Setting up the RTS Tool to communicate over WiFi with the QCX Controller.

Setting up the Wireless Router/Access Point

1. All Routers/Access Points are not the same, but the setup required to communicate with the RTS Tool is similar. See the Router's User Manual for instructions.
2. Plug your PC into one of the router ports. Log into the router from a web browser using the specified router default IP Address (PC Ethernet settings should be on the same network).
3. Below shows the necessary settings for the Router (and examples).
    a. Set **Router IP Type**, Static or Dynamic (Dynamic/DHCP).
    b. Select **Router Frequency**, Dual, 2.4 GHz or 5.0 GHz (2.4 GHz)
    c. Wireless Setup
        i. Create SSID Name (RTS_WLAN)
        ii. Create Password for this Network (RTSWIFI123)
    d. Wireless Security
        i. For example WPA/WPA2 – Personal (WPA2-PSK)
4. With these minimal settings, the router is setup to communicate with the RTS WiFi tool.

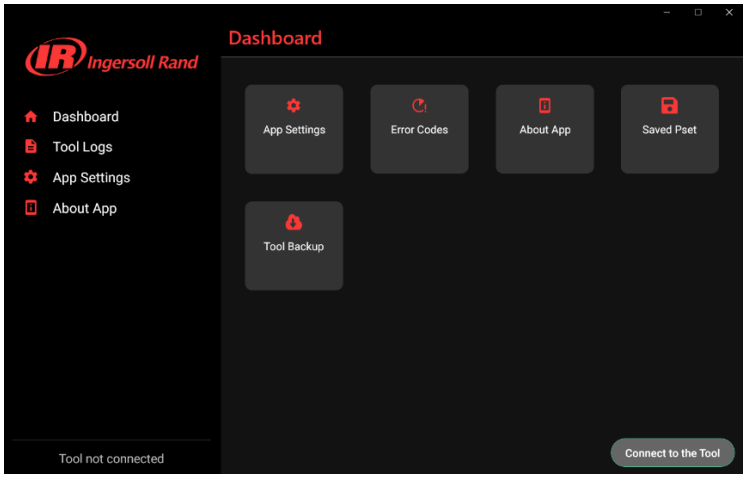
Note: Router, tool and controller should all have the same IP Type (DHCP or Static).

Note: For Advanced Network setup and troubleshooting tips see link: https://irtoolhelp.ingersollrand.com/hc/en-us/sections/31587920413843

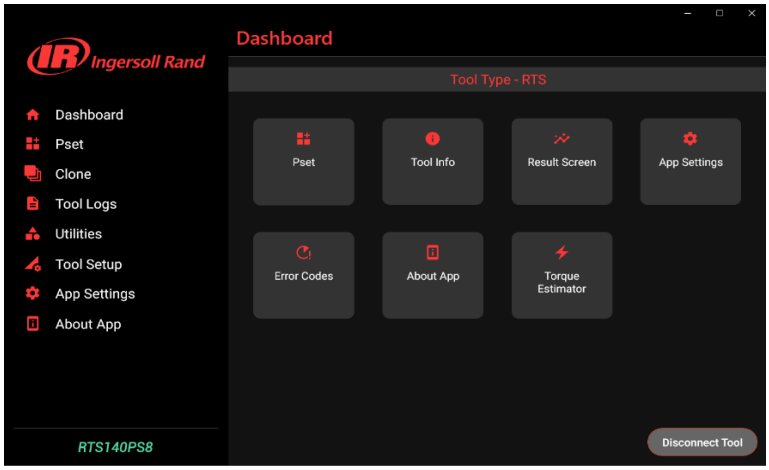
Programming the WiFi settings on the RTS Tool

The WiFi settings of the tool can be set using the INSIGHT Connect App (Desktop or Mobile App).

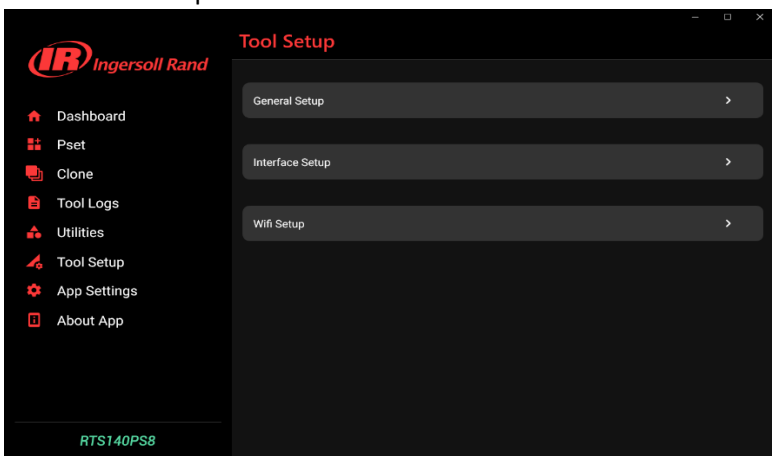
1. To setup the RTS Tool to communicate over the WiFi Network follow the steps below using the INSIGHT Connect Desktop App (same settings are available on the Mobile App).
    a. Open the INSIGHT Connect Desktop App.
        i. The App can be found here: https://irtoolhelp.ingersollrand.com/hc/en-us/articles/25600256116243--INSIGHT-Control-Latest-Global-Releases
    b. Connect the RTS Tool to the laptop using a USB cable.
    c. Click on the Connect to the Tool button at the bottom of the screen.



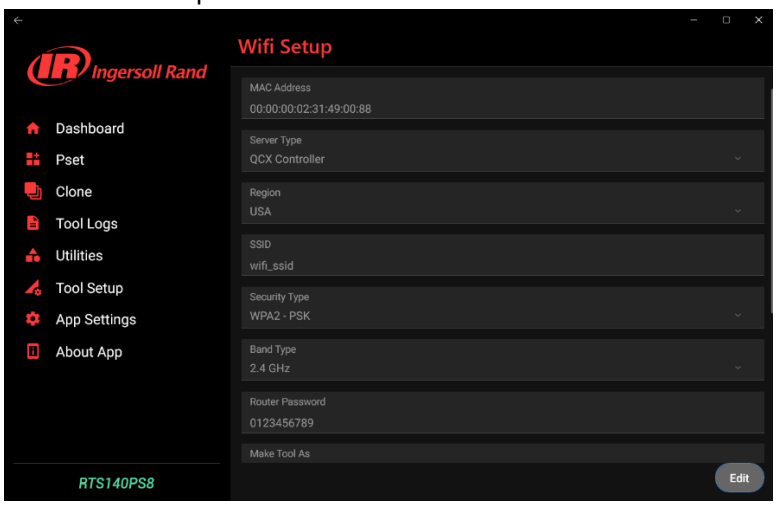
d. You will see the tool model in the bottom left and a Disconnect Tool button in the bottom right.



