A Few Pointers for Picking a Best Stamping Die

It makes sense to stamp parts instead of machine them when production volumes are high and machining the parts would require multiple secondary operations.Good candidates for stamping include parts such as ball-bearing retainers,grid cups for cathode-ray tubes,and potentiometer and circuit-breaker components.These can be made from materials including aluminum,exotic metals,cold rolled and stainless steel,and red metals such as copper,brass,beryllium copper,phosphor bronze.

Process options involve traditional power presses with progressive dies,multislide presses running multislide tooling,or independent-cam-operated plunger presses with eyelet-transfer tooling.Selecting the correct process is criticalfor balancing economy and part quality.Here are a fewconsiderations to help select a stamping method.Progressive dies produce finished flat,formed,anddrawn parts by combining several operations in one die.A strip of flat metal enters the die and is fed through one station at a time.Each station forms or cuts a particular feature such as a bend,notch,or hole.When the strip reaches the last station,the parts are complete and the tool cuts them free from the strip.One drawback:remaining scrap can reach up to 50%.

Any combination of operations such as notching,forming, coining,tapping,and assembly can be designed into a progressive die as

long as the part configurations and tolerances remain acceptable.Our company stamps materials as

thick as 0.1875-in.with this method. But keep in mind it's sometimes necessary to perform acritical dimension that would otherwise be difficult to control in a die.And for low production quantities,it often makes sense to exclude a station because of tooling complexity.In these cases,finishing parts in a secondary operation makes sense,even though it involves more labor.It may also be necessary to exclude stations such as complex cam-actuated stations or those performing in-die tapping that require a lot of space because the die might become too long for the available presses. Multislide tooling is a good choice for complex parts with extensive bending operations that would be difficult to perform in a progressive die.Multislide tooling is also good when parts are too costly to produce in single-station hand-fed tooling,or call for cam-actuated stations.The multislide process involves forming tools moving from multiple directions.Multislide tooling is less expensive and it produces parts with little or no scrap,a significant factor with high volumes and special metals. Multislide machines can accommodate progressive dies to pierce holes,notches,or perform other operations before reaching the forming tools.Production pricing is about the same for complex parts that could typically be made complete in either progressive or multislide tooling.Variables include material usage and run rate.Our company

processes material up to 0.125-in.thick and 2-in.wide with a multislide method. Eyelet-transfer tooling is primarily for deep-drawn parts.These are transferred from station to station by"fingers," instead of a carrier strip as with progressive dies.

This saves considerable raw material.Also,process control is greater because each station is independent.It's even possible to account for subtle changes in material properties to better maintain tolerances. Punches in an eyelet machine are independently adjustable, while progressive-die punches are more difficult to adjust because they are mounted to a common holder. Depending on the part complexity and the number of stations required,the eyelet-transfer method produces a finished part that requires no secondary operations.

In fact,features such as side-pierced holes or notches, knife-edges,and coined edges or surfaces that would normally have required secondary press operations can be incorporated into the tooling.The only limitations are part size and complexity,material thickness,and the number of stations available in the press. Eyelet tooling shines in adaptability.Tooling modifications from a revised part are less costly than with the other methods.This is particularly true when parts have the same shapes,but vary in size.It's easier to share tooling and produce only the necessary additional tooling.The eyelettransfer method lets our company produce parts having a maximum depth and O.D.of 1.5 in.

对于选取一个最好的冲压模具的一些指点

当零件产量过高时有效的减少辅助操作的步骤是非常有意义的。一个好的冲压模具的选择连零件也包含在内，比如球轴承保持架，用于阴极射线管，和电位器和断路器组件的网格杯。制作的材料包括铝，特殊金属，冷轧和不锈钢，和红色的金属，如铜，黄铜，铍铜，磷青铜等。工序的选择包括传统的动力压力机进模，多边滑落压力机运行的多边滑落工具，或拥有独立的孔传输工具的凸轮式柱塞压力机。

选择正确的流程是关键为平衡经济和零件质量。这里有几个考虑到帮助选择冲压的方法。渐进式模具生产平收，形成和拉深部件将多个操作组合在一个模具中。进料和到达的站点是在同一时间。每个站形成或削减特定工艺，如一个弯曲，凹口或孔。当带材达到的最后一站，零件是完整的和工具切割它们摆脱带材。有一个缺点就是边角料的剩余可能达到50%。任意组合的操作，如开槽，形成压印，攻丝和组件可以设计成一个只要进模的配置和公差仍然可以接受。用这种方法我们的公司印章材料厚为0.1875。但请记住，有时需要执行大概的尺寸，否则在模具中将难以控制。低生产量时，因为模具的复杂性，往往由于错我的感应而排除一站。在这些情况下，在二次操作整理零件的意义上说，将使它涉及更多的劳动。它也可能是需要排除站，如复杂的凸轮驱动站或需要模具内部攻丝的特定的空间，因为可能会变得太长为可用的压力机。多边滑落工具是一个不错的选择复杂的零件具有丰富的弯曲操作性，这将困难的进模执行程序变得可行。多边

滑落工具也是良好的选择，当零件的成本太高，生产用单站式人工式送料工具，或拨打凸轮驱动站。从多个方面来说，多边落料过程涉及的成型工具，更加便宜，而且废料很少或根本没有废料，大批量生产和特种的材料应用就是一个明显的因素。多边落料机可以在模具中加工穿孔，缺口或执行其他操作之前完成工具成型，在进行复杂的零件加工时完成渐进式或需要多边落料的工具时，它的生产价格也是一样的。可控的变量包括材料的使用和运行速度。我们公司流程材料厚0.125，宽2。

圆头传输工具主要作为深冲部件。这种一站接一站的“手指”，用来代替进模的一种载体带钢。这种方法极大地节省了原料的损耗。除此之外，在每个过程中的控制都是独立的。更加完美的是，它甚至为了更好的维护公差而考虑到了材料性能的微妙变化。凸模在小孔机器上式独立可调的，而渐进式多模冲头的调整却是很困难的，因为它们被安装在同一个支架上。由此根据零件的复杂性和必须的工作站数量，圆孔传输的生产方法是它已经完成的一部分，并不需要二次操作。事实上，该机器的功能特点，比如在侧面钻孔或者凹口，在车刀的边缘制作一种边缘或者表面，通常需要二次操作，从而制造出一种合适的工具。唯一的局限就是零件的大小和复杂性，材料的厚度，以及有限的压力机。圆头工具让人眼前一亮的地方就是它的超强的适应性。模具修改的零件部分与其它方法相比成本是很低的。当在加工相同的部件时，形状是完全一样的，指引大小的不同而有所差异。再加工模具和生产时，它更容易装载其他额外的配套工具。该圆头传输的加工

方法可以使该公司生产的零件的最大加工深度到0.D.1.5英寸。