WEEK 3 – PRESS SHOP OPERATION

Congratulations to Mark from Fox Valley Tool & Die, Inc. for winning week 3!

1. Which of the following press machines can provide full rated tonnage at any slide (ram) position?
   a. Servo-Drive Mechanical Press
   b. Flywheel-Drive Mechanical Press
   c. Hydraulic Press
   d. All of the above

   Mechanical presses, whether servo-drive or flywheel-drive, are rated a point just above bottom dead center. Due to mechanical advantage, slide positions above this rating point have de-rated (less) tonnage. A hydraulic press, devoid of mechanical connections, can deliver full tonnage anywhere in the press stroke.

2. How often should the air pressure in a properly maintained press counterbalance system be changed?
   a. Start of every shift
   b. Each time a new coil is loaded
   c. Each time a new die is set
   d. None of the above

   The purpose of the press counterbalance system is to neutralize the weight of the ram and upper die assembly. Neutralizing (or counterbalancing) the combined weight of the reciprocating ram and upper die is essential for minimizing press stopping time in the event of an emergency. Since the upper weight of each die assembly can differ, sometimes significantly, the counterbalance pressure needs to be adjusted/changed with each die set.

3. The purpose of die stop blocks are to:
   a. Level the ram at the bottom of the press stroke
   b. Protect the die in the event the shut height is set too low (over-hit the die)
   c. Assist the die setter in establishing the correct press shut height
   d. All of the above

   The purpose of the stop blocks - more appropriately referred to as set blocks - is to assist the die setter in setting the correct press shut height. Set blocks should not be used to level an out-of-parallel ram,
especially considering most of the work in the die is already completed by the time the die is fully closed. When a die is over-hit (shut height is set too low), the set blocks can damage the die by embedding themselves into the die shoe.

4. True or false? When stopping a stamping press to take a break or perform a routine task, simply press the red stop button.

   a. True
   b. False

   In a non-emergency situation, the yellow Top Stop button should be used to stop the press from stroking. The red Emergency Stop (E-Stop) button, utilized on part-revolution clutch presses, should only be used in emergency situations due to the fact the press could stop with the die in the fully closed, causing harm to the die or the press. Full-revolution clutch presses are only capable of stopping at the top of their stroke, and therefore, do not have a red E-Stop button.

5. Which of the following is NOT required as part of a pre-startup inspection to start a stamping press:

   a. Verify lockout is not applied
   b. Verify power is turned on
   c. Verify air pressure is turned on
   d. Verify there is an order for parts

   The stamping press can be started, whether there is an order for parts or not (e.g., for set up, new die trial, etc.,)