

13/22xx Two Stage Sear Installation

A Foreword: We are committed to supporting our customers as best we can in whatever they want to do with their airguns – so long as it's safe. The 13/22xx sear mod is designed to function in and to be compatible with factory-standard "virgin" triggers. It's inevitable that some folks will want to install the 13/22xx sear into triggers that have ALREADY been modified and that therefore, to some degree, deviate from that standard.

Therefore we strongly recommend that any such installation be followed with a very careful check of the safety of the trigger that results.

WARNING: When the 13/22xx sear is added to a trigger that's already been modified, it's not always possible to predict the outcome, especially if you have modified the sear spring (e.g., lighter/shorter sear springs) – and so it's to be expected that the outcome is not always going to be good unless it has been put back to near stock condition. We strongly suggest that you use the stock spring or one of equivalent strength and length, as anything less makes the trigger very sensitive and soft, quite possibly to the point of being dangerous.

Please read and heed the safety note and disclaimer at the end of the instructions.

Installing the Sear:

Installing the 13/22xx sears a relatively simple procedure and does not require removing the trigger from the gun. The whole process can usually be done in ten minutes or less and requires only two standard screwdrivers: One (~2") to remove the right-hand grip screw and the two screws that attach the frame cover, and one (~1") to adjust the trigger after assembly.

The Sear consists of five pieces, the sear itself, two #2-56 adjustment screws, and the springs that go under the screws to keep them from losing their adjustments.



Below are the steps for the 13/22xx installation.

Make sure that the gun is uncocked and unloaded! Safety first. Always!

First, place the safety button into the "Fire" position and make sure it stays there at all times when the trigger frame cover is off. This will better retain the safety spring and BB in the steps to come and reduce the chance of them popping out. This is a good idea because replacing them can be difficult.

Remove the side grip and trigger frame cover.

Carefully remove the sear spring and factory sear and not jostle the gun around so much as to make the tiny spring

IMPORTANT... Again, we strongly suggest that you use the stock spring or one of equivalent strength and length, as anything less makes the trigger very sensitive and soft, quite possibly to the point of being dangerous.

Installing the Sear is easy as you can see in the diagram. Just slip the sear into place, replace the pivot pin and spring, and reassemble.

Adjusting your new trigger:

Note: It should be pretty close already. Just install it and fine-tune as necessary.

Adjustment should basically proceed in two stages - following the principle of operation of your new Sear.

1st Stage Adjustment: The screw nearer the rear of the gun is the 1st stage adjustment. It determines the amount of initial sear/hammer engagement, and thereby controls the pull and weight of the trigger and, fundamentally, how safe it is. So it's critical that the 1st stage adjustment be done carefully and conservatively.

Turning the screw clockwise shortens and lightens the 1st stage pull, counterclockwise lengthens it and increases the pull weight.

2nd Stage Adjustment: The screw in the middle of the Sear is the 2nd stage adjustment. Turning this screw clockwise lengthens the 2nd stage, counterclockwise shortens it. It is important to make this final adjustment in small increments - no more than 1/8 of a turn at a time. It is possible to screw the 2nd stage adjustment screw out too far to a point where you have no second stage at all. This isn't necessarily unsafe, but most folks will find it easier to shoot accurately with a properly adjusted, crisp 2nd stage.

The final adjustment is a matter of taste and is most easily done while cocking and dry-firing the gun while using the usual safety practices.

Be careful on your first few shots, as the trigger will feel and be totally different than what you are accustomed to. Always observe basic safety rules.

We suggest that, at least to start, you leave yourself a little pull room (creep) in the second stage so you will be able to easily predetermine when it will fire. You may find that, after getting thoroughly familiar with the feel of your 13/22xx sear, that you'll become comfortable with a lighter 2nd stage pull. Feel free to experiment.

Enjoy your new trigger!

Safety Note! Safety Note! Safety Note!

Important Safety note regarding balked fires:

If you start to pull the trigger, but then release it without firing, the sear will not reset to its original (as-cocked) state automatically. This may leave your gun on the verge of firing and therefore in an unsafe condition where the slightest jolt or vibration might cause a misfire. Therefore, if you begin to take a shot, but then change your mind after having already started to pull the trigger, it is important to always re-cock the gun to reset the sear.

It is interesting to note that, although you may not have known it, your trigger has always had this behavior. The non-resetting sear is not a side effect of the 13/22xx sear modification but is inherent to the Crosman design.

In fact the very best practice of all is to re-cock whenever a trigger is even touched without actual firing. We recommend that you develop and practice this good habit with all guns as many triggers have this property. One day it may prevent an unexpected discharge.

Disclaimer: As with any changes, disassembly and reassembly, modifications and/or alterations of an air gun or any of its parts, there is always the possibility of compromising the operation and safety of the air gun. It is important not to adjust the trigger to a point of being unpredictable.