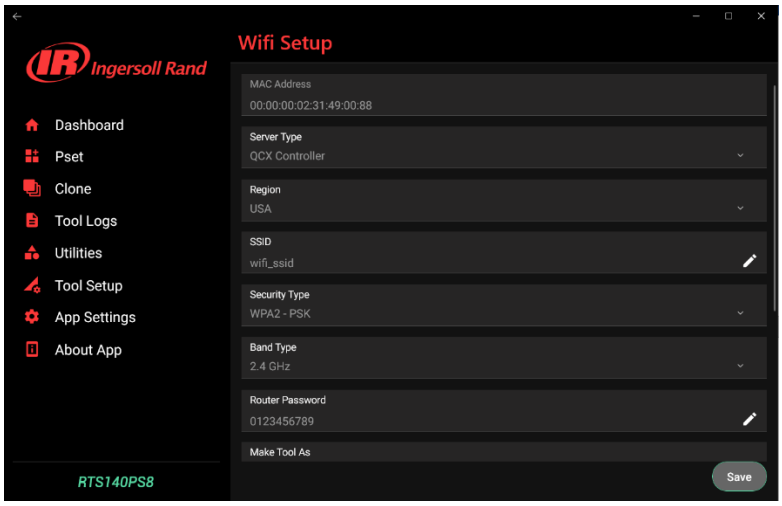
e. Select Tool Setup.



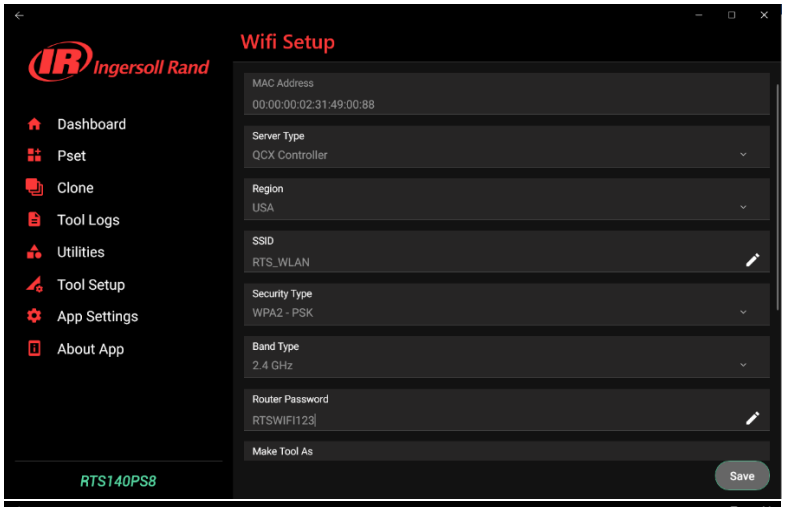
f. Select WiFi Setup.

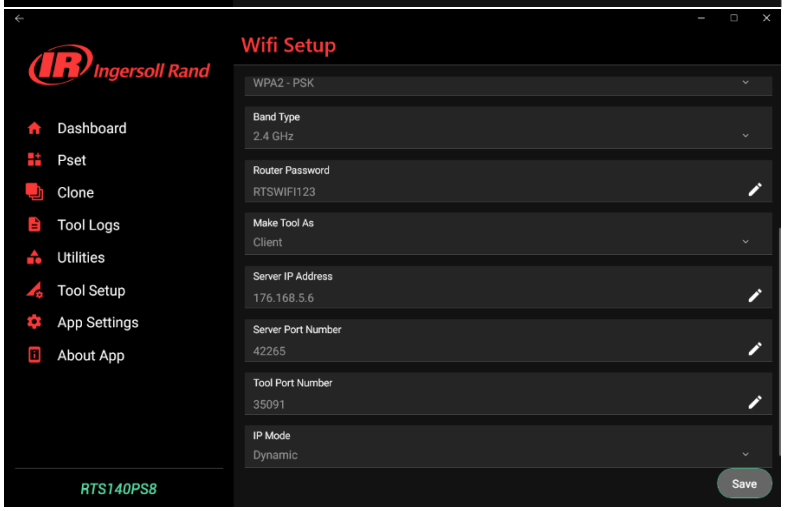


g. Select Edit.

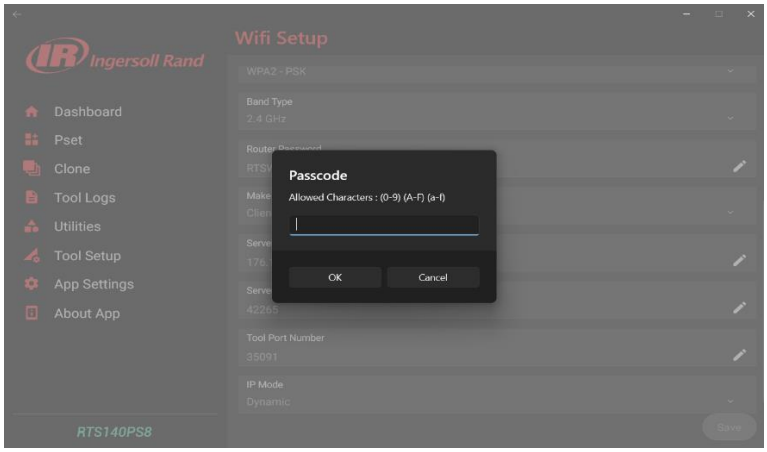


h. Enter the router WiFi settings (SSID, Password, Security Type, and IP Mode).

