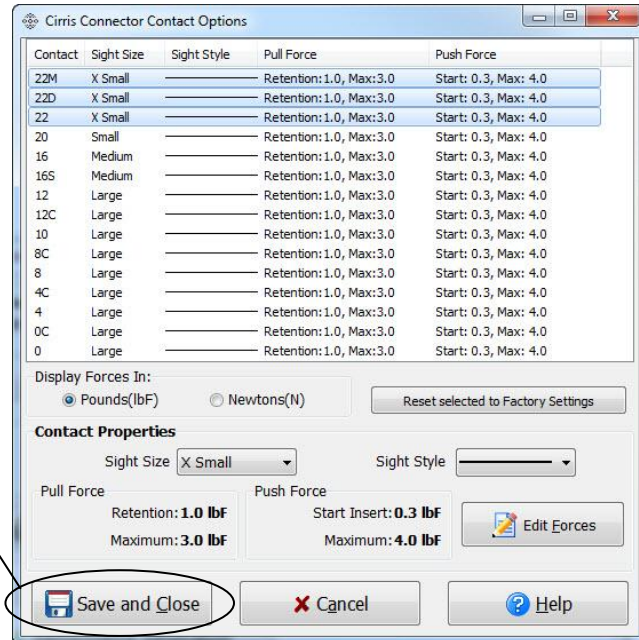
- Click ‘Edit Contact Properties’.



OPTIONAL FEATURES

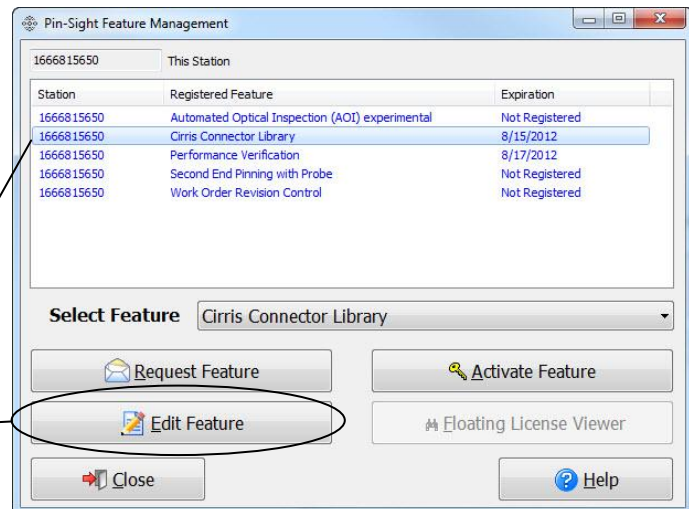
Caution! Changing contact properties using the “Edit Contact Properties” button will change the default setting for ALL connectors in the Cirris Connector Library. To change the properties on an individual connector only, see “Connector Defaults” on page 13.

5. Select the contact(s) you would like to edit (you can highlight multiple contacts to make changes simultaneously).
6. Make the desired changes, and then click **‘Save and Close’**.



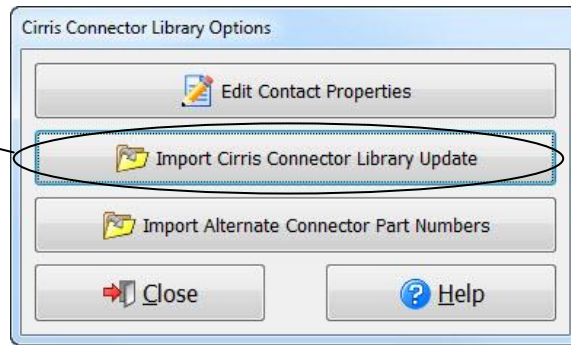
To import an updated file of the Cirris Connector Library:

1. After you receive the updated file from Cirris, save the file to your PC.
2. From the “Cirris Pin-Sight” window, click **‘Utilities’**.
3. Click **‘Feature Management’**.
4. Select **‘Cirris Connector Library’**, and then click **‘Edit Feature’**.

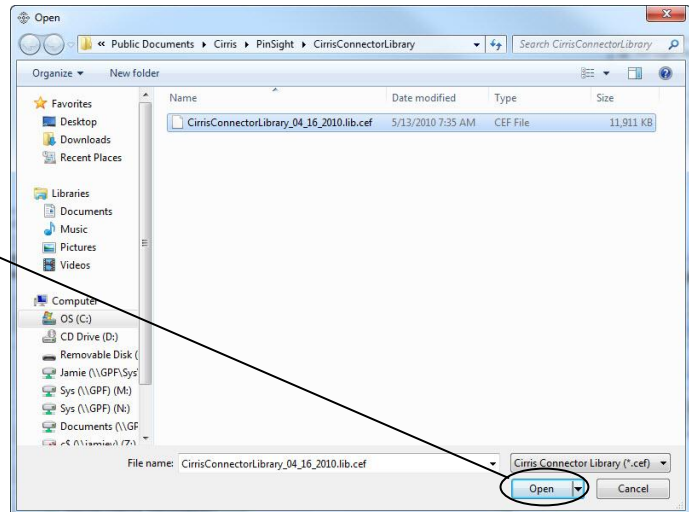


OPTIONAL FEATURES

5. Click **'Import Cirris Connector Library Update'**.



6. Browse to the location of the updated file, select the file, and click **'Open'**.



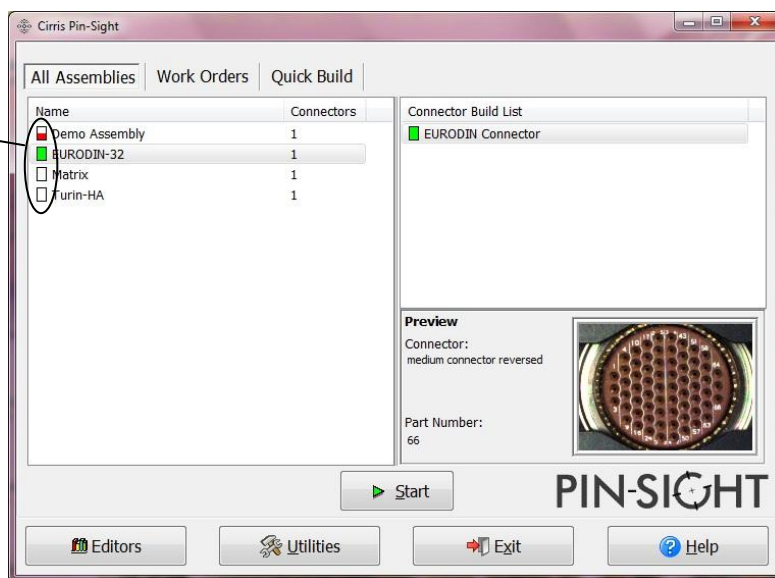
Appendix

Cirris Pin-Sight Window

In the “Cirris Pin-Sight” window, you can view the status of each assembly and preview an image of a connector for a selected assembly. You can also view the rev number of your Pin-Sight software and Cirris’ contact information.

