

SPIROL®

PIN INSTALLATION TECHNOLOGY

Model SG Semi-Automatic Dual Pin Inserter

Geared to the Safety Glasses industry, this time tested, proven reliable machine installs a self-locking pin developed by **SPIROL** into the assembly. This innovative pin, called the **Twist-Lok™ Pin**, replaces commonly used threaded screws as the hinge pins in the temples of the glasses. Screws are generally known to be more expensive, difficult to install, and subject to working their way out of the holes. **SPIROL® Twist-Lok™ Pins** are simply pressed into the holes, and they create a tight hinge connection that will not work itself loose over time.

The machine is lightweight, portable, low-cost and features simple head center distance adjustment to accommodate different width glasses.

Design Features/Benefits:

- Accurate:** - Fine insertion depth adjustment
- Reliable:** - Integral pneumatic valve activation with fixture locking device
- Simple:** - Maintenance-free pneumatic logic controls
- Customizable:** - Custom fixture design for accurate placement of parts and precision alignment of multiple component assemblies
- Versatile:** - Feeds multiple lengths of **SPIROL® Twist-Lok™ Pins** with no adjustment required
- Adaptable:** - Easy adjustment of centerline distances to accommodate different applications

Simple Operation:

1. Place Safety Glass lens frame and temples into fixture
2. Push fixture forward to activate machine
3. Pin Inserter simultaneously installs two Twist-Lok™ Pins
4. Withdraw fixture and unload the finished assembly

Optional alignment fixtures available.



SPIROL® Twist-Lok™
Headed Knurled Pins

Manual and other automated machines are also available from SPIROL.



Application:

A global manufacturer of safety equipment was producing a line of molded plastic safety eyewear that specified Phillips head screws as the hinge pivots in the folding arms. Installing the screws was a tedious process, and the proper torque was critical to the proper “feel” of the hinge. If installed too tightly, the hinges were difficult to open and close. If they were too loose, the eyewear would not remain secure and comfortable on the wearer. In addition, repetitive opening and closing of the hinges resulted in the screws loosening and falling out of the assembly. In this highly competitive industry, this manufacturer needed to reduce cost and improve product quality.

Solution:

A **SPIROL Twist-Lok™** solid, headed, **Helical Knurled Pin** was designed to be pushed into the same molded hole that accepted the screw. The helical knurl rotates as it enters the bottom hole which pulls the individual hinge components together creating the perfect “feel” and function of the assembly. This feature also allows the arms to be opened and closed indefinitely without concern of failure. Its smooth round head is visually appealing, improving the perceived quality of the product. A standard **SPIROL Model SG Dual Automatic Pin Inserter** is used to simultaneously install both pins into the assembly. The pins are bulk loaded into a feed bowl where they are oriented and delivered to the pinning site. The operator loads the assembly into a holding fixture, and slides it under the insertion heads. Integral activation signals the unit to install the pins and reset. This solution increased the rate of assembly by 400%, eliminated screw walk-out, and improved the product’s appearance and function.

The result is the lowest total installed cost fastening system.

SPIROL Application Engineers will review your application needs and work with your design team to recommend the best solution. One way to start the process is to select **Installation Systems** in our **Optimal Application Engineering** portal at www.SPIROL.com.

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