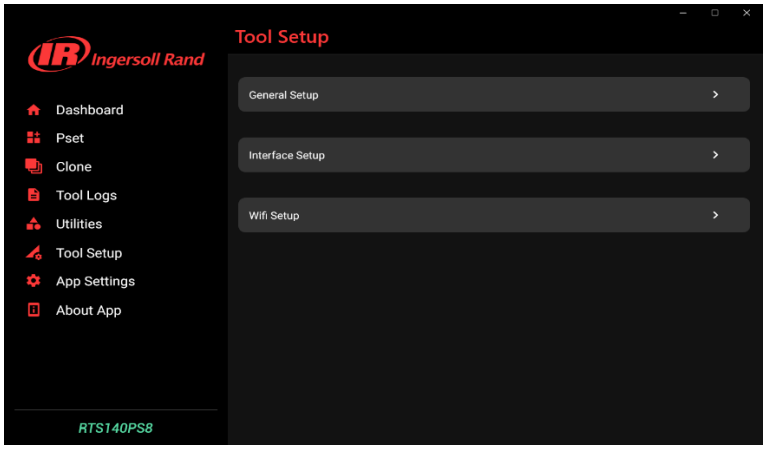




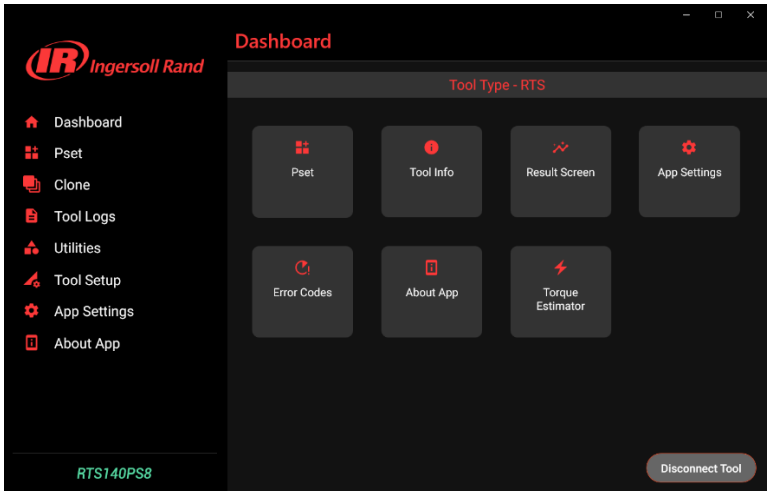
i. Click the Save button. You will be prompted for a Passcode. By default the Passcode is 0000.



j. Enter the Passcode and select OK.



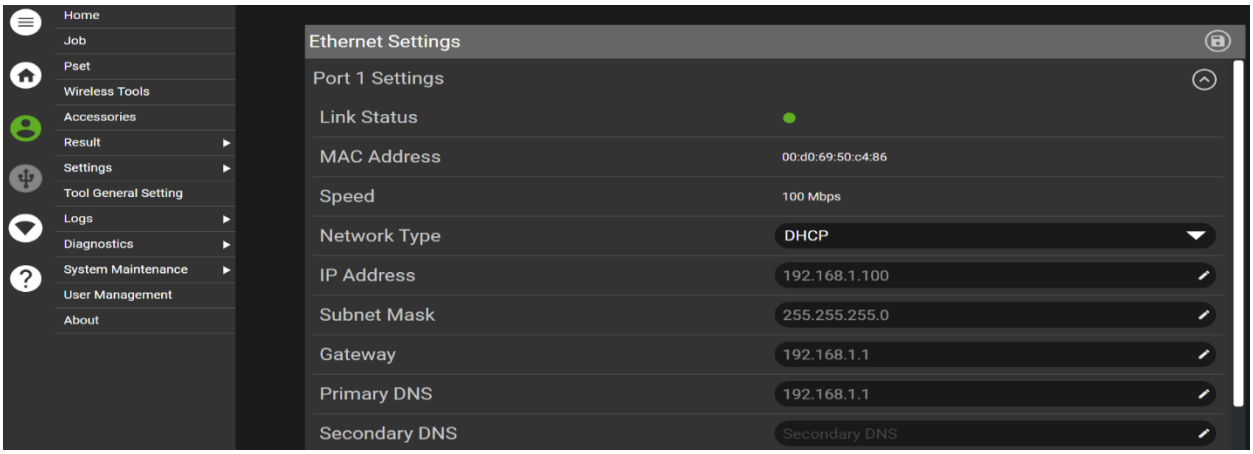
k. Select Dashboard.



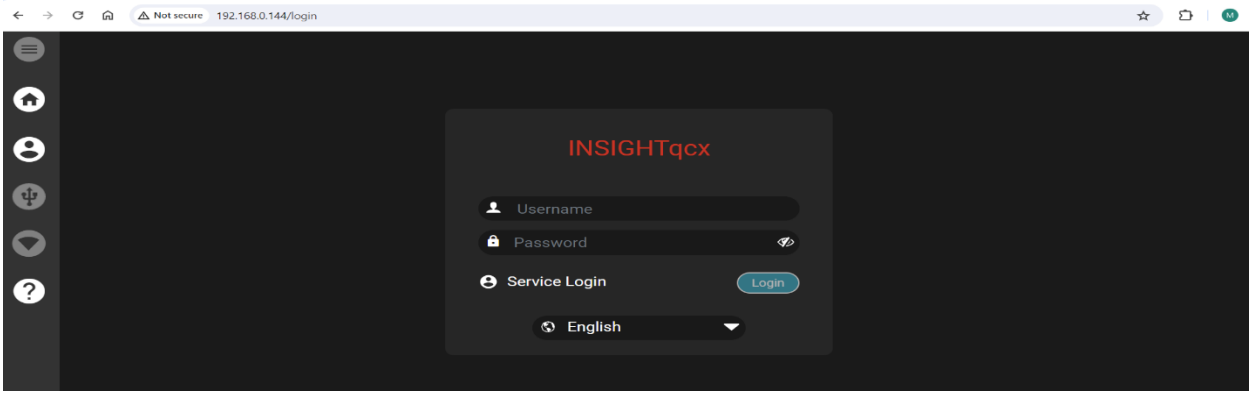
l. The tool is now setup to communicate on the WiFi Network. Select Disconnect Tool.

Pairing the RTS Tool to the INSIGHTqcx controller

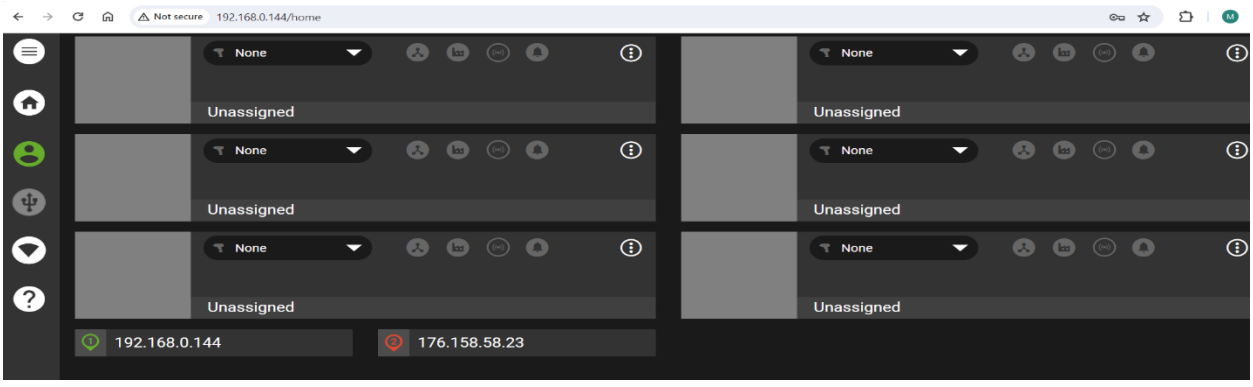
1. Log into the controller.
2. Go to Settings->Ethernet Settings.
3. Based on router settings, either enter a Static IP Address for Port 1 (ETH-0), or set the Network Type to DHCP.



