

# Five Misconceptions About QDC

Quick die change (QDC), an answer to production inefficiency, often becomes a victim of neglect and underutilization. Why is that, and what's the truth?

**R**azor-thin margins and intense competition force stampers to streamline production operations, and a premium rests on strategies aimed at boosting profitability through increased operational efficiencies. Although a combination of actions will net the best results, the most effective solution may be creation and implementation of a quick-die-change program. But QDC often is neglected, underutilized and misunderstood due to a number of misconceptions. Here are five of the most prevalent misconceptions, forwarded by Serapid USA, a producer of QDC equipment under the Quick Die Xchange (QDX) name.

## QDC Only an Option

A perception exists that purchasing a quick-die-change system is the equivalent of selecting a high-end stereo package for a new automobile—it's a nice luxury item, but it does not affect the overall performance of the vehicle. However, this reasoning is flawed. In reality, a QDC system significantly increases the productivity of an orga-



**Traditional manual die-changing methods often require multiple employees and hours of downtime. This automatic two-position die cart is one part of an effective quick-die-change system that may reduce die exchange to one employee and as little as 5 min.**

nization's stamping operations, maximizing press uptime during die change-over, and is much more than an add-on feature. Traditional manual die-changing methods often require multiple employees and hours of downtime. QDC systems can reduce this process to one employee and as little as 5 min. These savings in time and labor, multiplied over an extended period, make the case for QDC to pay for itself many times over.

But some stampers believe that although QDC equipment is valuable, it

makes little difference whether a purchase is made prior to the installation of a new press versus sometime in the near future. In reality, a delay in purchasing can create a number of problems. For example, during a retrofit, the designated press must be shut down, and press-related modifications to accept a retrofit QDC system typically cost more than modifications spelled out at the press-ordering stage.

That said, it is never too late to profit from a well-planned QDC program, but realize that implementing

QDC up front is the best way to maximize benefits.

## Standardizing Costs Too Much

Efforts to stretch budget dollars are valuable and allow management to maximize the effectiveness of departmental resources. So it is not surprising that many decision makers hesitate to include standardization as an element in QDC plans. Such measures elevate the short-term costs of a project, but before rejecting these additional expenses, consider the bigger picture.

Standardization offers a number of benefits that increase operational efficiencies and ultimately lead to monetary savings. Chief among these benefits is the ability to achieve consistent and precise positioning, eliminating the cumbersome and time-consuming process of manually maneuvering a die after it has been set in the press. This saves valuable time and increases stamping precision, improving quality and reducing scrap.

Standardization also increases the effectiveness of die handling and transport equipment such as die tables and die carts. Once the dimensions and load weights become uniform, the equipment can be custom-designed to handle exact specifications, negating the need for adjustments and ensuring optimal performance. Additionally, standardization eliminates downtime associated with press-related adjustments. The bottom line: Standardization saves time, labor, materials and, ultimately, money.

With benefits highlighted, let's examine some practical ways to standardize within a pressroom environment.

- **Die plates**—The end result of attaching die plates is creation of a uniform footprint. Die plates find use when a limited number of dies are used on a particular press. For dies used at multiple locations, design the plates to fit on all corresponding press beds. Additionally, presses should be able to utilize two distinct die-plate sizes. This helps



**These 40,000-lb.-capacity pivoting bolster extensions allow for die loading by a forklift, and feature adjustable guides to accommodate multiple die sizes.**

maximize a plant's storage capacity by ensuring that a small die is not attached to an oversized plate.

- **Universal subplates**—These plates work for a large group of dies used on a given press or presses. The plates mount in a predetermined staging area, then move to a position near the press before changeover, offering an economically feasible alternative to purchasing a large number of individual die plates.

- **Standardized shut height**—Creating a standard height eliminates the need to adjust during die changeover.

- **Standardized feed-line height**—This saves time by removing the need to alter the height of incoming raw material from one run to the next.

- **Standardized clamp height and position**—Making these changes eliminates adjustment or repositioning of the clamps on the slide or bolster, particularly important when a press must accommodate a variety of die sizes.

Once you establish official standards, communicate them to the engineering department. Engineers then can incorporate these specifications into any new tooling, eliminating the need to remake or alter tooling later on.

While the preceding implementations all correspond to physical changes, companies also must address the process standards with employees. The goal: Gain a level of operational consistency. This eliminates inefficiencies and allows individuals to work on multiple presses without learning multiple systems.

## Only One Piece of Equipment Needed

Many companies hope to find a one-size-fits-all solution to QDC needs. This manifests itself as a desire to purchase a single piece of equipment capable of servicing an entire line of presses. That can save money, but its value should be judged in light of its ultimate effectiveness, and, unfortunately, the results are less than impressive.

The most popular piece of die-handling equipment used as a universal solution is the die truck. In theory, such free-roaming vehicles move between presses and perform simple adjustments to handle dies of various sizes. But a truck designed to handle large dies often will be too large to effectively handle smaller dies. The equipment cannot perform optimally across a range of

tool dimensions. Additionally, die trucks are difficult to maneuver and dock.

If you're working with a limited budget, isolate the specific dies and presses that present the greatest trouble. Focusing on targeted solutions rather than purchasing equipment intended for general use will yield higher returns on investment.

**Don't Have to Involve Operators, Management**

Typically, the engineering department spearheads a company's QDC development project. Although extremely knowledgeable in the technical aspects of pressroom operations, this group may lack the hands-on experience of operators. Consequently, operators remain invaluable in spanning the gap between theory and reality.

Don't forget management, which can provide long-range goals and visions for the project and the company. Garner management's input from

the onset because ultimately it will authorize or deny QDC funding.

It is paramount to foster a synergistic relationship from the very beginning. Involving operators, engineers and management in the planning process produces robust solutions and lessens the possibility of inter-departmental conflicts. Once the team formulates a plan, it should continue meeting periodically throughout implementation and beyond. This ensures timely problem resolution.

**Buy and Install—That's It**

After QDC is developed, installed and paid for, you may think that there is nothing left to do. However, at this point consider these key factors:

- Training—Implement a training program for press operators and floor supervisors. These employees must have a solid understanding of system operating procedures or the QDC program will falter.

- Maintenance—To ensure effective operational longevity, follow all of the OEM's recommended maintenance procedures.

- Ongoing standardization—Once QDC equipment is operational, a company may begin to reap the associated benefits immediately. However, these benefits can grow if efforts are made to standardize plant-wide operations, such as widening a company's focus beyond a select number of presses to include every press in the facility.

- Process review—Periodically, assemble all relevant die-change personnel—operators, management, foremen, engineers—and review changeover procedures. This provides a forum to discuss potential problems and allows participants to brainstorm effective solutions while forwarding ideas to improve efficiency. **MF**

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