

# Providing technical knowledge support

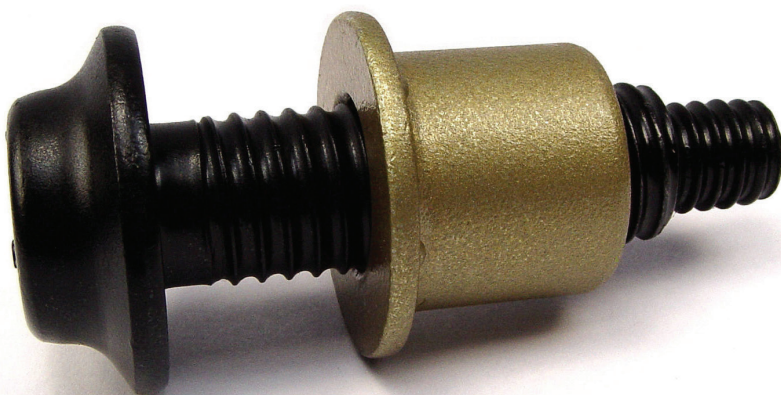
As a distributor in today's market it is not enough to simply supply a product, you need to be able to offer something unique. Thanks to its technical knowledge and flexibility, Star Fasteners can suggest exclusive solutions for specific applications, as well as work on bespoke products for critical applications. Here Director Daniel Starbuck talks about the capabilities of vibration resistant, direct-tension lockbolts.

**F**or years, welding was seen as the only way to ensure the integrity of joints in demanding load-bearing or high-vibration structures. So, companies manufacturing heavy-duty equipment or fabricating large, metal structures continued to employ the universally accepted process of welding joints together. However, today there are alternatives to welding, one of the foremost being direct-tension installed, swaged lockbolts.

Manufacturers of heavy equipment are now actively investigating the possibility of using direct-tension lockbolts in their assembly process. Even taking into consideration the need to preparing hole, installing a lockbolt is significantly faster than welding a joint. A quick visual inspection is all that is required to confirm the accuracy and quality of the installation. Also, an operator requires a minimal amount of training in order to be proficient in their installation.

The pin of a lockbolt is simply inserted into the prepared hole and the collar can either be placed straight onto the pin, or for a pre-installed assembly can be spun by hand onto the pin. When the installation tool is applied, and the tool is activated, the action of the puller engaging onto the pin, together with the anvil swaging the collar, completes the installation. The swage and eject sequence is programmed to complete the cycle without any additional installer input. The process ensures excellent gap closing capability.

These unique engineered fasteners, proven in such demanding applications as truck suspensions and chassis, railroad track crossings, and heavy defence vehicles, are now being used in a number of products and structures where welding was once the only option.



“As the UK's largest distributor of the Huck brand, Star Fasteners has a very close relationship with Arconic on designing products and we are very proactive in working with Arconic on new ideas.”

### High performance Huck® Lockbolts

Compared to conventional nut and bolt installations, which can loosen in high-vibration environments, Huckbolt® lockbolts have proven to be impervious to the effect of vibration in a number of very demanding applications. The secret to this performance difference can be found in the unique Huckbolt design, in which the collar is fully swaged into the locking grooves of the pin.

Huckbolts are precision engineered two-piece fasteners that, once installed, no matter how vibration-intensive the environment, never come loose. Huckbolts provide direct metal-to-metal contact when installed, which eliminates the transverse vibration often found in conventional nuts and bolts. Engineered for a wide range of applications, Huckbolts deliver superior joining strength, shear, and tensile strength for an unmatched fastening solution.

Huckbolts can be effectively used with virtually any metal, and dissimilar metals with dissimilar coefficients of thermal expansion present no problems. Varying material thicknesses in a joint are readily accommodated, and surface finishes are not damaged. And most importantly, Huckbolts are proven to hold up over years of service in demanding high-stress, high-vibration environments.

### Huck BobTail® fasteners

A leading production within the Huck range is the Huck BobTail fastener, which is available in a wide range of sizes (up to 1-3/8 inch). It is a two-part fastening system that consists of a pin and a collar. These advanced fasteners are installed using a direct tension technique, in which the pin is pulled and the collar is simultaneously swaged into the locking grooves of the pin, deforming the collar into the grooves.

Declared by DIBt as 'maintenance free', the 12mm, 14mm, 16mm, 20mm and 1 inch diameter BobTail is approved to be used in both static and dynamic civil engineering applications (smaller and larger diameters are available by request).

The DIBt test confirmed that a BobTail is maintenance-free during the lifetime of the joint it is fastening, which is not the case when using traditional nut and bolt products. As a result, it can be integrated into a range of applications with complete confidence by civil engineering designers.

Through its advanced fastener design the BobTail system offers a strong connection. One key advantage of this fastener over conventional lockbolting systems is that it doesn't have a pintail to break off. As a result, there is no waste material to collect and dispose of post-installation. The added benefit of this is that the tools are lighter and smaller as they do not need the force to break the pintail of a traditional Lockbolt.

The Bobtail is installed using a quiet, jolt-free swaging action, eliminating the potential for repetitive stress syndrome issues. It has significantly reduced noise levels, typically less than 70dB as there isn't a pintail to break off. The elimination of the shock load and reduced noise can offer real and significant health and safety benefits.

Using the Huck BobTail in key joining applications eliminates all of the housekeeping and safety issues that are integral to the welding process. There are no sparks to start fires or cause explosions, nor any debris on the floor that can lead to slips and falls.

As the UK's largest distributor of the Huck brand, Star Fasteners has a very close relationship with Arconic on designing products and we are very proactive in working with Arconic on new ideas. The Huck range has an excellent reputation in the market for the quality of the products, as well as the support available to customers. As a distributor that is vital when you are talking to customers about new projects. +

[www.starfasteners.co.uk](http://www.starfasteners.co.uk)



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