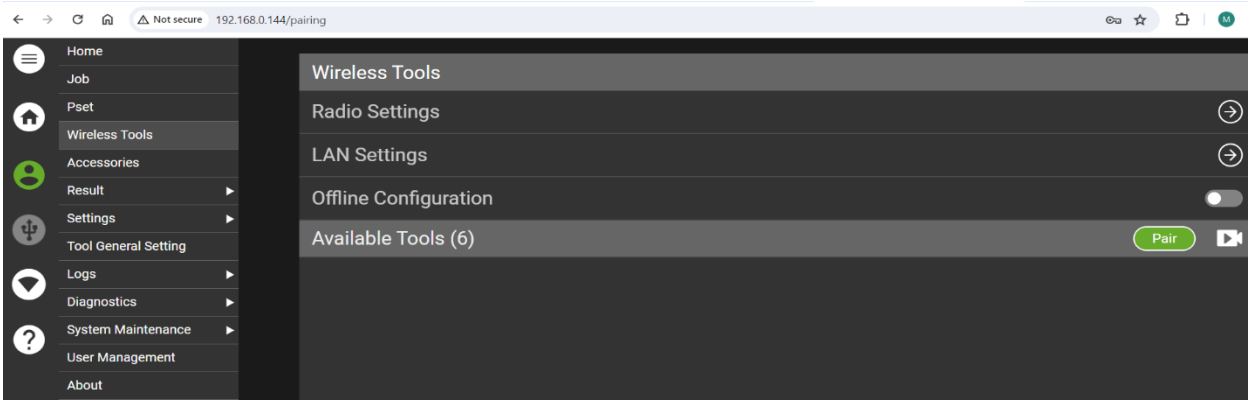
4. Turn off controller.
5. Ensure that the controller Ethernet Port 1 (ETH-0) is plugged into the router.
6. Power on the controller.
7. Connect your PC to the router (either using WiFi or an Ethernet cable).
8. Open a web browser and enter the IP Address of the controller.



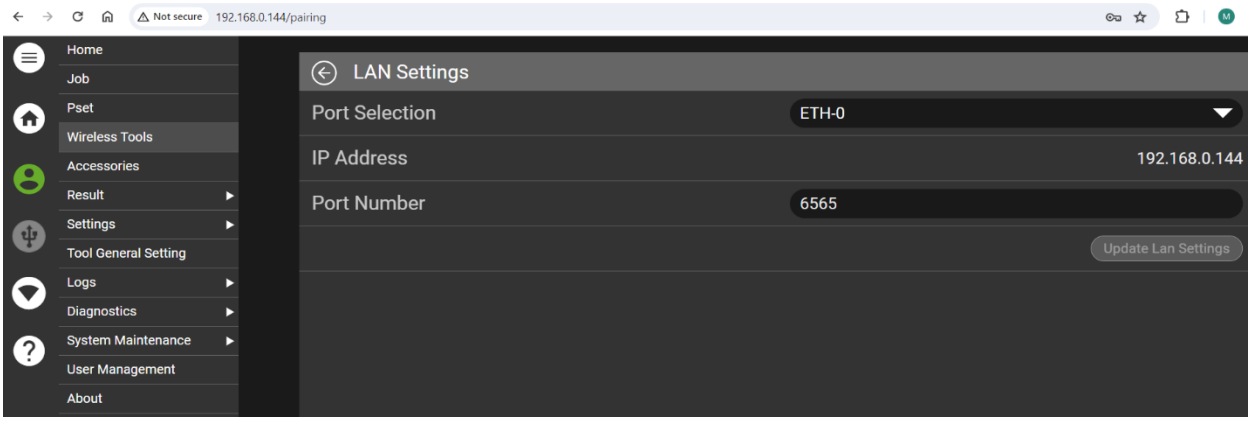
9. Log into the controller.



10. Go to Wireless Tools.



11. Go to LAN Settings and select the Port and Assign the Port Number.

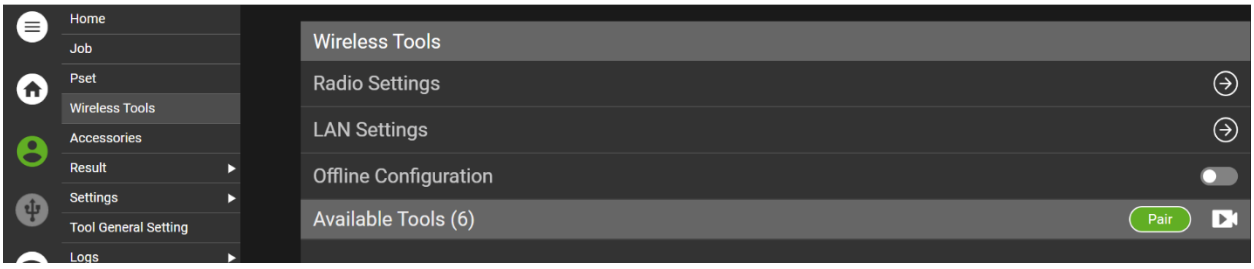


12. If changes were made, select the Update LAN Settings button.
13. Plug the tool into the controller with a USB cable. If prompted to update the firmware follow the on-screen instructions.
14. Once the tool is updated you can Pair the tool to the controller.
15. After the update remove the USB cable and battery.
16. Plug the battery into the tool. Press the button next to the Wireless icon to enter the Communication Selection screen. If prompted for a Password, the default is 0000.

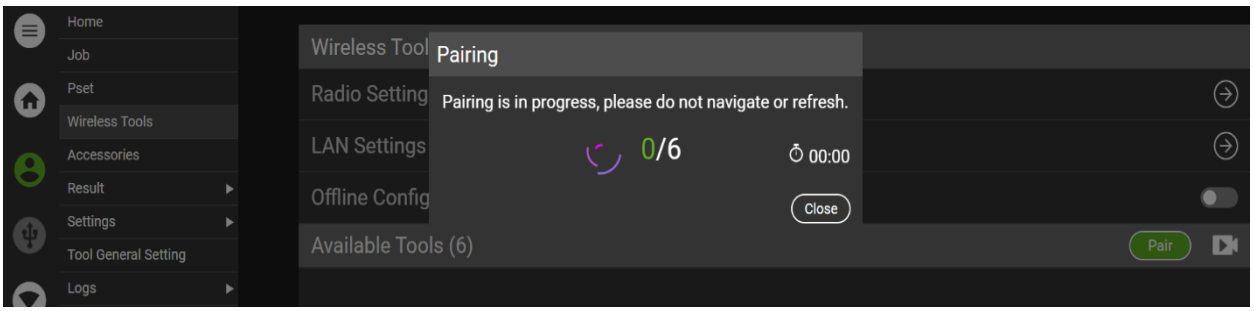
17. Press the button next to the return icon to navigate to the WiFi icon.