The status of your assemblies is shown in the box to the left of the assembly name.

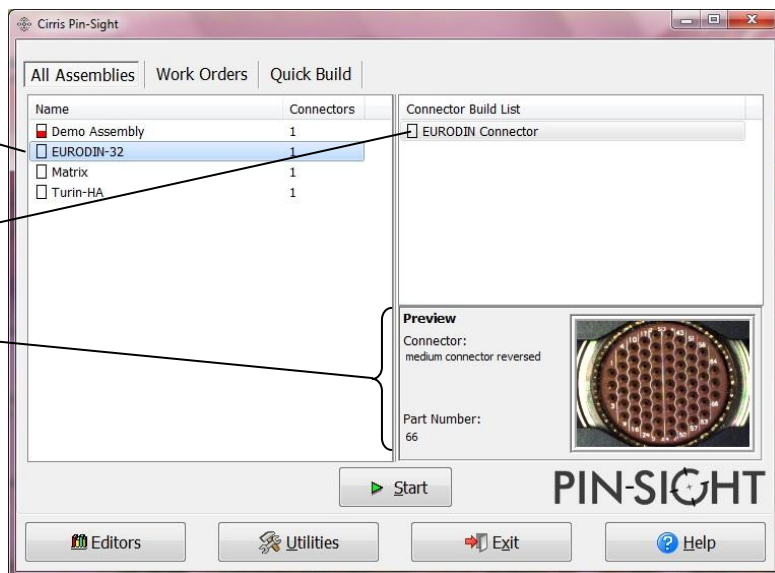
- ☐ If the box is white, the assembly has not been completed.
- ☐ If the box is half red/half white, the assembly has been partially completed.
- ☒ If the box is green, the assembly has been fully completed.



To preview a connector image:

1. Click on an assembly at the left side of the screen to highlight it.
2. Click on a build list at the right side of the screen to highlight it.

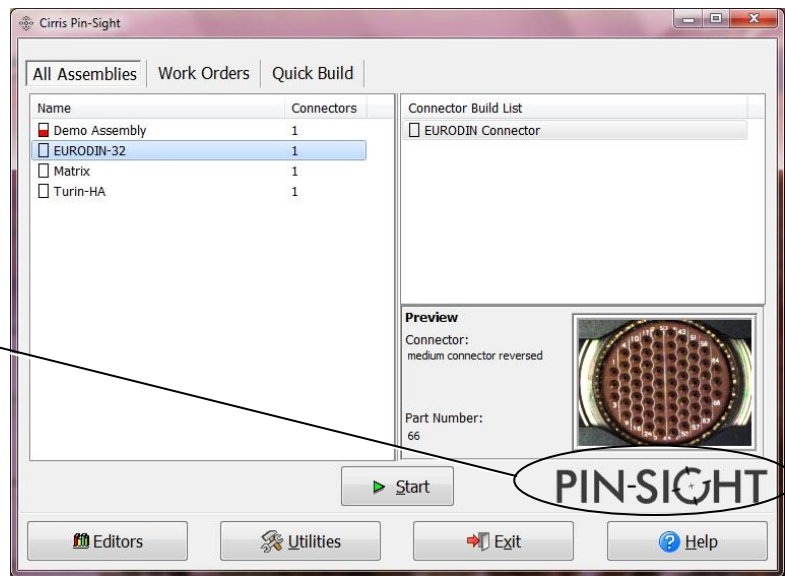
The connector image will display in the Preview box.



Note: For connectors you manually create, the connector image will be a picture of the connector. For connectors from the Cirris Connector Library, the image will be a computer generated image of the insert arrangement.

To view the Pin-Sight software version number and Cirris contact information:

1. Click on the Pin-Sight logo.



2. When you have finished viewing the information, click 'Close'.

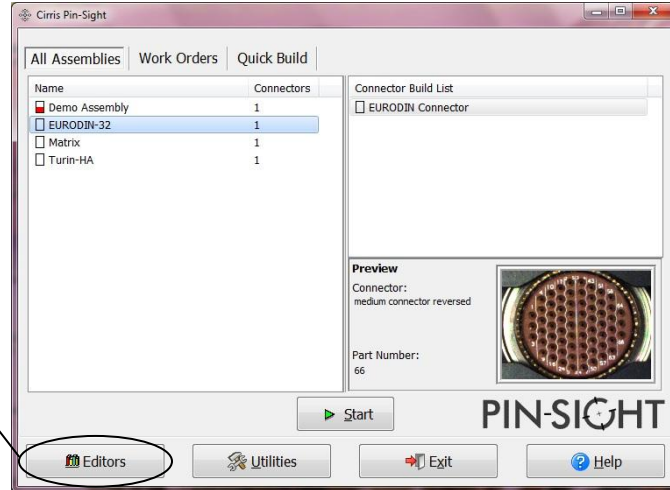


Export/Import

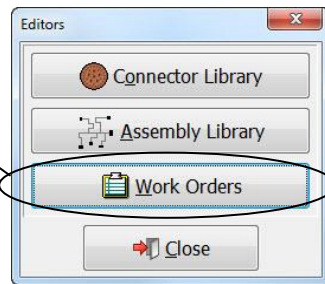
You can export Work Order data from one station and import the file to another station. Assembly and Connector Build List data can also be individually exported and imported.

