



Haydon Kerk 3DP Leadscrew-Nut Insert Boosts Accuracy of 3-D-Printed Prototypes

Waterbury, CT and Milford, NH, JANUARY 10, 2018— Haydon Kerk, a business unit of AMETEK Advanced Motion Solutions, now offers 3DP, a 3-D-printed leadscrew-nut insert prototype service as a way for machine builders to verify linear-motion design iterations quickly and more accurately.



Engineers typically do not have access to 3-D printers to do this prototyping. Instead, most of them contract with a third party to get quick turnaround on parts. With Haydon Kerk 3DP prototyping services, machine builders can now get help with this type of design verification.

Even in instances in which design engineers do have access to 3D-printing machines, parts produced by such machines are often unsuitable for motion-axis verification. That's because a major challenge in motion control (particularly leadscrew assemblies in which one surface slides on another) is the materials commonly available for additive manufacturing aren't designed with tribology that is suitable for power transmission.

Those materials commonly exhibit high friction and poor wear characteristics because they are primarily formulated for mechanical or part-geometry stability. Useful prototyping of a leadscrew-driven axis, however, relies on accurate simulation of the leadscrew-nut assembly's tribological performance, as this directly impacts power consumption and anticipated life.

Development engineers and original equipment manufacturers who are testing new machine builds with leadscrew-driven axes can now order the Haydon Kerk 3DP leadscrew-nut inserts in any quantity directly from www.haydonkerkpittman.com/3DP or by consulting with Haydon Kerk application specialists to identify 3DP products that satisfy anticipated thrust loads, linear speeds, and required resolution.

The leadscrew-nut inserts have a threaded interior (with a high-efficiency thread form) and a hex-shaped exterior to embed into flanged nut bodies or into more-complex 3D-printed prototype assemblies. In addition to the hex shape, which radially locks the insert into the nut body or assembly, each insert also includes a ring groove that (with adhesive) axially locks it into place.

The 3DP nuts support OEMs that use additive manufacturing for short lead times. These nuts are made of advanced materials that are engineered explicitly for production-part performance. That means the nuts transmit power in a way that's more representative of how standard volume parts will operate under load, which in turn boosts design-verification accuracy.

Currently, Haydon Kerk offers the 3DP nut inserts in a lubricated polyacetal or a proprietary Kerkite KN30, a self-lubricating, high-performance engineered polymer.

OEMs that ultimately arrive at a successful design iteration after use of 3DP inserts may then source their production leadscrew components from Haydon Kerk in bulk quantities — in forms that include nuts machined from the same composite material as the 3DP offerings or (for higher volumes) custom nut components molded as complete monolithic plastic pieces, with metal features overmolded into the design where needed. For more information on the Haydon Kerk 3DP nut-insert offering, visit www.haydonkerkpittman.com/3DP.

About Haydon Kerk Motion Solutions Inc.

Haydon Kerk Motion Solutions is a business unit of AMETEK, Inc., a leading global manufacturer of electronic instruments and electromechanical devices with annual sales of \$4.0 billion.

Haydon Kerk Motion Solutions is the joining of two world-class brands in the field of linear motion: Haydon Switch and Instrument, Inc. and Kerk Motion Products, Inc. Together as Haydon Kerk Motion Solutions, the businesses offer a wide range of high-performance and precision linear motion products.

Recognized as a leading manufacturer of stepper-motor-based linear actuators, rotary motors, lead screw assemblies, and linear rail and guide systems used in niche market applications, Haydon Kerk Motion Solutions has developed industry-renowned brands built upon its technical innovation, versatility, customization, product durability, and dedicated customer service.

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ACCOMPANYING IMAGE: 3DP 3-D-printed-lead-screw-nut insert-from Haydon Kerk offers accurate prototyping molded lead screw nut

IMAGE CAPTION: Haydon Kerk 3DP lead-screw-nut prototype services help OEMs leverage additive manufacturing with top-performing lead-screw-nut materials to quickly test linear-motion axes on new machine builds. Fast execution of product updates and validation tests help shorten the design cycle and speeds product launches to market.

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