

The Ruger SP101 Trigger Job Guide

by Kevin Wilson

Introduction

The Ruger SP-101 is a great revolver, but the factory double action trigger pull can be heavy and a bit rough. It can be improved with a "trigger job". Improving the trigger pull involves disassembling the revolver, sanding / polishing surfaces, installing shims, and replacing factory springs with lighter springs. This guide will walk you through the process of completing a trigger job. The entire process is broken down into simple, illustrated steps.

Safety

Make sure the revolver is not loaded. Please follow all firearm safety rules while working on your firearm.

Warning

An improper trigger job can render a revolver useless or result in a dangerous malfunction. Several parts in the revolver are carefully fitted at the factory. Any significant changes to these parts can make the trigger pull worse or render the revolver useless.

When sanding, your goal is to smooth the rough spots while removing as little metal as possible. The surfaces do not need to be perfectly flat and smooth. You should only use 1000 - 2000 grit sandpaper and polishing compound. Using coarser sandpaper can easily remove too much metal. Do not sand the forcing cone, cylinder face, cylinder notches, cylinder crane (or the frame where it meets the crane) or any other surface unless you're sure it will not effect the proper function of the revolver. Avoid using a Dremel or any power tools, except with soft polishing wheels and polishing

compound.

Although it will significantly increase the amount of time to complete a trigger job, I recommend that you reassemble and test the revolver after sanding and polishing each part.

Contact

Please feel free to email me at: kevin@kevinsworkbench.com if you have any questions or suggestions.

Disclaimer

The procedures in this guide can render your revolver inoperable or result in a dangerous malfunction. I am not a gunsmith. I am not responsible if you break something or injure someone.

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Preparation

If you plan to install shims, measure the gap between each side of the hammer and trigger before you begin disassembly (see below). Have several small cups, bags, etc. to put the parts in as you disassemble the revolver. I find it helpful to label the parts during disassembly. I recommend having a clean work area with good lighting and minimum distractions.

Required Materials

Actually, some of the following items are required. Others are helpful or optional:

- Long, thin screwdriver, bar, etc.
- 1 or 2 paper clips
- Sandpaper (1000, 2000 grit)
- Polishing compound
- Soft cloth or rotary tool
- Replacement springs
- Feeler gauge
- 1/4" drill bit
- Vise (with padding)
- Fork (silverware)
- Oil
- Large, clear plastic bag (about 1 gal size)
- Several small cups or plastic bags

Shims

Hammer shims and trigger shims will center the hammer and trigger in the frame and prevent dragging. Use the following procedure to determine the required shim thickness for your revolver.

With the revolver fully assembled, use a feeler gauge to measure the gap between each side of the hammer or trigger and the frame. Add the gaps on each side to calculate the total gap. Subtract 0.002 inches from the total gap. Divide the result by 2 to determine the thickness of each shim. For example: if each side of the hammer has a 0.004 inch gap, the total gap for both sides will be 0.008 inch. Subtract 0.002 inches = 0.006 and divide by 2 = 0.003 inch. So the hammer should have a 0.003 inch shim on each side.

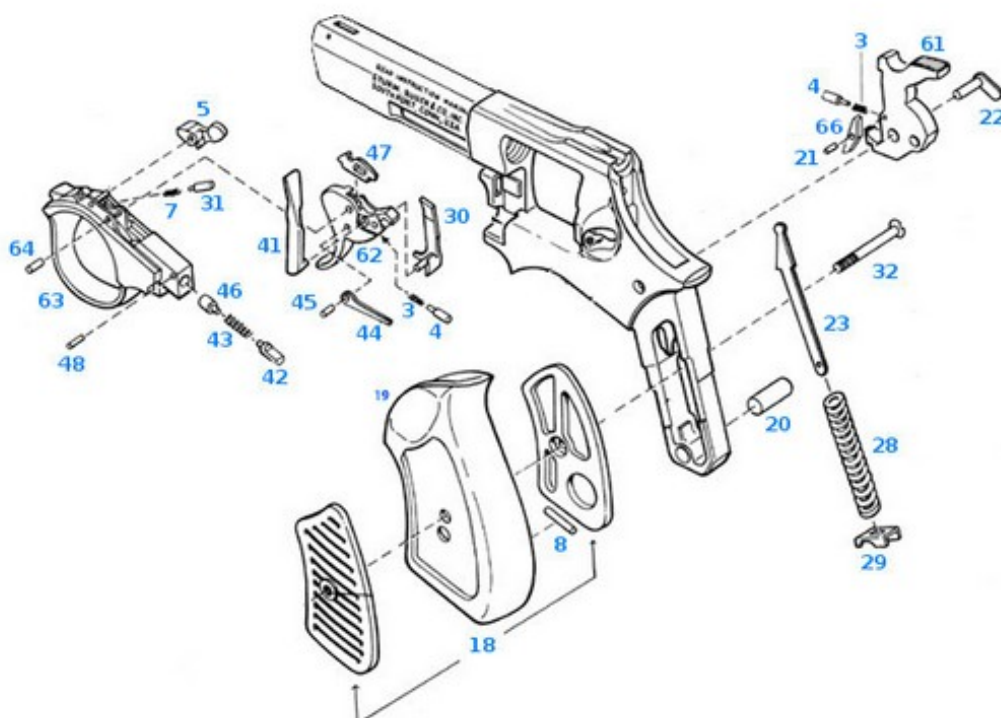
High quality stainless steel shims can be bought from Lance at TriggerShims.com. He also has an eBay store under the seller name "Michigan Center Outdoors". Lance produces all his shims by hand.