To export a work order:

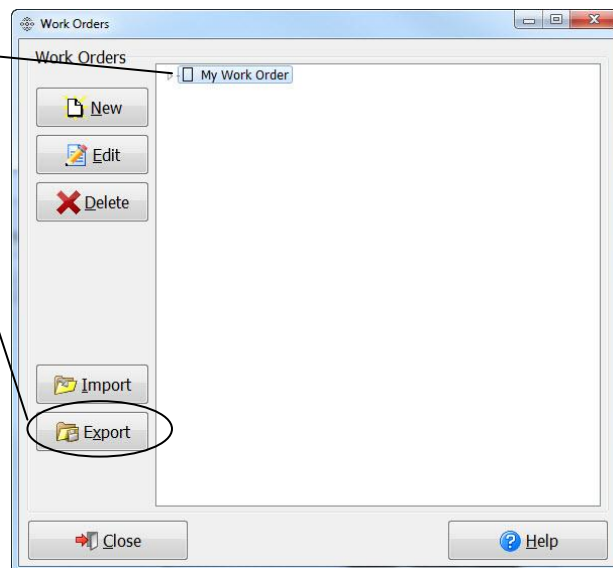
1. In the “Cirris Pin-Sight” window, click **Editors**.



2. Click **Work Orders**.

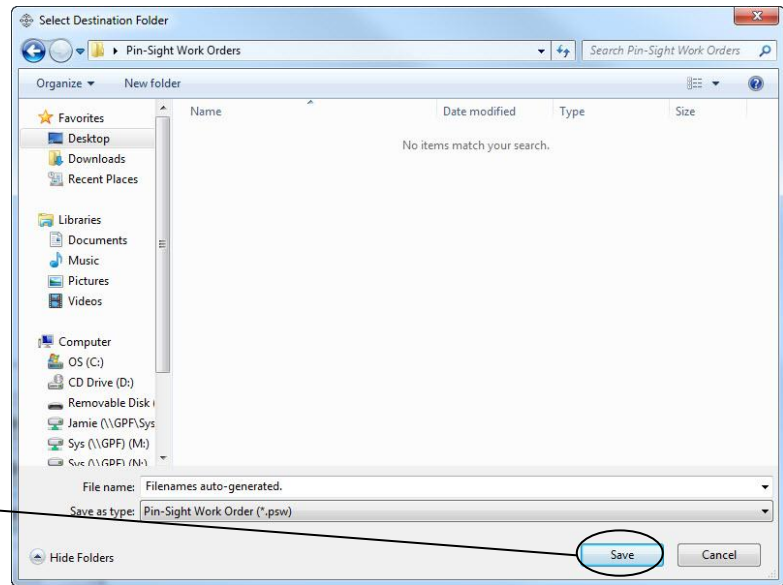


3. Select the work order you want to export, and click **Export**.



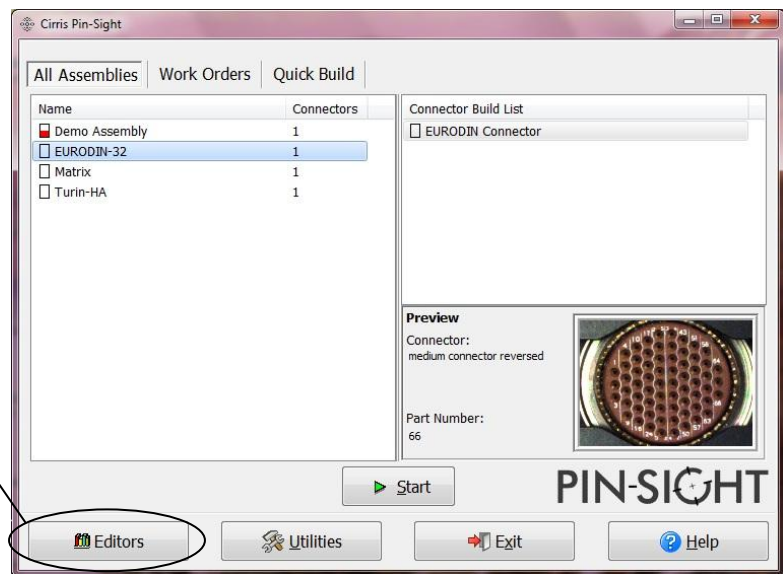
Note: Exporting a work order will export all of its associated assemblies and Connector Build Lists.

4. Select a destination folder where you want to save the work order, and click **'Save'**.

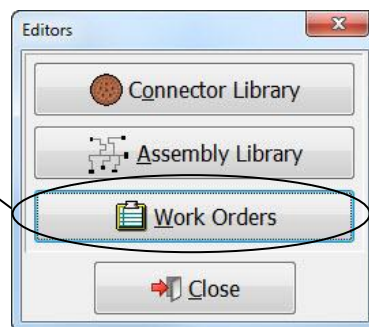


To import a work order:

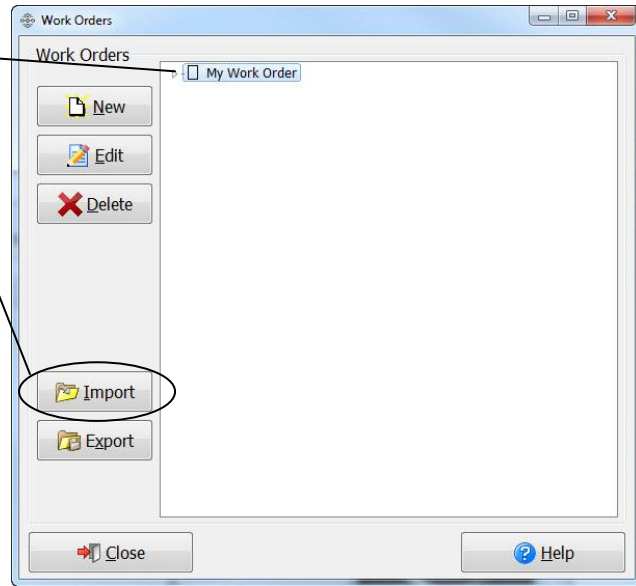
1. In the "Cirris Pin-Sight" window, click **'Editors'**.



