

Dillon RL550/XL750 Primer Magazine Alignment Gauge

Thank you for your purchase! The Primer Magazine Alignment Gauge is a precision ground, tool steel gauge that is within +/-0.001" SAMMI primer size specifications. Please read through the directions once and have the Dillon manual for the part #'s referred in the directions before you start. Many of the Dillon part number are interchangeable between the RL550 and XL750 family of presses.

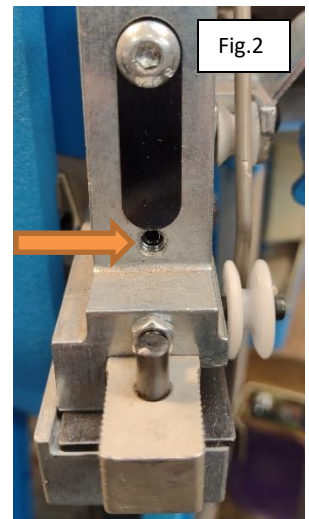
You will need: Rubbing alcohol, canned air, Allen wrench set, fine tip pen/marker, some Q-tips® cotton swabs and/or long pipe cleaner (buy at craft store).

Directions are the same for SM/LG primer size gauge - make sure you are using the correct priming set up on the press. Once the priming system aligned, you should not need to do it again when changing priming sizes. If your priming system is dirty, we recommend to clean it before the alignment. ***This tool will not fix Primer Slide problems issues such as; not going all the way back, stick or stuttering that is found usually on RL550 family, you will need JW Systems "Primer Track Bearing Plate Kit" found on eBay or Amazon. Go to <https://tinyurl.com/y3am43n7> for the directions on how to fix most common issues for sticking/stutter primer slides with the RL550 family and follow step, 1 then reinstall the Primer Housing/Primer Slide.**

1. Remove the toolhead, remove the primer alarm and then unscrew the *Primer Shield Cap* (13957) from the *Primer Housing/Feed Body and Shield* assembly. **Removal of toolhead is important to prevent "phantom" resistance in the press during alignment.**
2. Remove the inner *Primer Magazine Tube Assembly*. Inspect the plastic tip to make sure it is not damaged. **VERY IMPORTANT!!** Clean the *Primer Magazine Tube Assembly* by pushing a rubbing alcohol soaked Q-tips® broke in half, push through the tube using the plastic *Primer Follower Rod* (13707). **DO NOT USE THE ALIGNMENT GAUGE, it will bend the brass rod.** You can also use a long pipe cleaner instead of Q-tips®. Repeat till it comes out clean. Clean primer tubes will make your life easier. If you feel roughness or tight spots, contact Dillon for replacement.
3. Do primer drop test for RL550/XL750 *Primer Magazine Tube*. Per Dillon RL 550C Manual pg. 52 or XL750 manual pg. 49. "Hold the Mag Tube vertical with the tip resting on a flat surface. Drop on primer into the top of the tube shiny side down. Gently pick up the tube. The primer should sitting on the flat surface. If not, check the tip for damage and burrs on the semicircular "fingers," gently and very lightly open the two "fingers." Try the test again. If still unsuccessful, replace the Tip and perform the test until successful." If in doubt, replace the tip. **See Fig.1**, left tip is damaged, causing primers to hang up.
4. Inspect the *Primer Slide Assembly*, *Primer Housing/Feed body and Shield* and *Primer Seating Cup* to make sure they are clean and without burrs. Check *Primer Slide Height* see pg. 3, Troubleshooting #5. If it is dirty, has burrs etc., the gauge can give false readings. Blow off/clean as necessary.
5. Reinstall the *Primer Magazine Tube Assembly*. You will need to twist it to make sure the tab on the plastic tip drops into the slot into the *Primer Housing/Feed Body and Shield* assembly. Screw the *Primer Shield Cap* down **lightly**. If you overtighten, it can cause primers to misfeeds due to plastic tip deformed.
6. Make sure the reloading press *Operating Handle* is vertical or upright, gently insert the correct size drop gauge into the *Primer Magazine Tube Assembly*. As you lower it, feel for any binding as you gently raise or lower it. If you feel any, check the brass rod for any kinks or bends. Do not drop the gauge, it could damage the *Primer Feed Stop Pin* (14051)



