WDS Quick Release Pins specified for automotive production line

The European new car market is currently in a period of unprecedented growth – recently released figures show a rise of 11.2% in August, 2015. To keep up with demand, manufacturers are making regular improvements to their production lines. The autosport division for one German car manufacturer turned to machine tool specialists, KMT Ltd., to develop tooling for producing exhaust mufflers. KMT used WDS Component Parts Ltd. quick release pins to affect fast swap over of jig assemblies.



Single-Minute Exchange of Dies (SMED) is one of the buzzwords that will be familiar to anyone who works within a Lean manufacturing environment. Put simply, it refers to the practice of simplifying and speeding up the process of equipment change overs on the production line. With many manufacturers now using a single production line to produce multiple components, SMED is used to maximise the efficiency of changing from one assembly jig to another.

The key to a fast changeover lies in specifying reliable yet simple fixturing components. Overly complicated fixturing will slow down the process and reduce productivity, while un-reliable components may allow the jig to slip, which will result in wastage. KMT is a leading manufacturer of precision machine tools and is all too aware of the challenges presented. When it was asked to design a machine tool for manufacturing exhaust mufflers on high-performance, executive cars it approached WDS for a fixturing solution.

Adrian Degg, Technical Director at KMT, comments: "An exhaust muffler is a far more precise piece of engineering than many people realise. It's largely responsible for the back pressure, which can

affect the car's performance, efficiency and reliability. It also has a role in creating the car's exhaust note, which is an important part of the driving experience with performance cars.

"Part of the design brief for the project was that it must be able to quickly accommodate different assembly jigs so that mufflers for different cars could be produced from the same line. We decided to use WDS fixturing components because of the reputation the company has for product quality. I called the sales office to explain what was needed and was directed towards the quick release pins."

The quick release pins feature an ergonomic, cast aluminium T-handle with a release button integrated into its head to guard against accidental release. The body is constructed from 17-4PH grade stainless steel for long lasting, robust reliability. When the jig is moved into position the pins are simply dropped into place without the need for any additional tooling. A hole and ring is included on the handle for easy attachment to a lanyard, preventing the component from becoming lost during changeover.

Adrian continues: "It's a simple solution to the application which negates the need for spanners or screw drivers while guaranteeing the accuracy of the positioning without the risk of the pin coming loose during operation due to vibrations or knocks.

"Of course, it's the customer service that's just as important in this case. Having helped me to source the component I needed, the sales person was able to process the order and secure next day delivery. Unlike most component suppliers, there wasn't a small order surcharge which meant I was able to order the precise quantity I needed there and then, safe in the knowledge that should I require more I could order them and have them in my hand 24 hours later."

Getting it right first time ...

No engineer can be expected to have the required expertise and knowledge to source and specify each individual component when designing a new machine. Machine tools, process equipment, handling equipment etc. are all becoming ever more complex and specialised, and each design requires hundreds of small components that literally hold the equipment together.

This is why it's important to find a supplier that is able to offer technical support in addition to a wide range of standard components. Free 3D CAD downloads should be available for all catalogue parts as well as a customisation service that allows customers to fit the component to their design, rather than modifying their design to fit the component.

While it's certainly beneficial to buy from a distributor who has a wide product portfolio, engineers should also consider working directly with components manufacturers who will be able to provide a greater level of support during the specification stages.

WDS Component Parts Ltd. manufacturers the majority of its range of over 20,000 standard parts from its UK headquarters in Leeds. Its unique situation as a manufacturer and distributor enables it to provide the level of support that Adrian Degg of KMT found so useful when he was specifying components for his latest machine tool.