

Enables Dillon Toolheads and RCBS Dieplates to be *CLAMPED* into the press frame. This eliminates the loose fit between the toolhead and press frame, thus reducing OAL variation and improving die to shellplate alignment.

Advantages

- Reduces OAL Variation
- Stabilizes Die/Shellplate Alignment
- Only the Toolhead or Dieplate is modified

Toolhead Clamp Kit™

For: Dillon 550, 650 & 750 Toolheads
RCBS Pro 2000® & Piggyback™ -3, -4 Dieplates

Small Kit Includes: 4 Clamp Screws with Washers, 12 Thread Inserts, 9/64" Drill Bit, ST1 Thread Tap, Installation Tool, 3/32" Hex Key and Instructions.
Contains enough parts for 6 tooheads and up to 2 presses.

(Item #T1230-S)

Step A: Prepare Toolhead/Dieplate* for Installation

* Hereafter the word "toolhead" will refer to both Dillon toolheads and RCBS dieplates.

It is easiest to perform the installation on a bare toolhead. However, installation can also be done on a toolhead with the dies already set up. To prepare a toolhead with dies installed, remove any parts that may fall out or be easily damaged. For example:

- Remove Powder Measure - (Dillon 550, 650 & 750 only)
- Remove Powder Funnel from Powder Die - (Dillon 550, 650 & 750 only)
- Remove Decap Pin from Size/Decap Die – (Both Dillon & RCBS)
- Remove the Powder Check System from the powder check die (Dillon 650 & 750 only)

With these parts removed, the toolhead will be easier to work on and damage is less likely.

Step B: Installation

1. Clamp the toolhead in a vise or other fixture that will hold it solidly. Pad the vice jaws to prevent any scratches or dings.
2. Use the 9/64" drill bit to drill out the two (2) locator pin holes in the toolhead rim. If dies are installed, you can drill from the bottom for better clearance. Blow out the holes to remove metal chips.
3. Chamfer the holes on both sides using the tip of a 1/4" drill bit. Don't drill too deep; just remove a little metal around the mouth of the hole. The chamfer makes starting the thread inserts much easier. It also removes any high spot created by tapping the soft metal. A high spot here would prevent uniform clamping of the toolhead against the press frame.
4. Thread both holes using the thread tap provided. Use of thread cutting oil is recommended. If dies are installed, tap the holes from the bottom for better clearance. Fully tap threads all the way through the hole. Clean out the holes to remove all metal chips and residual cutting oil.

NOTE: The included carbon steel thread tap is for OEM cast toolheads only and will break if used for CNC toolheads machined from 6061-T6 aluminum, which is much harder metal. An optional High Speed Steel (HSS) tap is available from UniqueTek.

5. Place a thread insert onto the installation tool so that the tang on the thread insert engages the notch in the tip of the insertion tool.

Note: The thread inserts have been pre-lubricated with Hornady ONE SHOT®.

6. Using the installation tool, screw the thread insert into the hole from the topside of toolhead only. Turn the installation tool slowly and do not apply much downward force as this can cause the insert to cross thread. Continue until the insert is approximately 1/2 turn to 1 turn below the top surface of the hole. The insert should end up roughly centered in the thickness of the toolhead flange. **It must not protrude from either side.**
7. Unscrew the installation tool leaving the thread insert in the hole. **DO NOT REMOVE THE TANG OF THE THREAD INSERT.** The clamp screws are sized so they will not touch the tang when installed, so the tang can be left in place. With the tang in place, you also have the ability to remove the thread insert by simply screwing it on through the hole.
8. Thread a Clamp Kit Screw into each of the toolhead holes to confirm that the thread insert is not cross threaded. If it is cross threaded, simply use the insertion tool to screw the thread insert on through the toolhead and try installing again. It is often the case that the thread insert will install easier on the second attempt.

Step C: Installing Toolhead in Press

Install the toolhead as you normally would during any toolhead change. Instead of the original Toolhead Pins, use the screws and washers supplied in the kit.

1. Insert the toolhead into the press frame.
2. Place a washer on each screw.

Important: The rounded face of the washer must be against the head of the screw and the flat face against the press frame.

Note: Currently this kit is shipped with the washers preinstalled on the screws.

3. Insert the toolhead clamp screws, down through the Toolhead Pin holes in the frame and engage the threaded inserts in the toolhead, but leave them loose by at least two full turns. They will be tightened later.

Note: The screws have been pre-coated with a dry-film moly anti-seize coating. Inspect the screws frequently. If the coating has worn off, it should be touched up with a dry-film moly lubricant such as Dri-Slide® *Improved Weapons Lubricant*, available at UniqueTek.com.

4. Finish setting up press as you normally would when preparing to reload.
5. Once you have started cycling rounds through the press and have all stations occupied, stop cycling the press with the ram fully up and each die engaged by a cartridge.
6. With the ram still in the up position, tighten the toolhead clamp screws.
CAUTION: Do not over tighten screws. Do not use a ball end hex key. The screws do not need to be super tight to provide effective clamping.

Before Reloading With A Clamped Toolhead

It is a good idea to check your die setup after installing the Toolhead Clamp Kit™ on any toolhead with dies already installed. You may find slight differences in the case mouth bellings, bullet seating depth or crimp as well as the OAL of the completed cartridge. Also check that the resize die is not pinching the shellplate as this will cause OAL variations that toolhead clamping cannot correct.

Tips for Tapping Threads in Aluminum

Tapping threads in soft metals, like aluminum, sounds easy. But soft metals tend to stick to the thread tap and cause it to bind. If you are not careful, you can break the tap off in the hole. Here are a few tips for tapping your toolheads.

1. Work slowly! Getting in a rush is a sure way to break a tap.
2. Tap by hand. Don't be tempted to chuck the tap in a drill press or hand drill.
3. Use plenty of tap lubricant. You don't need to buy a specialty machinist's thread tap oil. You can use motor oil if that is all you have on hand. A heavy weight oil seems to work the best as it clings to the metal and does not drip out of the hole, keeping the tap threads well lubricated. It also collects and holds the metal chips better than a lightweight oil.
4. Use a "two steps forward, one step back" technique. After you get the tap started and have cut threads for a full turn or so, back out the tap a bit before cutting any more threads. This allows the metal chips to release and not build up in the tap's threads. It also allows lubricant to enter the newly cut threads. Continue cutting threads a half turn to full turn at a time and then backing up the tap a bit before cutting more threads.
5. Clean and re-lubricate the tap often. Back out the tap completely, clean the tap and the hole, re-lubricate and continue tapping. This minimizes the buildup of metal chips in the threads. Remove any buildup using a small wire brush or dental tool. If I'm using motor oil or other lighter weight oil, I'll remove and clean the tap about twice in each toolhead hole.
6. If you feel the tap binding, STOP, back it up a half turn and try again. If it still feels like it is binding, back it out completely and clean as described in Tip #5.

This may seem like a lot of work for such a small hole but taking a little extra time will save you the headache of breaking off a tap in your toolhead.

Caring for the Insertion Tool

The Insertion Tool can take quite a beating during use. Here are a few tips to keep it working well.

1. Clean the threads. Any lubricant, aluminum particles and other debris that accumulates in the threads will make installing the thread inserts more difficult. Clean with mineral spirits and a toothbrush to remove debris from deep within the threads.
2. The tip of the Insertion Tool has a notch that captures the tang of the thread inserts. When the notch becomes worn, it will drive on through the thread insert rather than turning the thread insert into the hole. You can easily redress the tip of the Insertion tool using a triangular jewelers file. You want to create a slight undercut that will grab and retain the tang of the thread insert.

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