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WHITE PAPER

How to Remove a Coiled Spring Pin

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Unlike Solid Pins that immediately damage the hole upon installation, Coiled Spring Pins are serviceable fasteners and can be removed with no damage to the host components - if done properly. However, the level of difficulty for pin removal varies significantly by hole type. Coiled Pins in through-holes are simple and quick to remove. Conversely, there are limited options available for removing Coiled Pins from blind holes.

Coiled Spring Pins are available in light, standard, and heavy duty.

THROUGH-HOLE REMOVAL

In assemblies with through-holes, Coiled Spring Pins can be removed easily and quickly. First, determine the hole diameter. Next, locate a pin punch with the same nominal diameter. The punch must have a flat, square end and a consistent diameter throughout. Under no circumstances should the diameter at the end of the punch that contacts the pin be any smaller than the diameter of the outermost coil of the Coiled Pin. Insert the punch into the hole and then carefully advance the punch with a hammer or press until the Coiled Pin exits the other side. If done properly, the assembly will not be damaged and the pin can be installed back into the assembly after the components are serviced. Although effective for Slotted Pins, do not use round ball end punches to remove Coiled Pins. See *Figure 1* below.

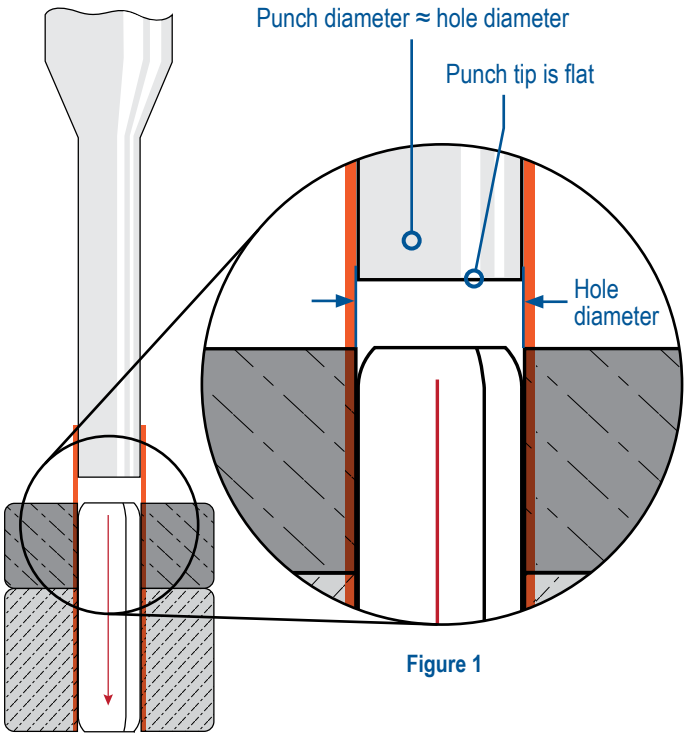
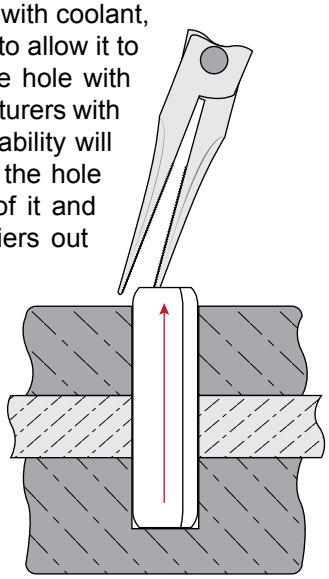


Figure 1

BLIND HOLE REMOVAL

Assemblies with blind holes present significant challenges. While there are many approaches to pin removal with varying levels of success, the most effective removal method is to utilize an electrical discharge machine (plunge EDM). In some applications, drilling into the axis of the pin, if done carefully and with coolant, may remove enough of the pin to allow it to be manually "picked" out of the hole with pliers. In some cases, manufacturers with blind holes that require serviceability will use a pin that stands proud of the hole so that they can grab a hold of it and pull the outer diameter with pliers out of the hole.



CONCLUSION

Designers should consider the serviceability requirements of their assembly and optimize the design of the host components accordingly. Consideration must not only be put on the ease of pin installation but also on the ease and ability to remove the pin.

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