18. Press the button next to the Check Mark to put the tool into Pairing Mode.

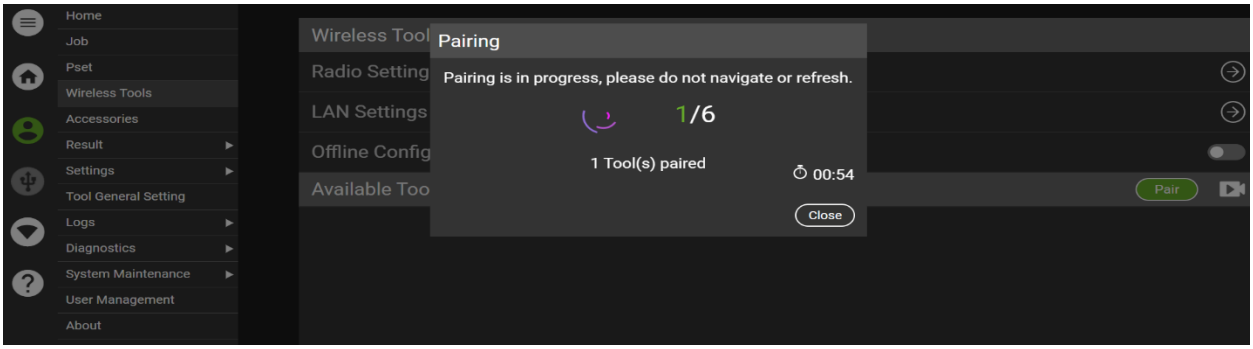
19. From the controller select Wireless Tools.



20. Select the Pair button.

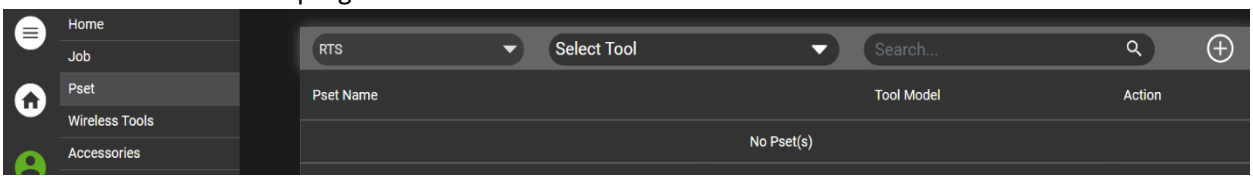


21. The controller will pair with the tool.

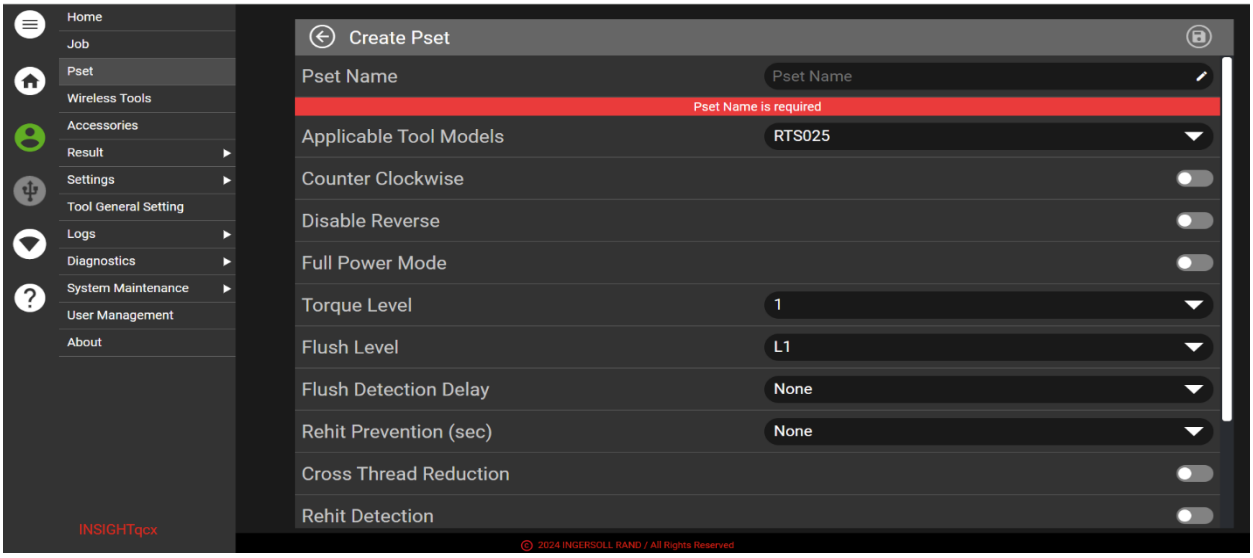


22. Select Close. You will see that the tool is communicating over the WiFi Network.

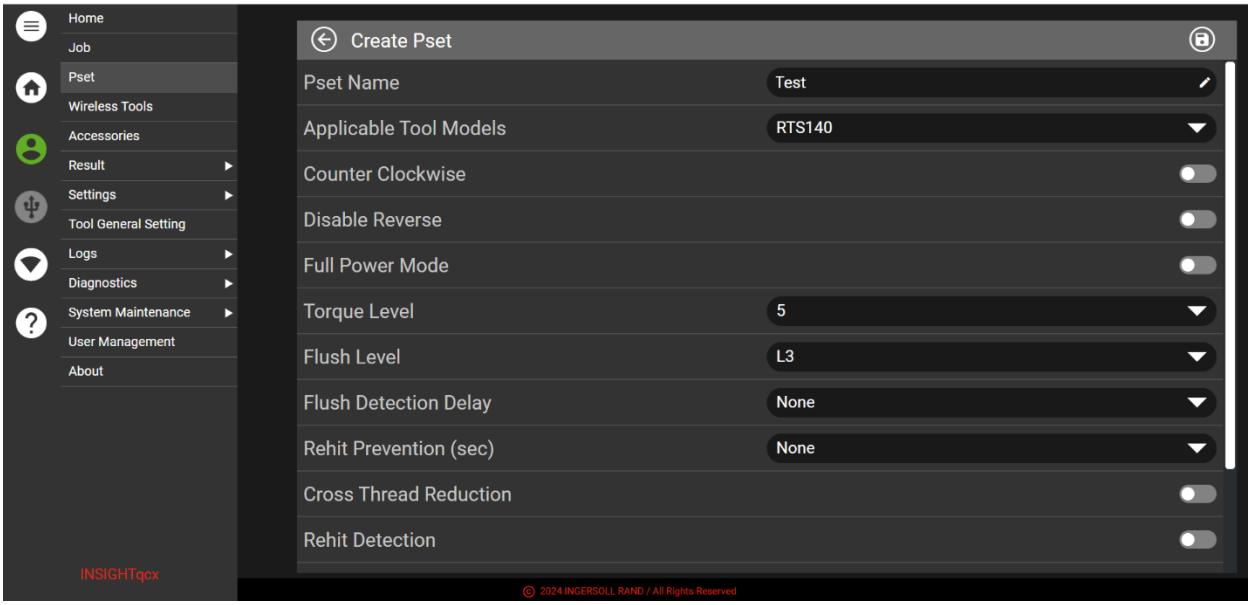
1. Go to the Pset screen to program the desired Pset Parameters.



