

## DRO Retrofit Kit Instructions



This document will walk you through upgrading your existing Parallel Fence with a Digital Read Out option. The process is fairly simple and you will need two tools, a 1/8" ball end hex key, and a 5/32 hex key (allen wrench).

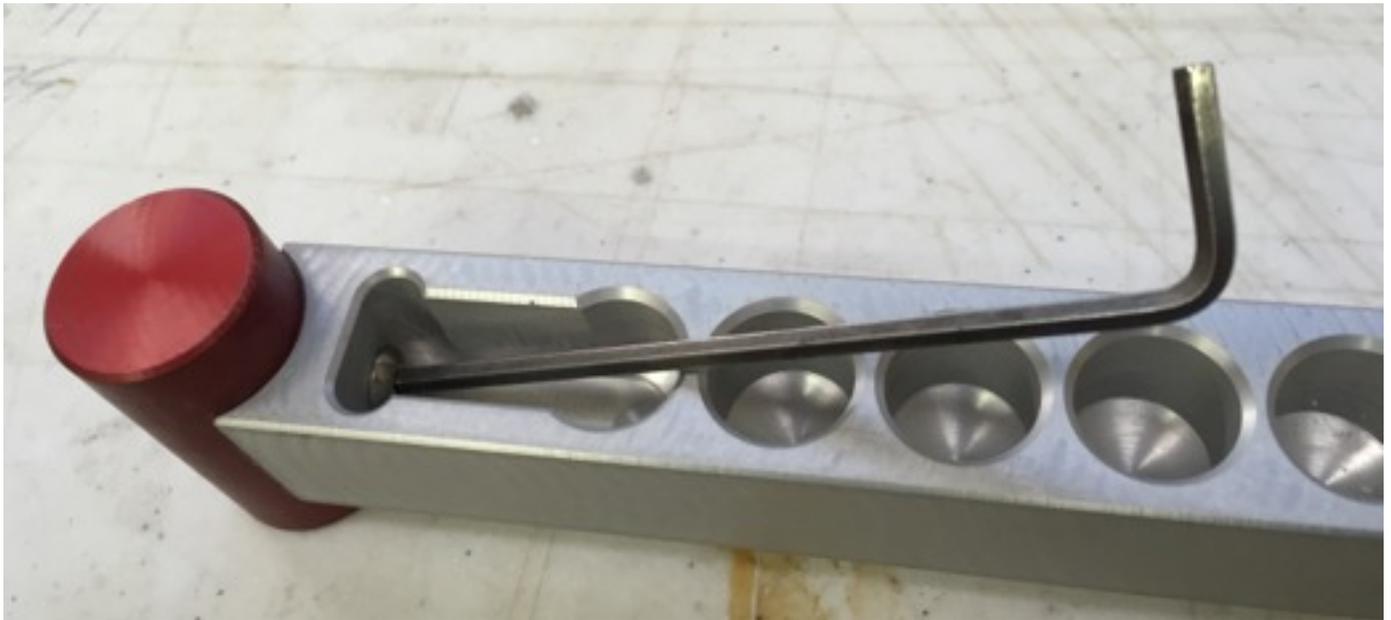
First, we remove the four 2" long Button Head Cap Screws, using the 5/32" wrench from underneath that holds the red "rear block" onto the fence. Set these bolts aside, and be careful not to drop parts when doing this, we have found it's helpful to have the fence mounted as in the picture above.

Remove the measuring rod, set it aside along with the rear cap that has the hairline pointer on it. It should look like the picture below.

**Note: Go to the bottom of the document and see the addendum!**



We now need to remove the end stop from the measuring rod and transfer it to the new rod supplied with the kit. You will need to use the 1/8" ball hex driver to get at the angle to remove the 10-32 screw holding the end stop on, you may need a cheater on the short end of the wrench to break it loose. After you remove it, just re-install it on the end of the new rod that has the magnetic banding in it.



After the measuring rod assembly is complete, carefully install it into the rear block as shown. No bolts to hold this yet, so don't knock it on the ground.



Now, install the new rear cap with the installed Fiamsa DRO unit.



Using the long 1/4-20 Button Head Cap Screws you removed, install the supplied washers onto two of them and install them on the side closest to you in the picture below, the short side closest to the DRO. It would be wise to use some grease or anti-seize on the ends of the threads of the bolts.



Tighten all four bolts, there is a small amount of tolerance in the bolt holes, so you may want to put a small square across the C-channel and square up the rear block as you tighten it.