2. Click **'Work Orders'**.

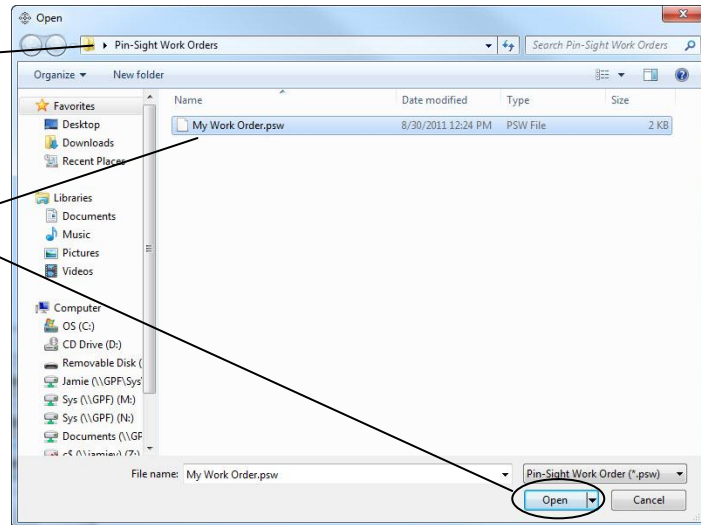


3. Select the work order you want to import, and click **'Import'**.



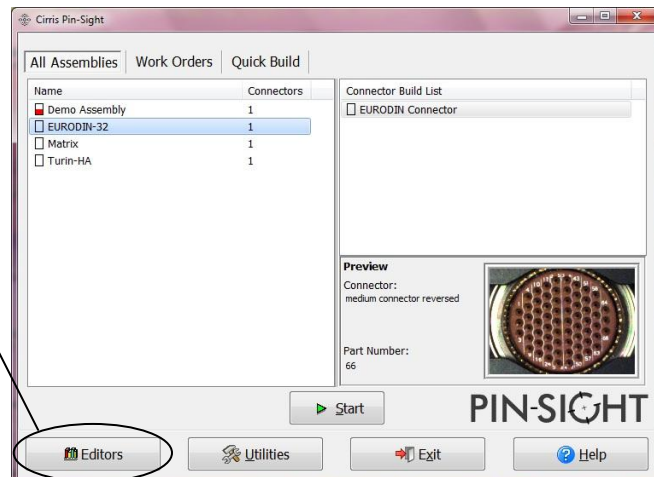
4. Browse to the location of your work order file.

5. Select the file and click **'Open'**.

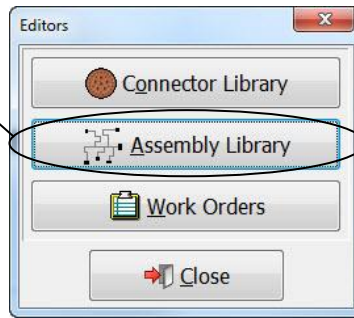


To export an assembly:

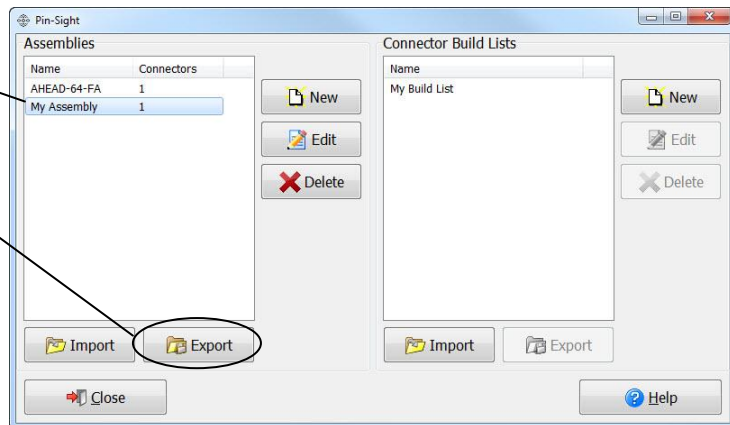
1. From the "Cirris Pin-Sight window", click **'Editors'**.



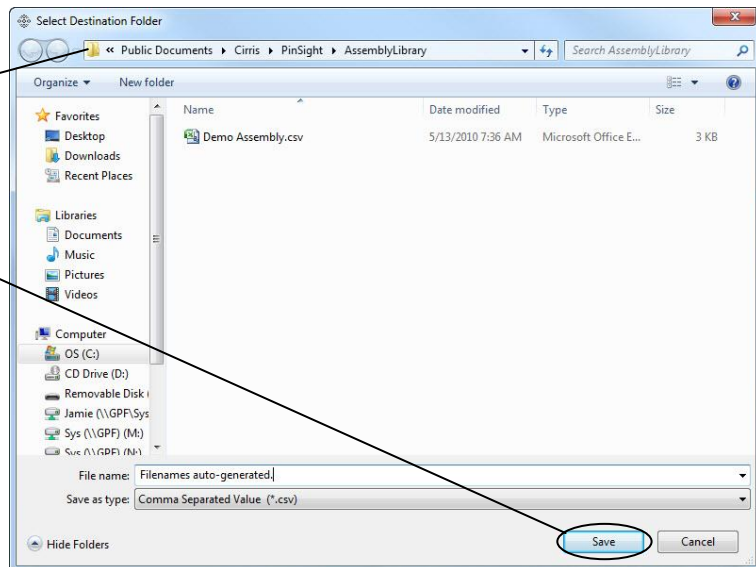
2. Click **'Assembly Library'**.



3. Highlight the desired Assembly from the "Assemblies" view and click **'Export'**.

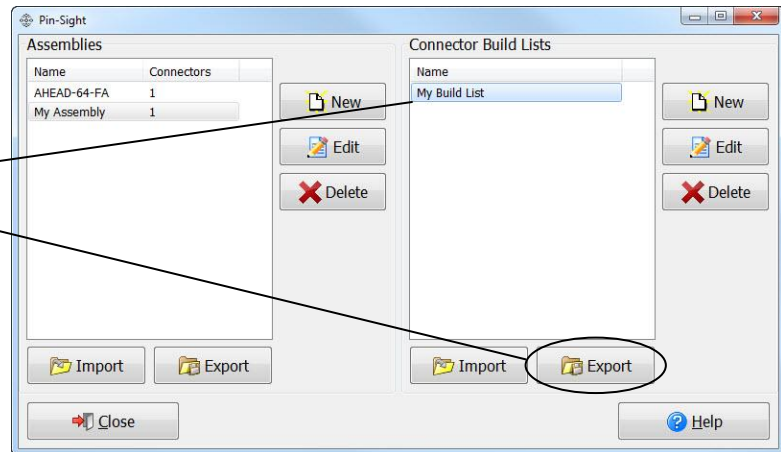


4. A filename will auto-generate based on the name. Select a destination folder where you want to save the assembly and click **'Save'**.