7. Cycle the *Operating Handle*, to the priming position. You should notice the Alignment Gauge should drop approximate 1/8" into the *Primer Seating Cup*. Raise and lower the Alignment Gauge and feel for binding. If the gauge doesn't drop freely into the *Primer Seating Cup*, you may need to adjust the travel of the *Primer Slide Assembly*. You can also check by slowly pulling the press *Operations Handle* down to see if the gauge drops freely as the *Primer Slide* retracts.
8. ADJUSTING THE PRIMING - you will turn the *Slide Pickup Adjustment Screw* (13961), **See Fig.2** it is just below the *Primer Feed Stop Spring* (13979), it's the same location on RL550 and XL750. **NOTE:** The adjustment screw has thread locker applied from the factory, recommend that you use only a standard tipped Allen wrench, avoid ball end wrenches if possible. Note the position of the Allen wrench before turning to have a baseline to return to if necessary. Use a 3/32" Allen wrench to make you adjustments. Slight movements go a long ways. Twist no more than **1/8 of a turn at a time**. Use purple #222 or blue #243 Loctite to hold in place after adjustments are complete if needed. As you adjust the *Slide Pickup screw*, you will need to move the press *Operation Handle* back and forth to get the primer Slide to move back and forth and check for alignment, be sure to raise the alignment gauge when you raise the handle, if not the alignment gauge will hold the primer slide back. Dillon factory tip - put a dab of grease on the *Operation Rod* where it goes into the *Operations Rod Bracket*.
9. After adjustments are complete, drop 1 to 2 primers down the *Primer Magazine tube*. **Do not use the Primer Follower Rod for the test**. Cycle the *Operations Handle*, check for correct feeding. Repeat alignment if misfeeding. If you press will feed the last primer regularly, adjustments are done.
10. Due to the minimum specs of the Alignment Gauge, you will not remove all the dragging or binding as the gauge drops into the *Primer Seating Cup*, you will just have to adjust the *Slide Pickup Adjustment Screw* to find the minim amount of drag. You will not remove all resistance. You will just have to play with it to get the right "feel."



Troubleshooting/Tips

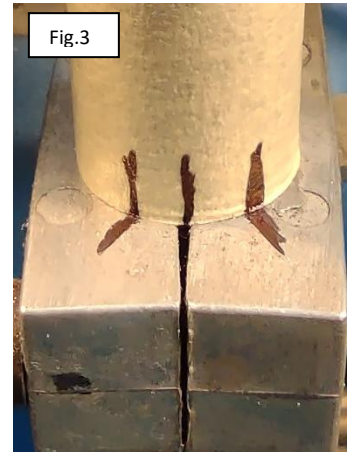
1. If primer sometimes shoots out of the Primer Housing/Feed Body or falls on the Primer Slide you need to look at the plastic tip again. Double check the tightness the *Primer Shield Cap* too much and look again at the plastic tip, did it get damaged or deformed, is the *Primer Shield Cap* too tight? See primer drop test on front page, #3. Also look at #4 and #5 below.
2. Sometimes, especially with Lg primers, everything will be aligned, but the last couple primers do not drop regularly. Try turning the *Slide Pickup Adjustment Screw* out (clockwise) a tiny bit. As the primer slide moves towards the "Primer Housing," it will over travel the "Primer Magazine Tube" a tiny amount, increasing the chance for the primer to drop.
 **Large size primers in testing (in-house and Beta testers) can be more time consuming than Small primers to get aligned 100%.
3. Make sure the two (2) Allen bolts hold the *Primer Housing/Feed Body and Shield* to the RL 550 press are lightly tighten and XL750 nuts are finger tight. RL550 presses are sensitive to the bolt torque. Sometimes loosen and tighten after alignment helps on RL550/XL750, just make sure when you loosen/tighten the *Primer Seating Cup* is under the shellplate.

4. **Operation Rod alignment issues are common, but often misdiagnosed**

First, start with checking the alignment and height of the *Operating Rod Bracket* (13887). **RL550** - the *Operation Rod Bracket* should nearly touch the top of the tool head, use a business card as a spacer. **XL750** - The *Operation Rod Bracket* should be 5-5/8" off the body of the *Primer Housing Assembly*, see page 45 in the manual.

Second, the *Operation Rod* should stay parallel with the *Primer Slide* as it moves back and forth. Over time, the *Operation Rod Bracket* can move/twist from use. Wrap the top of the *Primer Housing/Feed Body and Shield* with masking tape and mark with a black marker **see Fig 3**. To align the *Operation Rod and Bracket*, remove *Primer Slide Return Spring*, extend the *primer slide* towards the user and set the *Operation Rod* on the top of the *Grooved Roller Wheel*. Loosen the bolt, twist bracket as necessary to get it aligned, tighten and test. You may have to make slight adjustments to get the *Grooved Roller Wheel* tracking correctly. See **Fig. 4**

