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**For Immediate Release**

## Self Pierce Riveting

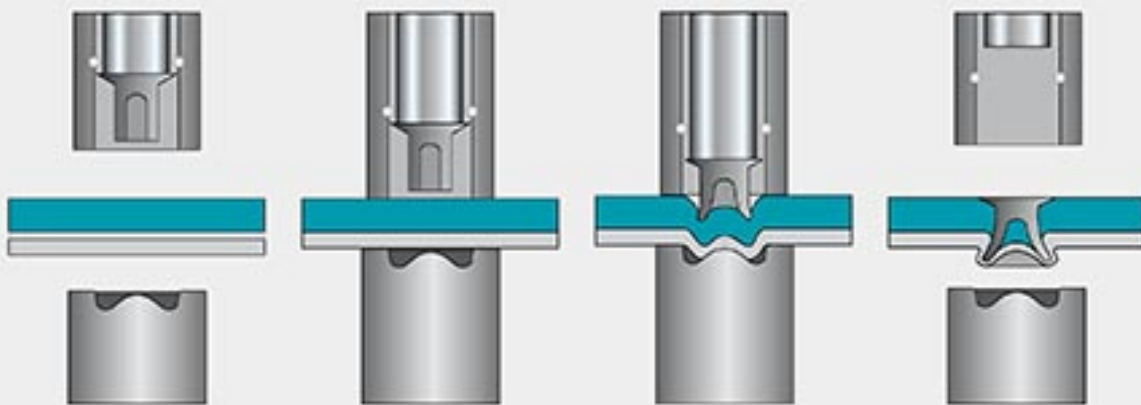
**Avdel Repair Concept for Self Piercing Joints**

**WELWYN GARDEN CITY** – 4. June 2010 – Self Pierce Riveting or SPR is an established technology that has been around since the early 1960's with its first application being commercially released in the United Kingdom. More recently attention has been paid to this technology because OEM's are now using dissimilar materials to build their products. A larger content of aluminum alloys, coated metallic materials, plastics, and various combinations of these materials are being used. The Avdel Fastriv<sup>®</sup> Pierce riveting system is ideal for assembly of these types of materials.

**The Principle of the Fastriv<sup>®</sup> self-piercing System**

Because piercing and joining take place at one time, and drilling and hole alignment are eliminated, the Fastriv<sup>®</sup> pierce riveting system results in higher productivity and more cost-effective assembly.

*picture print file: Avdel Fastriv Principle.jpg*



Fastriv<sup>®</sup> pierce rivets are fed to the riveting module.

The tool clamps the sheets together.

The rivet pierces the top sheet and radially expands into the bottom sheet. Multiple sheets can be joined.

High joint strength is achieved by the interlock between the rivet and application materials.

Automotive and industrial manufacturers have many different requirements in mind when choosing materials for their products. Lighter weight, stronger, simplified architecture producing higher yields, and improving quality are some reasons. SPR fastening technology requires no drilled or punched holes in the materials being joined reducing component cost. The assembly

process is easy to automate with less complex parts and no mating holes yielding higher reliability. High joint strength allows the end user to reduce the number of fastening points further reducing manufacturing cost while maintaining a consistent quality product. Tooling access to both sides of the application is required to benefit from this joining technology.

### **Avdel's simple repair method for joints using Self Pierce Riveting**

In principle, a joint made with self piercing rivets is a permanent fixing i.e. a non removable joint. However, Avdel have a novel repair concept for separating joints created using Self Pierce Rivets.

The system, usually supplied in a kit, utilises a battery powered hand tool. The tool incorporates a hydraulic driven punch and is fitted with a C Frame to access both sides of the joint. The punch is capable of delivering a force from 20 to 50kN and has a stroke of 29mm. The kit also includes tooling parts – Anvils & Punches etc.

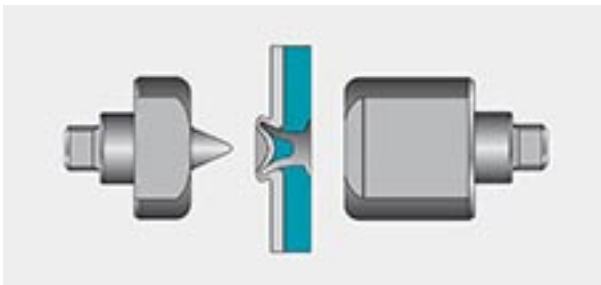


*picture print file: Avdel\_Fastriv\_ESN50.jpg*



*picture print file: Avdel\_Fastriv\_Repair\_Toolbox.jpg*

Using the battery tool in combination with the appropriate Anvils & Punches it is possible to remove previously installed rivets, flatten sheet material and reassemble parts by setting Self Pierce Rivets in between the old riveting positions.



*picture print file: Avdel\_Fastriv\_Removal.jpg*

Note that where joints are bonded as well as riveted the flattening operation assists with separating the bonded joint.

Should it not be practical to install Self Pierce Rivets in between the old riveting positions the tool can punch a hole in the sheet material where the removed rivet was located to accept a suitable Avdel Blind Fastener, installed by a proprietary tool (as shown).

*picture print file: Avdel\_Fastriv\_Repair\_BlindFastener.jpg*



Although the system is widely used in automotive repairs, where vehicles are constructed from Aluminum Alloy, the tool has wider application and has the benefit of being portable permitting site/field repairs.

*picture print file: Avdel\_Fastriv\_Repair\_SelfPierceRivet.jpg*



Avdel® is among the world's leading providers of blind-fastening products and associated installation tools. Avdel's range of blind-fastening technologies is one of the widest available in the market. Avdel offers its customers worldwide accessibility with production facilities and sales networks in Europe, America and Asia/Pacific.

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