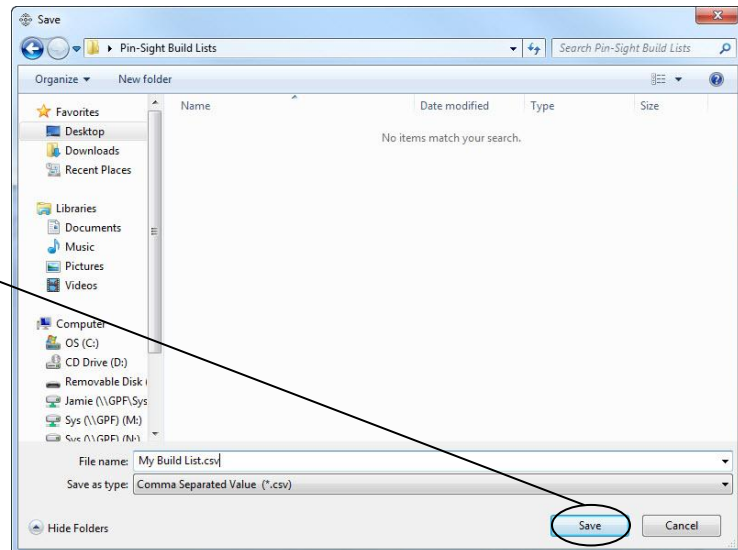


To export one or more Connector Build Lists:

1. In the Assembly Library, select the desired Build List(s) and click **'Export'**.

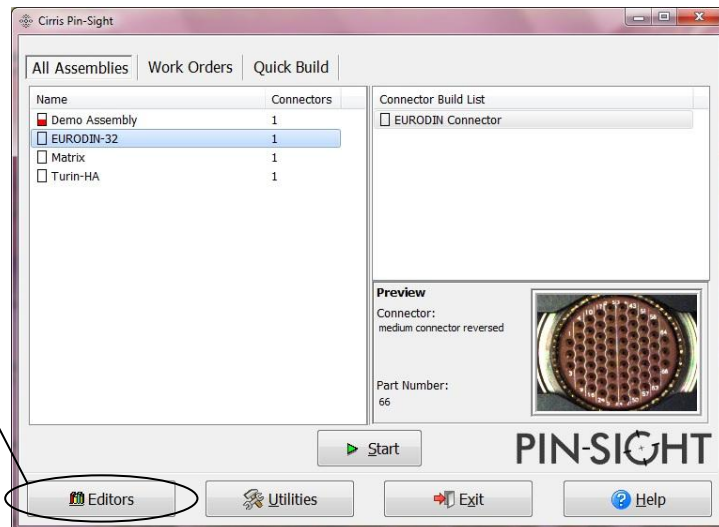


2. If you selected more than one build list, they will be saved in the same file. Select a location; give the file a name, and click **'Save'**.

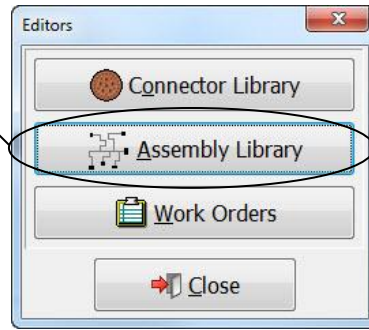


To import an assembly or build list:

1. In the "Cirris Pin-Sight" window, click **'Editors'**.

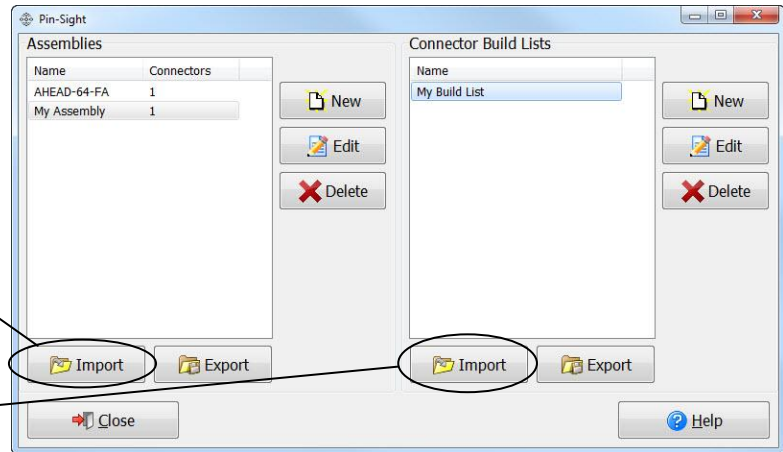


2. Click **'Assembly Library'**.



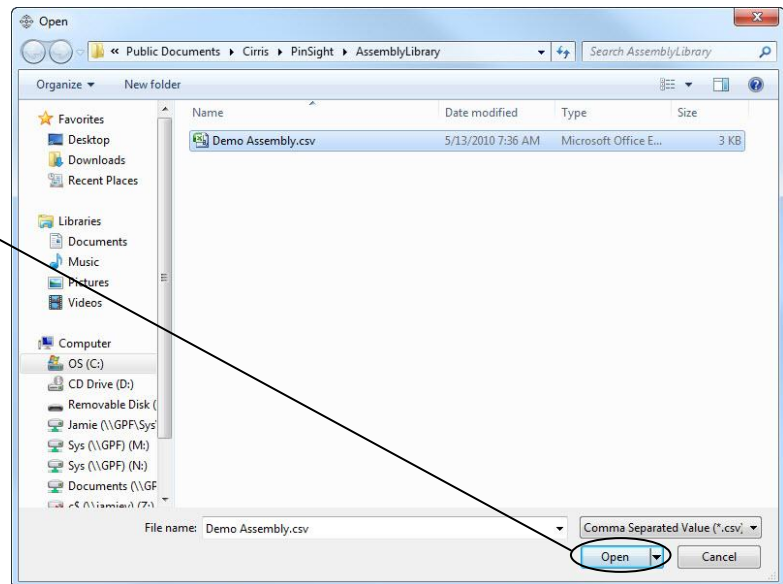
3. **To import an assembly**, select the desired assembly, and at the bottom of the Assemblies view click **'Import'**.