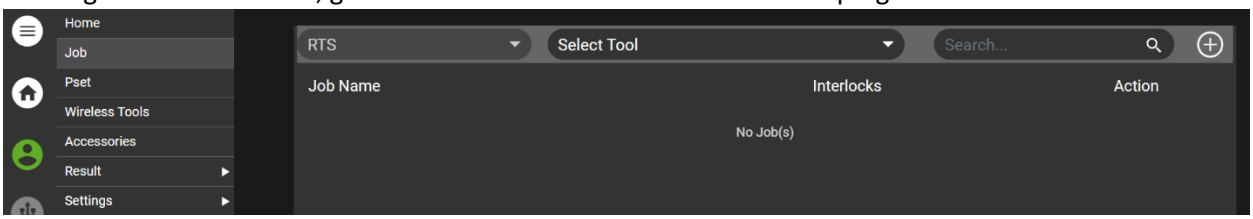
2. Select the + in the top right corner.



3. At a minimum, Pset Name, Tool Model, Torque Level and Flush Level should be programmed.

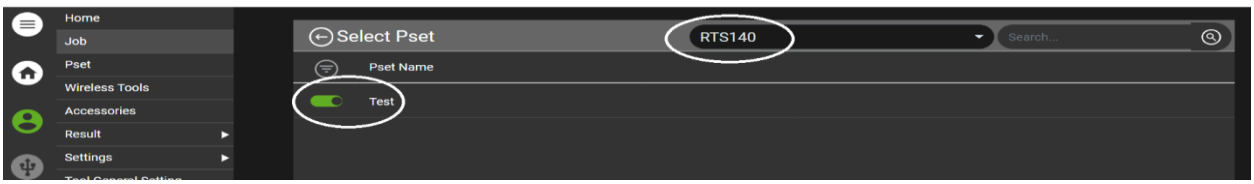


4. Select the Save Icon in the top right corner to save the changes.
5. To assign the Pset to a Job, go to the Job screen. Select the + in the top right corner.

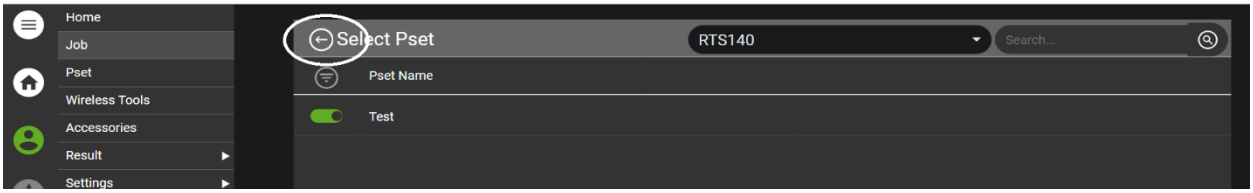


6. Assign a Job Name and on Select Pset(s) select the +.

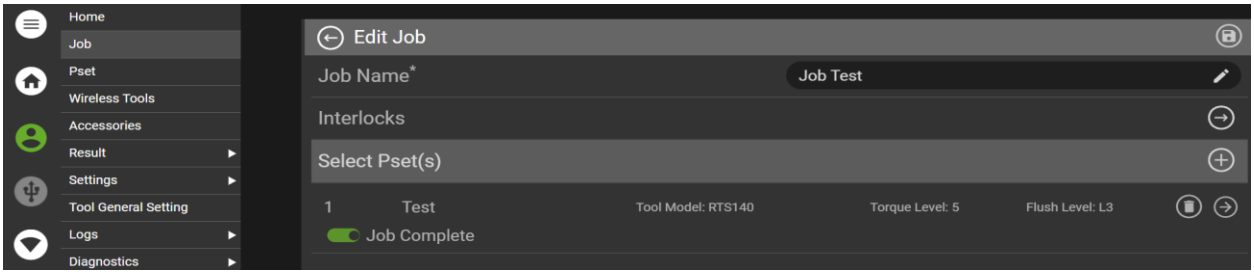
7. Select the desired tool model and assign the Pset.



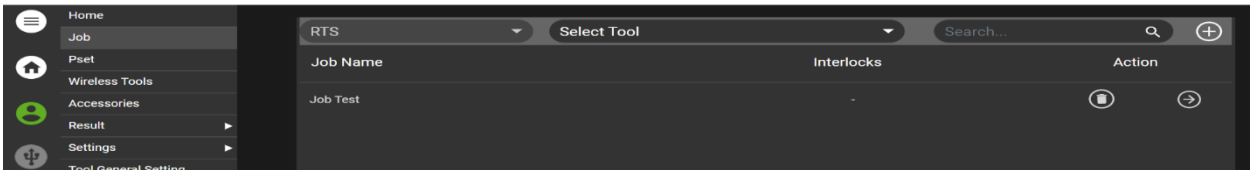
8. Select the back arrow.



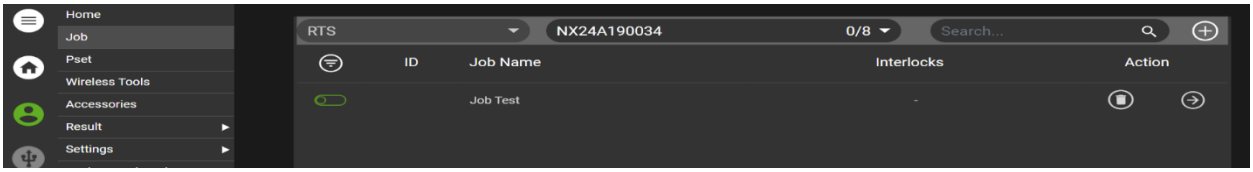
9. Select the Save icon to save the Job settings.



