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## Quick Die Change Elements

The purpose of this paper is to make you aware of certain aspects of Quick Die Change & how they relate to you and your application.

### Examine your application:

- Die change frequency
- Time for changeover
- Die Size
- Press size
- Quantity of dies and their storage location
- Plant layout
- Part cost

Different press/dies sizes do not mean you cannot standardize and find common layouts patterns to simplify your changeover.

### QDC Principles

- Standardization of dies and feeding equipment/passline height
- Use of common size subplates
- Die rolling rather than skidding; skidding requires more force to start moving and can be unsafe.
- Future consideration for automation

By incorporating locating pins in your press bolster, dies mounted on common subplates can be located front-back & left-right quickly and efficiently. Additionally these subplates also allow you to take most of your scrap out of the press with the

die. Less “clean up” time to remove any scrap left behind from your previous part run.

Next since your dies are mounted on subplates you’ll want to incorporate die lifters in the press bed to facilitate die movement & alignment. Utilizing both subplates and lifters will also allow you to consider automated die change in the future.

## **Die Change Methods...application dependent**

- Fork truck or Platform truck
- Overhead crane
- Die Carrier
- Rolling Bolster
- Die storage & retrieval systems

Fork trucks are not very precise machines to transfer dies into the press bed, and their availability is subject to other demands. Take care if using a fork truck when pushing or pulling the die from the press bed.

Overhead cranes are normally used with rolling bolsters to place dies into position from overhead.

Die carriers, also referred to as die carts, are specific in the task they perform. Unlike fork trucks, they are only used to push/pull dies from the press and transport to some type of die racks; ergo, they are immediately available.

Die Storage/retrieval systems can be efficient but not always able to be justified

## **Die Clamping Methods...application specific**

- Fixed clamping position
- Sliding clamping
- Automatic clamping
- Hydraulic pumps w/ valves for clamping and lifters

Fixed clamping systems are normally used when clamping to the subplate since that position is fixed, always the same location & clamping height.

Sliding clamps are most commonly used to move the clamps by hand via T-slots

Automatic clamps are normally associated with some form of die change automation

Hydraulic pumps/valves are designed with check valves so that in the event the system loses hydraulic pressure, the press will e-stop and the die will be held in place.

**Quick does not mean unsafe. Always maintain safe die practices.**

### **Conclusion:**

- A solution exists for every application
- Every solution is different and tailored for each particular application
- Emphasis should be on flexibility

Automation is inevitable for survival in today's Just-In-Time world.

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Contact one of our Application Engineers if you have questions or need assistance with your QDC program. 800-863-3164 or [sales55@production-resources.com](mailto:sales55@production-resources.com)

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