

SPIROL[®]

PIN INSTALLATION TECHNOLOGY

Model CR Semi-Automatic Pin Inserter

This robust, vertical pin insertion machine is ideally suited for moderate to high production for applications requiring up to 1,800 lbs. of installation force. A retractable pin orientation head, mounted on a shaft/linear bearing arrangement moves up and down for ease of loading and unloading of the components to be assembled. The insertion bushing is positioned close to the part for smooth, trouble free installation.

The orientation head shuttles the pin from the feeding position to the installation position, and also functions as a selector, preventing longer or shorter pins from being installed. A two position trap door allows for easy clear-out of the feed tube.

Design Features/Benefits:

- Precise:**
- Fine insertion depth adjustment
 - Doweled component location
 - Ground base plate to ensure perpendicularity between insertion quill and application
- Built to Last:**
- Cushioned cylinder return stroke
 - Hardened pin guide bushings and hard coated vibratory feeder bowl
- Versatile:**
- Can be easily configured to accommodate a variety of applications
- Efficient:**
- Automatically delivers pin to the installation site eliminating the need to touch the pin during entire assembly process
- Safe:**
- Guarded pinch points and anti-tie down, anti-repeat dual activation sensors (or optional foot switch with integrated finger protection unit)

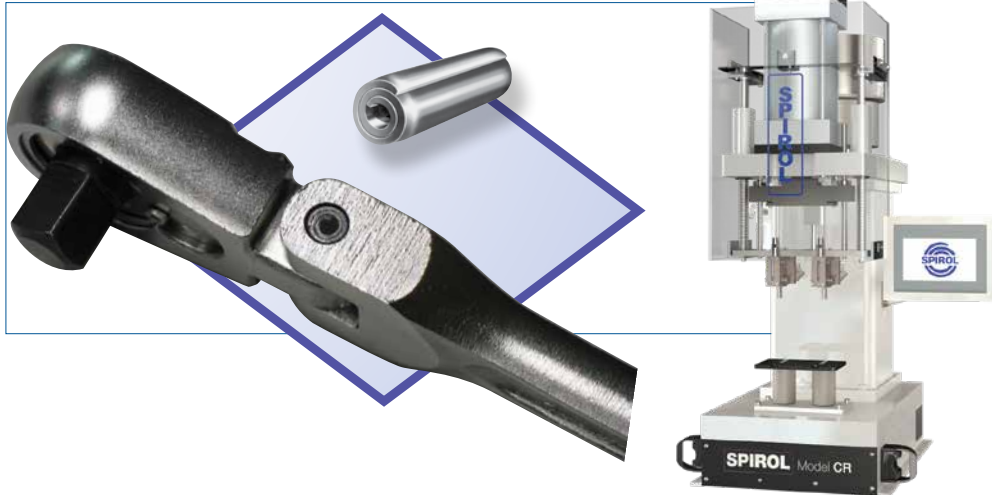
Optional alignment fixtures available.

Guard is standard with all machines

Shown with optional fixture



Dual and triple versions of the Model CR are readily available to suit your assembly objectives. Options such as rotary index tables, pin sensing, force monitoring, and drilling and pinning combinations can be added for enhanced productivity and heightened error-proofing.



Application:

A major manufacturer of hand tools was experiencing difficulty installing an Ø8mm Solid Grooved Pin into a pivot joint of a Flexible Head Ratchet tool. The tolerance on the diameter of the hole resulted in the Grooved Pin either being too difficult to install, which required time-consuming secondary effort, or too easy to install, which resulted in a pin retention issue during use. The previous method of assembly consisted of manually placing the Grooved Pin in the hole, loading the assembly into a press, and activating the press ram. This assembly process took approximately 15 seconds, and the scrap rate approached 5%.

Solution:

SPIROL's Application Engineers recommended that the Solid Pin be replaced with an Ø8mm **Heavy Duty Coiled Pin**. The Coiled Pin's design enables it to absorb the wide hole tolerance without any adverse effects on performance. In addition, the unique characteristics of the Coiled Pin provides enough strength to withstand the forces generated during use, and the flexibility to absorb repetitive loading. The Coiled Pins are installed with **SPIROL**'s standard **Model CR Automatic Pin Inserting Machine**. The operator simply loads the assembly into a fixture, and then touches the dual optical actuation switches. Once the machine is activated, the insertion head advances, installs the pin, retracts and resets for the next cycle. This process is completed in only 5 seconds.

SPIROL provided the complete assembly solution. The reduction in assembly time and scrap paid for the machine in eight months.

SPIROL offers complimentary Application Engineering support. We will assist on new designs as well as help resolve issues, and recommend cost savings on existing designs. Let us help by visiting **Application Engineering Services** on SPIROL.com.

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