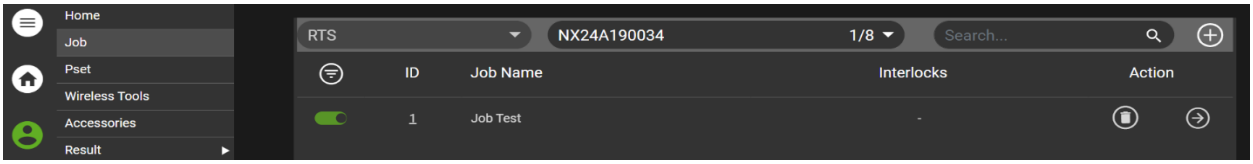
10. You will see this screen.



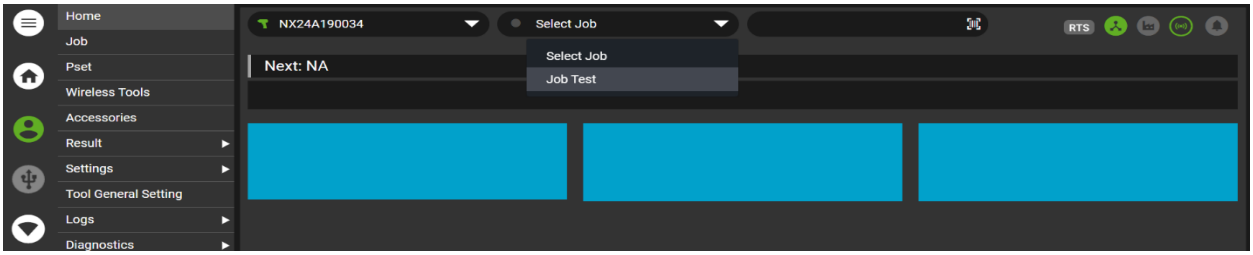
11. Select the tool.



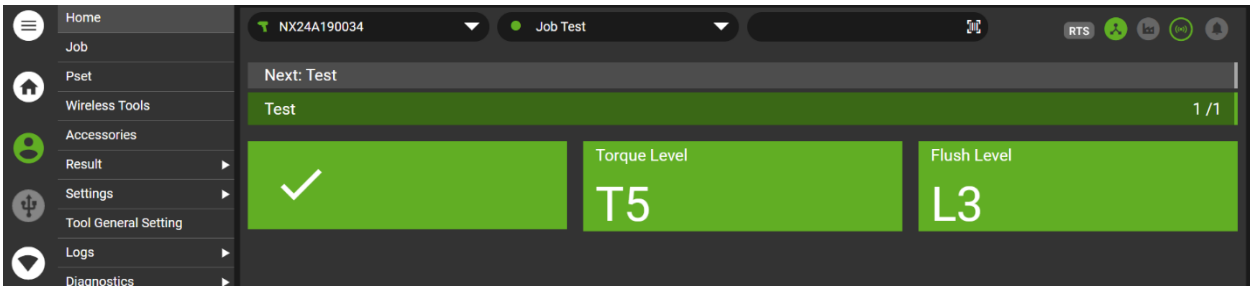
12. Assign the Job.



13. Go to the Home screen and the Job will be available in the Drop Box. This is the case as long as the Job Selection Mode is Internal Controller on the Tool Settings screen.

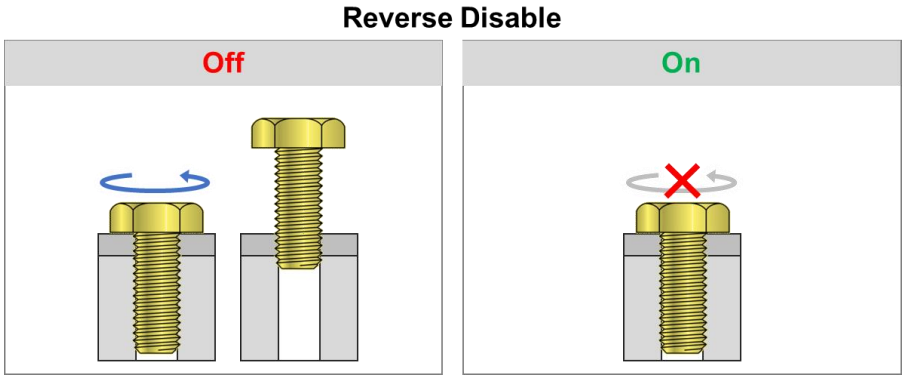


14. The tool will run the selected Job.



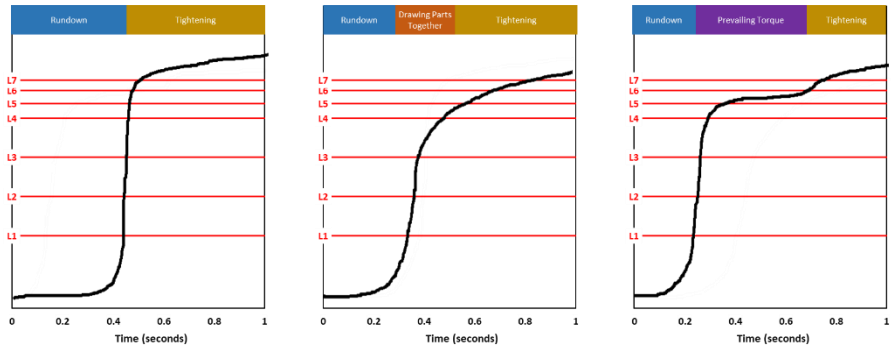
15. Below are some useful definitions.
    a. **Reverse Disable** – The tool only operates in the tightening direction.

    Why it is useful: In some production environments, operators are instructed to only install fasteners, and never to remove or rework fasteners themselves. When Reverse Disable is on, the tool only operates in the tightening direction, thereby eliminating the opportunity for it to be used for fastener removal or rework.

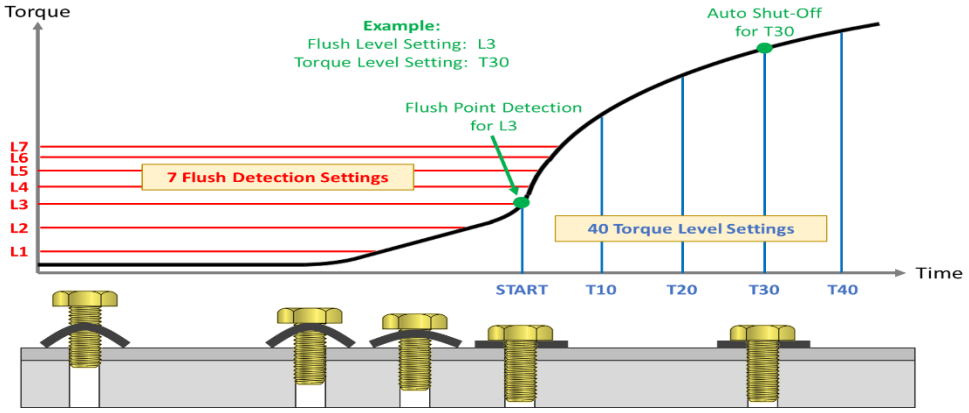


    b. **Full Power Mode -** When enabled, the tool will run in full power. Upon disabling the feature, user can setup the Pset configuration.