To import a Connector Build List only, select the desired build list, and at the bottom of the "Connector Build Lists" view, click **'Import'**.



Note: Importing an assembly will import the assembly and all of its associated Build Lists.

4. Browse to the location of your Assembly or Build List, and click **'Open'**.



Creating Barcodes

Barcodes can be used to navigate, select items, and execute instructions in the Pin-Sight software. Barcodes for Pin-Sight instructions must be created using a 3 of 9 barcode font in a word processing program. When Pin-Sight is installed, several barcode fonts are automatically added to the fonts in your system. You can also barcode scan a Work Order, Assembly, or Build List to select an Assembly to build from the “Cirris Pin-Sight” window (or main window).

Barcodes for Pressing Buttons

All barcodes must start and end with an asterisk (*). For button barcodes, the starting asterisk is succeeded by the special three character sequence: period, dash, period (.-.). The next set of characters is the name of the button (in all caps). The font size can vary.

For example, the Start button would be the 3 of 9 encoded text: *.-.START*

Note: Most word programs are set to auto-bold information between two asterisks. If your barcode auto-bolds, be sure you un-bold the barcode. A barcode scanner may not read a bolded barcode. To avoid this in the future, you can turn off Auto Bold in the Auto Format dialog box in Microsoft Word.

For your convenience, you can print the barcodes below for all of the Pin-Sight buttons:



START



CANCEL



ENTER



OVERRIDE



DONE



STOP



CLOSE



REDO



HELP



EXIT



YES



MARK DONE



NO



NEXT TAB (Changes tabs in the
connector video window)



OK

Barcodes for selecting Work Orders, Assemblies, and Build Lists

In the Cirris Pin-Sight window, you can search for any assembly by scanning the Work Order name, Assembly name or Build List name. The barcodes need to start with an identifier that specifies if you are going to scan the name of a Work Order, Assembly, or Build list.

The identifiers start and end with an asterisk (*). The starting asterisk precedes the less than symbol (<) followed by the abbreviation for Work Order, Assembly, etc. The abbreviation is followed by the greater than symbol (>). For example, the Work Order identifier would be the 3 of 9 encoded text *<WO>*.

Pin-Sight Identifiers:



<WO> for a work order



<AS> for an assembly



<BL> for a connector build list



<PH> for a Phase



<QB> for Quick Build

You can scan an identifier first and then scan the name of the Work Order, Assembly, etc. (see Example 1 below), or you can combine the identifier and name into one barcode (see Example 2 below).

Example 1: After scanning the work order identifier <WO>, a work order name 12345678 would be the 3 of 9 encoded text: *12345678*



12345678

Example 2: The work order identifier combined with a work order name 12345678 would be the 3 of 9 encoded text: *<WO>12345678*



<WO>12345678

The Assembly name and Connector Build List name can also be combined. For example, A connector build list with the name B789 contained in an assembly with the name A456 would be the 3 of 9 encoded text: *<AS>A456<BL>B789*



<AS>A456<BL>B789

Barcode Scanner System

The Opticon 3001 barcode scanner system:

- Eliminates operator error.
- Reduces assembly time by enabling you to quickly and accurately input wire ID's and commands into the Pin-Sight software.
- Attaches to the Pin-Sight base eliminating the need to hold the scanner gun or pull the trigger.
- Has a flexible arm allowing you to position the barcode scanner to fit your needs.
- Can be attached to either side of the Pin-Sight base.

This system can be purchased from Cirris (1-800-441-9910). You can purchase the scanner gun directly from Opticon; however, the mount is manufactured and sold by Cirris. If you purchase the scanner gun from Opticon, you will need to configure the system to work with Pin-Sight. For configure instructions, click on the following link: www.cirris.com/testing/guidelines/opticon-setup.html

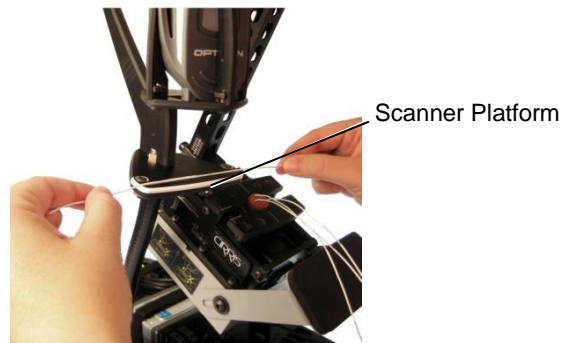
Using the Barcode Scanner

You can scan a barcode automatically or manually.

To automatically scan a barcode:

1. Slide a wire into the groove on the scanner platform with the barcode facing up (to check the laser alignment, see the next page).

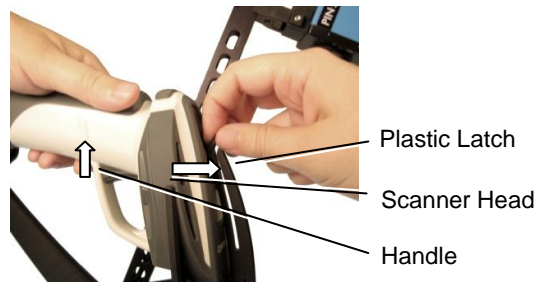
The barcode scanner starts scanning when a wire (or object) slides under the laser beam. If the laser does not immediately expand, slightly shift the wire left or right. When the barcode is read, a beep sounds, and a blue light on the scanner will flash.



To manually scan a barcode:

1. Remove the barcode scanner from the holder: pull the plastic latch away from the scanner head and pull up on the handle.
2. Point the scanner at a barcode and pull the trigger.

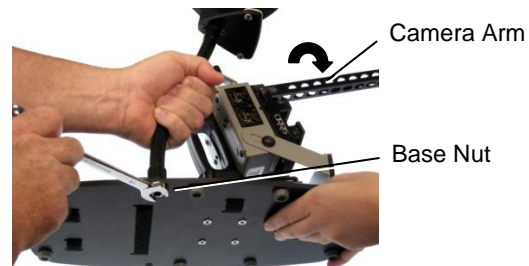
When you put the barcode scanner back in the holder, assure that the scanner seats properly.



