

# SPIROL®

## INSERT INSTALLATION TECHNOLOGY

### Model HP Pneumatic Heat Insert Driver

The **SPIROL Model HP Pneumatic Heat Insert Driver** provides an accurate and consistent method to install virtually any type of Heat/Ultrasonic Style Insert into thermoplastic assemblies.

As much as 75% of an Insert's performance is the direct result of how well it was installed. Therefore, in order to maximize performance, all of the factors that impact installation must be carefully controlled. **SPIROL's** Model HP Pneumatic Heat Insert Driver has been designed to eliminate the dependency on the operator to control the factors of time, temperature and pressure to ensure nearly perfect flow of the plastic for optimal retention and performance.

To operate this machine, the operator loads a plastic moulded component into a fixture, and then places the Insert into the hole of the plastic boss. The operator activates the machine by simply touching the dual opto-touch sensors. The heated tip advances until the Insert is melted into the component to the preset depth. The orientation head retracts, and the operator safely unloads the completed assembly.

#### Design Features/Benefits:

- Reliable:** - Easily adjustable temperature setting with Hi-Low temperature lockout for optimal melt and flow of plastic
- Easy set timer for installation quality and consistency
- Safe:** - Guarded pinch points and ergonomically correct zero-force optical sensor actuation with anti-repeat, anti-tie down feature
- Quiet:** - Silent operation eliminates the harsh noise associated with ultrasonic installation methods
- Accurate:** - Micrometre style insertion depth adjustment for precise Insert positioning within the part
- Pneumatic operation, with pressure regulator and flow controls to precisely control the insertion force and speed
- Versatile:** - Installs Inserts ranging in sizes from M2 to M8 metric threads and from No. 2 to 3/8" unified threads
- Easily interchangeable heat tips for maximum versatility
- Can be easily configured to accommodate a variety of applications

*Guard is standard with all machines*

*Shown with optional fixture*



**Dual and Triple HP versions available to install multiple Inserts simultaneously.**

**Optional alignment fixtures available.**

*Manual and other automated installation machines are also available from **SPIROL**.*



### Application:

A manufacturer of automotive plastic electronic modules was experiencing installation problems with an Insert, as well as insufficient performance of the Insert during assembly of the mating component. Each time an Insert was installed incorrectly the assembly had to be discarded. Assemblies were also scrapped if the Insert rotated in the plastic while tightening the bolt used to fasten the assembly together. The plastic housing is comprised of 30% glass filled Nylon, and there are four Inserts, one in each corner of the plastic assembly.

### Solution:

**SPIROL** Engineering recommended the use of a **SPIROL Series 29** symmetrical brass Insert and a standard **Model HP Dual Pneumatic Heat Insert Driver** to install two Inserts at the same time into the plastic housing. The operator loads the plastic housing into a fixture, and places two Inserts into the top of the moulded holes. Upon activation, the insertion head advances, two heated tips engage with the two Inserts and heat is transferred until the Inserts reach the melt temperature of the plastic. The machine smoothly and consistently pushes the Inserts into place, and then retracts and resets. The operator slides the fixture forward, and repeats the process to install the final two Inserts. The completed assembly is removed and the next one loaded.

By using heat and installing two SPIROL Inserts simultaneously, assembly time has dramatically improved, and scrap has been virtually eliminated.

**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.ca](http://SPIROL.ca).

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