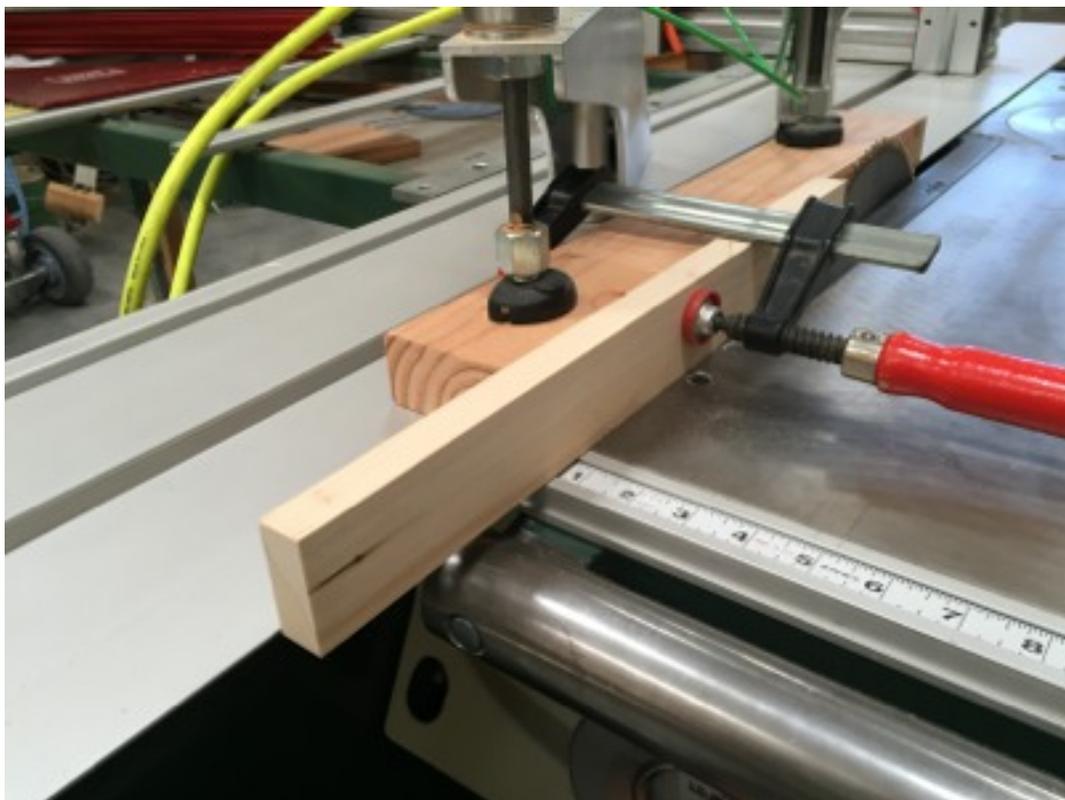
Installation is now complete, the next section details the procedures for setting the zero and explains how to use the buttons on the DRO. You will also receive the manual from Fiana, it can be slightly confusing though, so we will detail the procedures to set options on the unit.

We like to use this method to set the zero position, you can eyeball even to the blade, but you take the chance of scratching the end stop against the teeth of the blade or missing a tooth slightly and getting a false reading. this method takes a minute or two, but once set, they stay calibrated from then on.

Clamp a scrap of wood to the slider such that you can clean up the one edge using the saw blade. Cut the side facing the blade, in this example we have used a scrap piece of 2x4.



Next, clamp a scrap piece of 1x2 to the fresh cut edge, this gives you a surface to set the stop against and get a perfect zero reading.



Attach the parallel fence so that it lines up as shown, extend the measuring rod until it touches your piece of wood, clamp the rod, and reset zero by pushing the reset button once. If you have a second fence, remove this fence and replace it with the other unit, and set it with the same procedure.



Your display should now look like the picture below. You can switch from inch to metric at any time without losing your readings using the mm-inch button, you can also use the ABS-REL button to go from the distance from the stop to the blade, or using incremental move amounts to cut strips repetitively.



## Repetitive Cutting Example

Say you want to cut 1/2" wide strips out of a 12" wide board and don't feel comfortable that your clamps will hold a narrow strip securely with the parallel fences set at 1/2", and you paid all this money for a wonderfully accurate sliding table saw, why rip against the rip fence that might give you all sorts of accuracy issues and trap thin slivers between the blade and fence.

Set your two parallel fences to 11.900" or whatever it takes to clean up the board's edge. Now switch to Relative by pushing the ABS-REL button once. The display will zero out, now move towards the blade your cut width plus the kerf of the blade, for example  $.500" + .125" = .625"$ . Make your cut and then touch the ABS-REL button once to return to Absolute position, then a second time to enter back into Relative and that zero's the display again. Move in the  $.625"$  and cut your next piece. Continue until you have all the pieces you need. One advantage of switching back and forth between Absolute and Relative, is that you can double check your absolute readings between the two fences as it's going to be tough to chase every last  $.001"$  and they might accumulate after each move, so your Absolute numbers should look like this:

$$\begin{aligned}11.900" - .625" &= 11.275" \\11.275" - .625" &= 10.650" \\10.650" - .625" &= 10.025"\end{aligned}$$

and so on....

In fact only switching between ABS-REL on one fence and just using the Absolute reading on the other might be faster and less prone to accumulation errors. If you like this idea, after you have moved the "Relative" amount (also called Incremental movement), push the ABS-REL button once and the Absolute value will be displayed. Then after your cut you would push the button once to return to the Relative mode. The versatility of the DRO unit allows multiple ways to accomplish the same thing.

