

Custom gripping solutions for the aerospace fastener industry.

Hardinge manufactures collets for all brands of machines and adapters used in the fastener industry...

- BLIND BOLT FASTENERS**
- SOLID AND BLIND RIVETS**
- BOLTS**
- SCREWS**
- NUTS**
- INSERTS**
- STUDS**



Hardinge collets for the manufacture of rivets.

5W Collet

Gripping Blind Fasteners

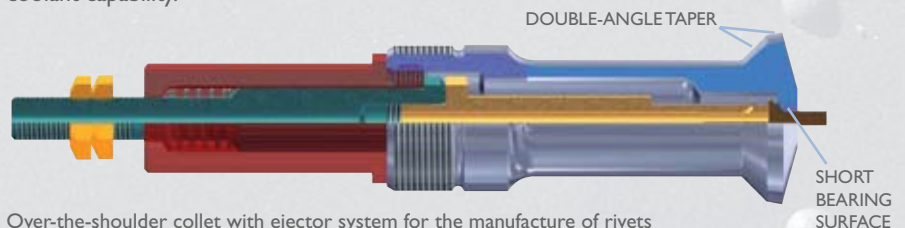
Over-the-shoulder collets, similar to the 5W collet, are used for blind fasteners when required to clear a head and grip on a smaller diameter beyond. Extra spread is required to open the collet wide enough to go over the larger diameter. Hardinge incorporates multiple slots with an oval or teardrop relief at the end of the slots and reduced wall thickness for maximum flexibility to open and close the collet accurately and repeatedly. The relief takes the stress of the wide spread and helps to maintain roundness at the back bearing of the collet. A double-angle taper reduces the contact surface, and allows maximum spread for quick opening of the collet. A back drill area behind the gripping surface (order hole) will accommodate the head of the fastener or screw.

Monogram Aerospace Fasteners, a blind bolt manufacturer located in California turned to Hardinge for a collet that would better control part quality and concentricity, at a cost advantage, according to Monogram's VP of manufacturing. One particular job at Monogram involved hard material, cutting off to length, nosing the taper angle and tapping the fastener body.

Gripping Rivets

The collet shown above on the left features three internal tapered cavities to support thru-spindle coolant flushing for boring, drilling or tapping applications. The gripping surface (order hole) and the locating chamfer at the opening are hard turned to a specified micro finish. The collet on the right is a 5W over-the-shoulder collet. This design incorporates six slots with an oval relief in each slot. The double-angle taper and short bearing surface allow an overgrip to swallow the rivet head in a back drill area inside the collet in order to grip on the shaft beyond.

The over-the-shoulder pickoff collet assembly shown below is also designed for the manufacture of rivets and is based on a modified 5C collet and ejector stop. This combination enables the customer to take advantage of automation including robot loading. A flat face and a short bearing allow essential robot gripping access. The rivets are automatically spring-ejected into a parts bin when the collet opens. This design also features thru-coolant capability.



Over-the-shoulder collet with ejector system for the manufacture of rivets

Hardinge is an approved government vendor. Drawings and sample parts can be sent to Hardinge Inc., One Hardinge Drive, Elmira, New York 14902; email to info@hardinge.com; fax 607-737-0090; phone 800-843-8801.

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