



# Star Fasteners – providing the answers

**A key strength of Star Fasteners is its ability to work with customers on projects to find solutions that will help optimise the application, whilst also improving the overall efficiency.**

**A** prime example is a recent project where Star Fasteners worked with a customer to provide a solution for an application in a coal power station. Daniel Starbuck, director of Star Fasteners, explains: “We were contacted by a contractor who was looking for a fastener for the electrostatic precipitator part of the power station, as the usual pin and collar fastener it was using was unavailable within the required lead time.”

Most power stations burn fossil fuels such as coal or oil to generate electricity for use. When these fuels undergo combustion, smoke is produced, which consists of tiny particles of soot that are suspended in hot, rising air. These unburned particles of carbon are pulled out of the smoke by using static electricity in the precipitators. These electrostatic precipitator are a type of filter that use static electricity to remove the soot and ash from the exhaust fumes before they exit the smokestacks. This is vital as any unreacted carbon that escapes could damage buildings and are harmful to human health – especially respiratory health.

“This electrostatic precipitator contains a row of thin vertical wires, followed by a stack of large flat metal plates oriented vertically,” explains Daniel. “The air stream flows horizontally through the spaces

between the wires, and then passes through the stack of plates. A negative voltage of several thousand volts is applied between the wire and plate to create an electric corona discharge that ionises the air around the electrodes, which then ionises the particles in the air stream. These ionised particles, due to the electrostatic force, are then diverted towards the grounded plates, where they build up on the collection plates and are therefore removed from the air stream.”

Daniel continues: “Periodically, the power is switched off and the collected soot is then knocked off the collection panels into a void. This is then dampened down before being taken away. As you can imagine, the whole environment is highly corrosive, which means that eventually there is corrosion in the steel curtain panels – meaning they either require maintenance or need replacing.”

After working with the customer and understanding the requirements, Star Fasteners suggested the Huck® BobTail® fastener – a two part fastening system that consists of a pin and a collar. “We suggested the BobTail as a possible solution as it is stronger than the original fixing and it also offers the opportunity for the panels to be pre-assembled offsite – making the whole process a lot more effective,” explains Daniel. “The original pin and collar they were



previously using does not have the pre-assemble feature. The BobTail on the other hand has a spiralled groove running down it, almost like a thread, as well as an indented tab on the collar, which gives the user the ability of pre-screwing it together by hand, so everything can be pre-assembled and aligned before installing it with the tooling."

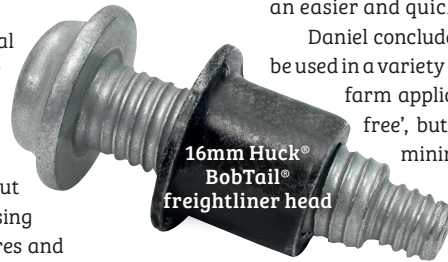
The BobTail is installed using a direct tension technique, in which the pin is pulled and the collar is simultaneously swaged into the locking grooves of the pin, deforming the collar into the grooves, creating a high clamp force. Through its advanced fastener design, as well as easy-to-use installation tooling, the BobTail system offers a strong, versatile connection.

"The customer was very happy with the final result as not only did the BobTail provide superior joining strength, it also offered fast and secure installation," states Daniel. "The contract for this particular project normally comes in cycles, when they are looking to refurbish the plates, but the customer has already shown interest in using the BobTail again thanks to its time saving features and pre-assemble capabilities. We hold large and varied Huck® stocks so we should always have a solution to customers' requirements."

In addition, the fastener can also be removed if necessary, which is ideal for such a project where regular maintenance is required. "The fact the BobTail retains its stud, which the tool grabs hold of when installing the product, means users can simply change the nose assembly to a collar cutting nose assembly," mentions Daniel.



Prepared metal plates with pre-assembled Huck BobTail fasteners



"With the replaced nose the tool grabs hold of the remaining stud and the two blades of the nose assembly cut the collar off – making it an easier and quicker solution compared to other bolted solutions."

Daniel concludes: "The BobTail is such a versatile product and can be used in a variety of markets, for instance it originally came from wind farm applications and is recognised by DiBT as 'maintenance free', but it is also used widely in rail, commercial vehicle, mining screens and agricultural applications."

"We are always happy to demonstrate the product on sample applications, but we have the confidence in the fastener to accommodate trial builds if required. Star Fasteners has years of product knowledge and understanding of customers' applications. We work closely with our customers to suggest products, such as the BobTail, that they may not have initially considered for a project. We can do this thanks to the experience we have within the market, as well as through our partnership with Huck as its largest UK distributor." +

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