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**Have a unique punching requirement? Let us at Multicyl provide you with an innovative solution.**

**First Identify the Problem:**

Tube punching with a mandrel is one of the most common applications for Multicyl. Typically, it is a straightforward punching application... but sometimes they require a little ingenuity and creativity from our design team. This was the case with a recent application from our long standing customer Summo Steel. This seemingly simple tube punching application had a couple of obstacles to overcome including a flared end on one side and a prohibitive form on the other end. We couldn't fit the tube on from the formed end, and given that we had to punch straight through the tube we couldn't simply load the tube over the mandrel from the flared end- we needed a die button and support on the underside of the tube and the flare wouldn't allow for the tube to feed over the support. This was a significant hurdle to punching the required holes.





### **Then Engineer a Solution:**

The solution was to design a floating mandrel which was pinned and precisely guided so it could float up and down allowing the tube to be fed from the flared end. (Note: you can click the picture below to see a video of this system in action!) Upon actuation the mandrel was lowered into place onto the support and die button for punching. Sensors made sure the part was properly located before the punching sequence began. Various levels of spring resistance were used to be sure that the mandrel was lowered and the tube was clamped in place before the punch was engaged, and a sensor was used to ensure that the sequence went properly - the machine would be prevented from firing if the tube was not properly in place.



Call us for a solution to your costly and labor intensive tool set-up problems!

**Finally, Make it User Friendly and Safe**

The floating mandrel and long stroke DX series Multicyl created significant pinch points during the operation. To make sure that the operator was safe (and to comply with all relevant safety standards) a physical guard was used to enclose all tooling components thus blocking the operator from any moving tooling part. Completed parts were ejected out of the guarded area via an air cylinder to ensure that the operator did not have to place his or her hands anywhere near the punching action making it a safe and simple operation.

**FREE  
Tonnage  
Calculator**

Use our **Tonnage Calculator** to determine your force requirements.

To use our tonnage calculator select either the hole diameter or shear length option. Then select your material or fill in the tensile strength of the material you are using (KSI). Fill in the rest of the data and hit calculate. You will be given the tonnage requirement and a list of potential Multicyl cylinders for the application.

**Contact us for a free quote on your application**

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