Remove and Reattach the Barcode Scanner Mount

Caution! To avoid misaligning the camera, Cirris recommends having another person assist you when you remove or attach the barcode scanner mount (be sure not to put pressure on the camera arm or camera).

1. Unlock the Pin-Sight tilt lever and tilt the Pin-Sight camera arm down.
2. Lift up the Pin-Sight, and unscrew the nut from the bottom of the base with a 1/2" crescent wrench.
3. Remove the barcode scanner mount.
4. Reattach the barcode scanner mount to either side of the Pin-Sight base in the reverse order.



Additional Barcode Scanner Information

Scanner Platform Alignment: You can check the scanner platform alignment by waving a finger under the laser beam to expand the laser. The scanner platform is aligned if the laser beam lines up with the groove on the scanner platform. If the scanner platform is misaligned, loosen the two platform screws with the Allen wrench that came with your Pin-Sight. Make the adjustment and retighten the screws.

Marking Wires: Not all wire-marking equipment can print barcodes on wires. You may need to check with your marking equipment supplier. The most typical laser marking equipment uses a mask. Masks allow wire movement to stop at each mark or each printed character (5 lines make up a character). To avoid slowing down the marking process, print the barcode only at the ends of a wire. Marking equipment that uses a mask can be out of adjustment resulting in poor accuracy of the bar positions. Markings that identify the type of wire can interfere with the barcode if there is an overlap. Light green print seems to be the most compatible. Dark green or black print may cause a problem.

Reading Barcodes: Code 39 barcodes are the only compatible barcodes. The length of barcode depends on the density of the barcode; Cirris has found that 16 characters are possible within the 3.1" scan area.

Scanning Other Objects with Barcodes: The structural alignment of the barcode scanner and the scanner platform prevent scanning barcodes on larger objects. As an alternative, you can remove the scanner from the holder to scan or in the case of papers, put the barcodes near the paper's edge, or bend the paper to fit onto the scanner platform area.

Speed ID

This process optimizes efficiency and reduces error for Pin-Sight operators. Entering long wire identifications as you build an assembly can be slow and error prone. Speed ID lets you to complete an instruction by typing in a partial wire ID instead of the entire ID. Speed IDs can be entered by keyboard, keypad, or speech recognition. To use Speed ID, the Build Access security setting, **Allow Speed ID for Instruction Selection** must be enabled (see “Security Settings” on page 44).

How Speed ID Works

A speed ID is a subset of characters in a full ID that make the wire ID unique. The number of characters in a subset is the maximum number of characters needed for uniqueness. This number is identified by starting from the right most characters in a wire ID and working from right to left. For example, the wire IDs 1001, 1002, 1003, and 1004 are similar, but the differences in the last number make each ID unique. Since only one character is required for uniqueness, you would enter a wire ID by typing the last (right most) character (1, 2, 3, or 4).

If Speed ID is enabled, Pin-Sight will analyze your build list and calculate the maximum number of characters to enter. However, this recommended number does not guarantee uniqueness. The number gives you a high enough success rate that when a duplicate ID does occur, you can re-enter the required number. The total number of keystrokes entered will be much less than if you were to type in each wire ID. In some cases you may want to type in fewer characters than what is recommended. For example, with the wire IDs: 101-1, 101-2, 101-3, and 102-3, Pin-Sight recommends that you enter three characters (1-1, 1-2, 1-3, or 2-3). However, speed ID allows you to drop separator characters that do not provide unique information. In the last example, you may want to leave out the ‘-’ (dash symbols) and enter: 11, 12, 13, or 23.

The following example illustrates when you would enter more characters than what Pin-Sight recommended.

A001-F00-7000-01	}	Only 1 character required for uniqueness
A001-F00-7000-02		
A001-F00-7000-03		
A001-F00-7000-20	}	3 or 4 characters required for uniqueness
A001-F00-7000-21		
A001-F00-7000-22		
A001-F00-7000-23		
A001-F00-7001-20		

For this wirelist, Pin-Sight recommends that you enter two characters. Entering two characters identifies all but two of the wires. The IDs that end in 0-20 and 1-20 require four characters (or three if you drop the dash symbols).

Entering Speed ID with a Keyboard or Keypad

When you enter a speed ID into Pin-Sight via keyboard, the data is not case sensitive. For example, typing “a” is the same as “A”. Speed ID then processes the entered ID and can result in the following:

- **One Match Found** – If the entered ID matches one subset of characters, Pin-Sight proceeds to guide you to insert the wire with the matching ID into the correct cavity.
 - **No Match Found** – If Pin-Sight does not find a match with the entered data, the software makes a “bonk” sound. Verify the ID and enter the recommended number of characters.
 - **Multiple Matches Found** – If Pin-Sight finds more than one match, the monitor displays “Multiple matches found...” Enter the maximum number of characters that makes the ID unique.
-

Entering Speed ID with Speech Recognition

With Speech Recognition enabled, you can say any “right-most” subset of characters of a wire ID from the recommended number to the number required for uniqueness. You can also say the entire ID.

Troubleshooting: Pin-Sight only recognizes numbers that are said individually. For example, the correct way to say the ID 152 is “one, five, two.” An incorrect way to say the ID 152 is “one-fifty-two.” Additionally, ensure that you pronounce the number ‘0’ as “Zero” and not as the common use of the letter ‘O’ (oh).

The spoken ID is processed by Speed ID and can result in the following:

- **One Match Found** – If the spoken ID matches one ID or subset of characters, Text to Speech repeats back to you what was just entered. Pin-sight then proceeds to guide you to insert the wire with the matching ID into the correct cavity.
 - **No Match Found** – If Pin-Sight does not find a match with the spoken data, the software continues to wait for you to say the correct information. Verify the ID and say the maximum number of characters.
 - **Multiple Matches Found** - If Pin-Sight finds more than one match, Text to Speech will say “Multiple Matches Found. Try N digits” where N equals the maximum number of characters required for uniqueness. Say the N right most characters of the ID.
-

In order to achieve a high level of reliability, Speech Recognition requires that certain characters be spoken in a specific manner. Listed below are the special cases that may occur in a wire ID.

ICAO Spelling Alphabet

Letters from the alphabet in the table below must be spoken as shown.