and 4.1. Twist the *Operation Rod Bracket* so the rod becomes parallel to the *Primer Slide* when fully retracted. If you have to bend the op rod to make the press work, you need to replace the rod. *Operation rods will fail over time in the RL550/XL750 press family, the metal will fatigue from usage and no longer hold its shape, causing misfeeding, keep an extra on hand. **DO NOT shim or use a spring between the Primer Slide Roller Wheel and the Primer Slide Body or bend the Operation Rod, those are just a Band-Aid for an alignment issue.** When the *Operation Rod* is not parallel with the *Primer Slide*, it will cause the *Primer Seating Cup* to be off to one side when in the primer pick up location = misfeeding. It's OK if the *Grooved Roller Wheel* moves side to side a bit while the *Primer Slide* moves back and forth. The critical alignment is when it is retracted, under the *Primer Housing/Feed Body*. The *Operation Rod* needs to be aligned and parallel, with no side pressure on the *Primer Slide Assembly*.

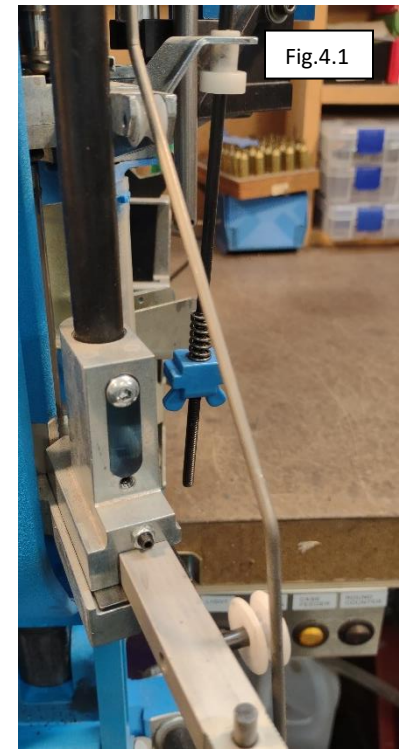


5. **Erratic Primer feeding** - Primer Punch is not fully seated in the Primer Slide or is loose. Check the height via manual - RL550 is 1.215"-1.220" see pg. 51 and XL750 1.380"-1.390" see pg. 59. Make sure the set screw is also snug. The easiest way to assemble and check the set screw, place the "Primer Slide Assembly" in a bench vice **see Fig 5**, gently tight the vice, loosen the set screw and slowly open the vice. Clean inspect, reassemble in the reverse order. Double check height.

6. **RL550 users only** - you are using a Primer Slide Bearing Track Plate kit with a Ball Bearing (PSBTP) that you purchased from JW Systems and you disassemble the priming system for cleaning, just follow the directions to reinstall the PSBTP and then go through the steps using the Alignment Gauge. If you do it backwards, you may have primer feed issues. Directions can be found at <https://tinyurl.com/y3am43n7>



7. **XL750 user's random priming issues** - Check the 3 bolts in the *Primer System Mount Assembly* (75108) for tightness. A few presses have reported loose bolts and a few broken/fracture assemblies. See pg. 56 in owner's manual.



8. If you have question on the primer system installation or other questions, please use the excellent Dillon manuals. **RL550C** - Section 8.3.1 pg. 23-27 and Section 9.3 pg. 40-43 and Section 11 pg. 51-52. **XL750**- Section 8.2 pg. 20-24, Section 9.4 pg. 38-39 and Section 11 pg. 48-50.
9. Sometimes, the simplest thing is to just to tear everything down, give it a good cleaning and start over.

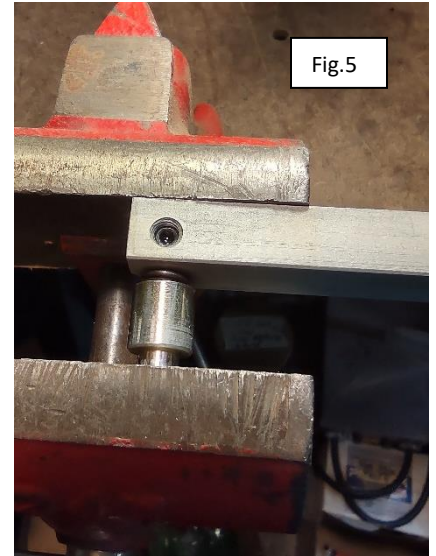
Dillon manual page references come from the following:

RL 550C Rev. B Oct 2021

XL 750 Rev. 6 August 2020

Fine print stuff - If you have any questions or need help, contact me at

JWsystemsamarillo@gmail.com I will respond ASAP, most of the time within a few hours. I appreciate all constructive feedback to improve my products. If you're not satisfied with your purchase, I want you happy! I will pay to ship it back and give you a 100% refund; just let me know how I can make it better.



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