## Programming the Fiana DRO

The Fiana factory instruction booklet included with your unit will explain in greater detail the options available, but we will outline how we set the units as delivered, and how you can use some of the advanced features.

The units as we ship them, will be set to have the Inch/Metric button active, decimal places .00 on MM, and .000 on Inch and the Reset button sets Zero after a 3 second delay without any offset value.

When setting parameters, don't panic if you make a mistake, if you can't figure out how to back out of the situation, just leave the unit it for 20-30 seconds and it will exit programming mode and you can start over. I'm sure you can figure out how we found that out.

To enter the programming mode you hold the ABS-REL (Up Arrow) key until the display says PASS.

Press Enter twice and you should see a blinking 0000, Password is 0273, the first one on the right is blinking, push the up arrow to display 3 in the right most column. Shift to the next column with the mm-inch (left arrow) key. Set it to 7, left arrow and set to 2, then confirm with Reset. The first parameter value displayed will be u15, this is not used in our application, so just up arrow one time and go to the next parameter which will be ndEC which is the number of decimal places.

You can set the decimal places to whatever you desire, it will come at two places in metric (which is three places in inch). If you only work in metric, you might want the unit set to 1 which will have you reading down to tenths of a mm instead of hundredths. Given that .1mm is .004", that's probably close enough and chasing readings to .01mm (.0004") might be unproductive. To actually set the decimal places with ndEC displayed, push the Reset button twice and using the up arrow key change the value to 1 or 2 and set by pushing Reset.

Next parameter should be showing, which is tASt I and comes set at 117, this turns on mm/inch conversion, ABS/REL and Reset after 3 seconds for zeroing out the display. This parameter if set to 118 will allow you to use an offset value when setting the stop to the blade. For example, if you wanted to use a 1" wide board to rest against the teeth of the blade and then bring the end stop to that board to set your zero value, you would select 118 and then after pressing Reset to save, the next parameter that would appear would be PrSt and you would enter the value of your offset in metric 25.4. Note that customers only using metric might want to disable the in/mm function, so set this parameter at either 017 or 018.

The last parameter is dlr which is the direction the count goes on the DRO , it can be set to 0 or 1, 0 being the correct value for this application.

To exit parameter setting mode, with no digits flashing, hit the left arrow key and that will exit.

There are other options and parameter settings not used in this application. You can read the Fiama manual or they have a nice video on youtube that explains doing the settings, it can be found at this link: [https://www.youtube.com/watch?v=8ZWIXSv\\_Zig](https://www.youtube.com/watch?v=8ZWIXSv_Zig)

The battery is a 1/2AA 3.6V Lithium Battery, should last approximately four years and is easily replaced. Stock battery is a Tadiran SL-750 ZDBF

Fiama warrants the DRO unit for One year to the original purchaser, their warranty verbiage as follows:

Limited Warranty. Seller warrants that the Products sold hereunder are free from defects in material and workmanship for 12 months from the date of manufacture. Seller warrants its Product(s) only to the original purchaser, and in the case of original equipment manufacturers or distributors, only to their original customer. The warranty for Products in this Section 8 and in Section 9 are in lieu of and exclude all other warranties, express or implied, by operation of law or otherwise, including, but not limited to, the warranty of merchantability and fitness for a particular purpose (whether known to Seller or not). All other such warranties are hereby expressly disclaimed by Seller and waived by Buyer. Written notice of claimed defects shall have been given to Seller within the warranty period set forth above, and within thirty (30) days after the date any such defect is first discovered. The Products claimed to be defective must be returned to Seller, with transportation prepaid by Buyer or its customer, with written specifications of the claimed defect. If a warranty claim is valid, Seller shall pay reasonable one-way costs of transportation of the defective Products from either the original destination or the location where the defect occurred, whichever is closest to Seller's facility. Under no circumstances shall Seller be liable for removal of Seller's goods from Buyer's equipment or re-installation into Buyer's equipment. No person, including any agent, distributor, or representative of Seller, is authorized to make any representation or warranty on behalf of Seller concerning any Products or goods manufactured by Seller, except to refer purchasers to this warranty.

We hope you enjoy your new DRO Parallel Fence. If you have any questions, feel free to contact us at [www.lambtoolworks.com](http://www.lambtoolworks.com) using the contact us function.

# ADDENDUM

We found that the old style UHMW pad on the clamp screw would shift the rod as clamped a few thousandths, so we advise that you take a razor blade and carve off the UHMW pad, and clean the head of the bolt with Acetone. Then when you re-install the rod into the rear black, add the supplied clear plastic pad. It has been laser cut to fit into the pocket and then won't fall out as long as you don't pull the rod completely out. Using this as a clamp pad, keeps the rod from moving as the screw rotates against the pad instead of the rod.



Remove the UHMW pad from the head of this screw.

Use the included plastic shim between the rod and screw, it only goes in one way.



Finished install should look like this.