Letter	Spoken As	Letter	Spoken As
A	Alpha	N	November
B	Bravo	O	Oscar
C	Charlie	P	Papa
D	Delta	Q	Quebec
E	Echo	R	Romeo
F	Foxtrot	S	Sierra
G	Golf	T	Tango
H	Hotel	U	Uniform
I	India	V	Victor
J	Juliet	W	Whiskey
K	Kilo	X	X-Ray
L	Lima	Y	Yankee
M	Mike	Z	Zulu

Special Characters

The special characters listed in the table below must be spoken as shown.

Character	Spoken As	Character	Spoken As
	space	:	colon
!	exclamation point	;	semicolon
"	double quote	<	less than
#	pound sign	=	equal sign
\$	dollar sign	>	greater than
%	percent	?	question mark
&	ampersand	@	at sign
'	single quote	[open bracket
(open paren	\	backslash
)	close paren]	close bracket
*	asterisk	_	underscore
+	plus sign	`	backquote
,	comma	{	open brace
-	dash		vertical bar
.	period	}	close brace

Cirris Connector Library Database as of July 2010

Circular Series	Part Number Starts With
BACC45 (Boeing that crosses to MIL standards)	BACC45...
BACC63 (Boeing that crosses to MIL standards)	BACC63...
EN3646 (European that crosses to MIL standards)	EN3646...
MIL-DTL-26482 Series 1 & 2	M347...
MIL-DTL-26500	M2426..., M2761...
MIL-DTL-38300 (Part of 26500)	M2426...
MIL-DTL-38999 Series I,II,III&IV	MS27..., D38999...,
MIL-DTL-5015 3400 Series Front Release	MS340...
MIL-DTL-5015 3450 Series Rear Release	MS345...
MIL-DTL-83723 Series III	M83723/61 and higher

Rectangular D-subminiature series	Part Number Starts with
Generic D-sub (Standard, High Density, Double Density)	D <shell size> <Pins> <Gender PSMF> as in DB25P, DB-25P, DB-25-P, DB-25M, DB-25-M, DE-9S but not DB-9S
Generic combo D	D as D13W3P in the form of D <combo insert arrangement> <with or without a "-" followed by gender PSMF>
Generic D (conforms to ITT PN's)	D <shell size> ignored letters <# of pins> <gender PSMF>
MIL-DTL-24308	M24308/... (recognizes slash listings for /02, /04, /06, and /08)
NASA 311 (GSFC Standard, high density, and Combo D)	311P40...
Cinch D*U Series	D<Shell size> U <pins> <gender P/S>
ITT Cannon D-Subminiatures	D*MAMM,D*MAMT, D*MAMY, D*MAMF, D*MAMFT, D*MAM,D*MAMR,D*MAMYT,D*U,D*A,D*AE where * represents the shell size
ITT Cannon Double Density D-Subminiatures	DR2D and 2D
Positronics Standard, High Density and Combo D	SD, SND, RD, ORD, SDD, DD, ODD, CBC, SCBC.
Souriau D-Subminiatures	D <Shell size> M or MF <pins> <gender P/S>

Notes:

1. Connectors with crimp/insertable contacts are included but connectors with soldered/fixed contacts are not included.
2. Connectors identified are not necessarily in production. They represent pin arrangement if they do exist in production.

Flat Jaw Inserts

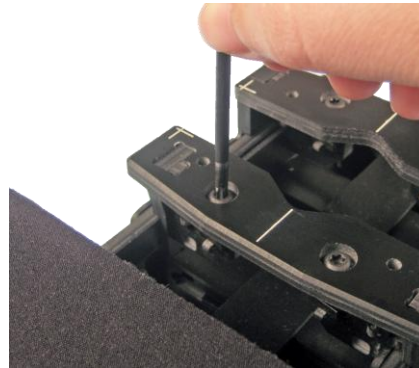
The Cirris Flat Jaw Inserts can be attached to the Pin-Sight Clamp for inserting square or rectangular connectors. If your Pin-Sight was build before December 2011, you must first replace the clamp (jaw) pieces with pieces that have been cut for the inserts.

To replace the jaws:

1. Using the Torx wrench provided, unscrew the two screws that hold one of the jaws in place, and remove the jaw.



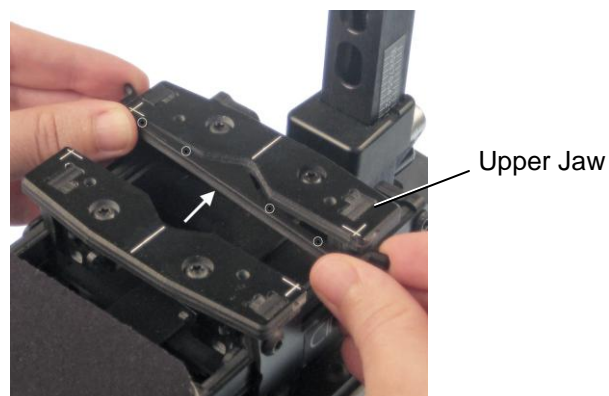
2. Screw one of the new jaws in its place lining it up with the other jaw.



3. Repeat steps 1 and 2 to replace the remaining jaw.
 4. Verify the camera alignment in the Pin-Sight software (correct the alignment if necessary. See “Aligning the Camera” on page 37).
-

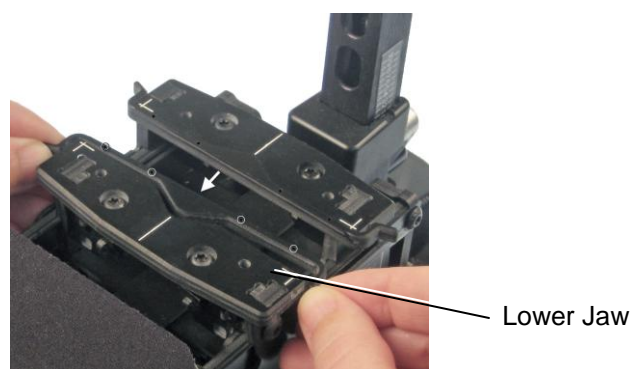
To attach the inserts:

1. Snap one of the inserts to the edge of the upper jaw.



Note: The side of the insert that has four small drilled holes must be facing up.

2. Snap the remaining insert to the edge of the lower jaw.



Note: The side of the insert that has four small drilled holes must be facing up.

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