    c. **Flush Level Setting (L1 – L7)** – This setting is the level of sensitivity used for determining when the flush point has been reached. Since all joints are different, there are 7 options available to choose from, so that the tool's determination of flush point may be best aligned with the actual joint behavior.
        i. L1 - L2 have the lowest sensitivity and are the least discriminating to reach. They are best for hard joints and joints that reach the snug point immediately following the completion of rundown.
        ii. L3 – L5 have medium sensitivity. They are best for softer joints and joints that involve drawing parts together.
        iii. L6 – L7 have the highest sensitivity and are the most discriminating to reach. They are best for joints that must overcome high prevailing torque prior to arriving at the snug point.



d. **Torque Level Setting (T1 – T40)** – This setting is the duration after flush point detection during which the tool delivers pulses of torque to the fastener before automatically shutting off. There are 40 options to choose from, so that the tool's delivered torque may be best aligned with the torque that the application requires.



e. **Flush Detection Delay** – The tool delays flush detection for the specified period of time at the beginning of a cycle.

Why it is useful: If there are loads on the fastener prior to it becoming seated, those loads may cause the flush detection algorithm to enable prematurely. When it is known that flush detection is not to occur until after a specific period of time, setting the Flush Detection Delay to that time will disable flush detection until the time has elapsed.

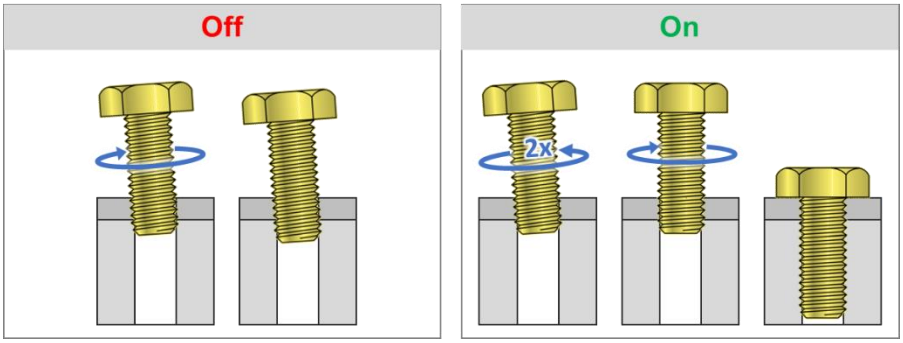
f. **Re-Hit Prevention** – The trigger is disabled for a specified period of time following the completion of each tightening.

Why it is useful: When tightening a series of fasteners in rapid succession, an operator can fail to advance to the next fastener and attempt to tighten the same fastener twice. When it is known that advancing to the next fastener should take at least a specific period of time, setting Re-hit Prevention to that time can help to prevent a re-hit condition.

g. **Cross-Thread Reduction** – The tool turns two revolutions in the loosening direction prior to executing a tightening, for better thread alignment.

Why it is useful: With some applications, running a fastener in the loosening direction prior to a tightening can help reduce the risk of cross-threading, by burnishing the first threads in the joint and giving the operator the ability to take control of the thread alignment.

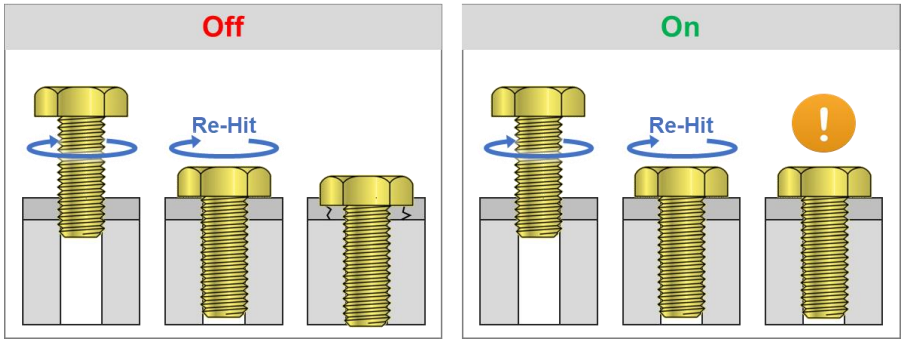
Cross-Thread Reduction



h. **Re-hit Detection** – The tool immediately shuts off and shows a cycle-fail indication if it senses that there is high load on the fastener at startup, which could indicate that the fastener was previously tightened or has been cross-threaded.

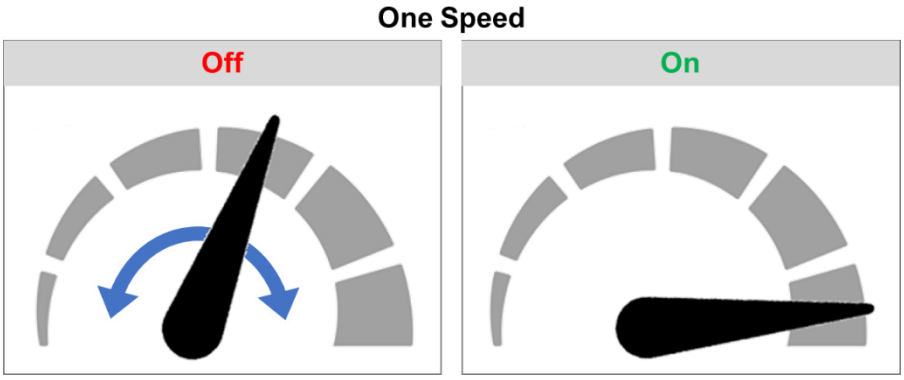
Why it is useful: During a common fastening, there is a period of rundown during which the fastener normally encounters very little resistance. If high resistance is encountered when it is not expected, it could mean that the fastener was previously tightened or that it has been cross-threaded. With Re-hit Detection enabled, the tool shuts down when high resistance is sensed and gives indication to the operator that the fastener needs attention.

Re-Hit Detection



i. **One Speed** - The tool operates at full speed only.

Why it is useful: Repeatability is maximized when fasteners are tightened exactly the same way every time. One Speed provides assurance that the tool only operates at full speed, so that there is no opportunity for variation to be introduced by teasing the trigger.



j. **Soft-Start** – Tool speed ramps up more gradually at the beginning of a cycle.

Why it is useful: The gradual speed increase of soft start can provide the operator with more control for getting fasteners started.