

TOOLS & PRODUCTION, INC.

C. LOADING & PEENING PUNCHES

LOADING:

T&P Recommends replacing one punch at a time and shearing it in completely before installing subsequent punches. This will help eliminate minute punch damage which is possible when shearing-in multiple punches.

PUNCH LOADING PROCEDURE:

1. Clean punch cavities or surfaces of any debris.
2. Replace punch
3. Install punch hold down screw – The screw must be of high quality (ANSI B18.3) Replace the (serviceable) loctite on the punch hold down screws when it starts to wear away.
4. Tighten screws in proper order from the center out (where applicable)
5. Discard screws with rounded sockets.
6. Use only sharp hex wrenches to remove and install screws.
7. Only install and shear in one punch at a time. Do not install and shear in multiple punches at one time. Shearing in multiple punches can slightly damage the punch and affect the hole quality.
8. Do not shear in a new punch through the web. Remove the web or cut a window into the web when shearing in.
9. If using a power driver to install screws set at a low torque setting and always finish tightening by hand. Tighten firmly but not too tight. A torque of 40 in-lbs is acceptable for a 10-24 button head cap screw.
10. Shear in new punches under power if possible. Rotate the punch unit in its specified direction of rotation only. Shear-in punches in one smooth motion with no interruptions.

PEENING:

Occasionally large punches may need to be peened after the initial shear-in; this is due to the stress caused when a large amount of material is sheared away. Additionally when a punch begins to wear it can be renewed by peening the top or the inside edge of the punch.

PUNCH PEENING PROCEDURE:

1. Verify that the hold down screws are tight.
2. Identify the specific problem area on the specific punch and mark this area.
3. Peen the top of the punch carefully with a 3/8" dia. drift punch (or similar tool) and a small 3 or 4 oz. ball peen hammer. The drift punch must have a good quality flat edge and not be rounded. Care should be taken to peen the edge of the punch squarely so that the edge is not rolled over and down.
4. Re-shear-in a peened punch per the above instructions. Do not re-shear-in through the web or converted material.
5. Remove the sheared material from the punch after the shear-in.
6. Replace damaged or worn punches. In many instances, peening will extend punch life several times; however, eventually the punches will fully wear out. At this time the worn punches should be replaced.

ADDITIONAL CONSIDERATIONS:

1. Avoid emergency stops – unless there is a true emergency.
2. Avoid quick acceleration and deceleration starts and stops.
3. Avoid wrap-ups or double punching.
4. Avoid shearing-in punches through the web or material to be converted.