



Benefits of Fourslide vs. Power Press in manufacturing



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Fourslide machines have been around for nearly 80 years; however, this technology is still not as well-known as other processes. A number of shops offer fourslide services, but many plants and designers do not realize how this process can benefit them. Fourslide stamping can produce high volumes of complex parts, all with low costs and short lead times. In spite of this, the Power Press tends to be better-known. While there are many applications where Power Presses produce the best results, a fourslide can be advantageous in numerous situations.

Fourslide and Power Press Functionality

Power Presses have a long history in manufacturing. They work with a progressive die, blanking and stamping metal parts. When this is the primary operation required, Power Presses are the best choice; however, things get problematic when the required parts are more complex. Power Presses work in only one direction and therefore cannot make certain bends or forms by themselves. They require special slides and cams in order to perform functions like bends; here is where fourslides have an advantage. A fourslide effectively combines the features of a Power Press, cams, and slides. It can stamp and shape while feeding coils of material for bending. Furthermore, the process can be very precise, regularly holding tolerances of ± 0.003 ".

When design engineers are deciding the best production process to use, there are many different aspects to consider. Overall budgets, the complexity of the part, the possibility of design changes, and production lead times all play important roles in choosing the right method. When designers need to produce parts with complicated, changeable designs, short lead times, and tight budgets, fourslide is usually the better choice.

Budget

Fourslide manufacturing is very beneficial when it's important to keep costs contained. One of the biggest budgetary advantages of this method is that complex parts can be completely formed using one machine. The need for secondary handling is eliminated in many cases. The savings come about from the unique construction and processes of fourslide machines. They begin by stamping or blanking raw material from a coil in the fourslide machine's progressive die section. The strip is then formed by four slides carrying tools, with the part being formed around a central tool.



The strip is then formed by four slides carrying tools, with the part being formed around a central tool. A good deal of money is saved in the overall simplicity of the tooling. The forming process is completed by tools coming from different directions, and the forming tools themselves are contained within blocks carried by the four slides. These tools are machined at very low costs compared to the complicated cams and dies needed to perform the same process for a Power Press. As opposed to fourslide machines, Power Presses require special cams and dies that include actuators within the tool to perform these operations. The cost of tooling for fourslide is typically just a fraction of what it would be for a power press.

Complexity

While many simple shapes can be formed economically with a Power Press, it can be a different story when the part has a more complex design. Fourslide machines feature a unique combination of separate forming operations that occur in rapid succession. They can execute an impressive array of complex functions, including bends beyond 90 degrees, multiple bends, twists, threaded holes, and cylindrical forms. One of the common products produced in this process is the spring, but fourslide manufacturing can produce much more. Using materials such as copper, brass, bronze, and steel, foursliding manufactures complicated parts and components for applications as diverse as lighting fixtures, battery contacts, power tools, appliances, and many others.

Complex forms can also be produced using a Power Press, but require additional components and tooling. Up and down Power Presses can't bend parts beyond 90 degrees without adding costly mechanisms. Parts with multiple bends require Power Presses with many extra cylinders, lever arms, and cams, creating expensive systems that can be difficult to maintain. Fourslide presses, however, can easily handle additional bends using their four sliding tool blocks.

Changes in Design

It is common in today's commercial market for customers' needs to change. Technology is still booming and often demands updated product designs. This area is another strength of fourslide manufacturing. Since manufacturing is accomplished with four separate sliding block tools, each can be adjusted individually. A new design can be fabricated with a relatively simple set of adjustments.

A conventional Power Press poses problems in this area. An entirely new die may need to be built in order to put changes into effect. This can be an extremely expensive process. Fourslide manufacturing is more flexible and can be revised at a fraction of the cost of recreating dies.

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Lead Times

When lead times are an important issue, fourslide stamping can help. The benefit is most apparent for parts with complex forms. Fourslide tools make complicated processes simple by providing the most options for pressing, bending, and more. When this manufacturing is completed using traditional Power Presses, it often requires time-consuming design and post-production adjustments.

The time it takes to make these dies and post-production adjustments can cost customers money. Waiting for a custom constructed press cuts into a company's production schedule, whittling down profits. Using a fourslide machine saves time on the front and back end of construction, increasing the efficiency of operations and delivering high-quality parts to customers as quickly as possible.

Different Processes for Different Requirements

The traditional Power Press remains important in manufacturing and will continue to be used for generations to come. It is also important, however, to recognize when an alternative manufacturing method is beneficial and advantageous. Fourslide machining offers maximum tooling flexibility while maintaining an overall simplicity of design. When four separate tool blocks are used in conjunction with stamping, it offers a fast, efficient, and cost effective method of fabricating the most complex parts. Design engineers would do well to consider the fourslide method when complex projects are needed within budget and in short lead times.