You can also make your own shims from a feeler gauge. Cut off the end of the gauge and drill or punch a hole slightly larger than the pin that'll go in the hole. To drill a cleaner hole you should place some wood under the shim. You may also clamp the shim between two pieces of hardwood, aluminum, etc. A step drill usually makes a better hole. If the drill bit is wandering, make a small dent in the center of your future hole with a center punch or nail before drilling. The edges of the shim should be sanded smooth.

The steel in many feeler gauges will rust easily. Be sure to apply a coating of oil or grease to the shim. Getting the shims in place while assembling the revolver can be a challenge. I recommend inserting the shim between the parts and using a feeler gauge to push the shim into place, then use a paper clip to align all the holes so the pivot pin can be inserted.

Schematic

You may refer to the following schematic through the trigger job process.



Part #	Description
3	Hammer dog spring, pawl spring
4	Plunger
5	Cylinder latch
7	Cylinder latch spring
8	Disassembly pin
18	Grip panels
19	Grip
20	Grip retaining pin
21	Hammer dog pivot pin
22	Hammer pivot pin
23	Hammer strut
28	Mainspring
29	Mainspring seat
30	Pawl
31	Pawl plunger

Part #	Description
32	Grip panel screw
41	Transfer bar
42	Trigger guard latch
43	Trigger guard latch spring
44	Trigger link
45	Trigger link pin
46	Trigger link plunger
47	Trigger plunger
48	Trigger guard latch retaining pin
61	Hammer
62	Trigger
63	Trigger guard housing
64	Trigger retaining pin
66	Hammer dog

Step 1

Remove The Grip

Loosen the screw [32] on the side of the grip [19], but before pulling it completely out, push it in to pop out the grip panel [18] on the opposite side. Be careful not to lose the small pin [8] behind the grip panel.



Step 2

With the panels removed, push out the grip retaining pin [20].



Step 3

With the retaining pin removed, slide the grip down.



Step 4

With the grip removed, you have access to the hammer strut [23] and mainspring [28].

Note - The hammer has not been removed. This revolver has a bobbed hammer (the hammer does not have a spur). Sorry if the picture is misleading.



Step 5

Remove The Hammer Strut And Mainspring

Cock the hammer [61] or pull the trigger [62] half way to expose a pin hole at the bottom of the hammer strut. Insert a paper clip or the pin from behind the grip panel into the pin hole at the bottom end of the hammer strut. Note the orientation of the hammer strut so you don't put it in backward during reassembly. You can refer back to the schematic or this picture if you forget.



Step 6

Release the trigger and remove the hammer strut and mainspring.



Changing The Mainspring

This is the time to change the mainspring [28], if desired. Skip this step if you're not changing the mainspring.

Note - Removing the mainspring from the hammer strut [23] can allow the spring to launch.

To remove the mainspring, place the rounded end of the hammer strut in a padded vise. Be careful not to damage the hammer strut with the vise. With the hammer strut between the tines of a fork, push the fork down on the mainspring seat [29] to compress the spring. While holding the spring down, remove the paper clip or pin and the mainspring seat. Carefully decompress the spring and remove it from the hammer strut. This is a good time to gently sand any rough edges on the hole in the center of the mainspring seat and the edges of the hammer strut where the mainspring seat slides up and down. Slide the new spring on the hammer strut. Reassembly is the reverse of disassembly.

The factory mainspring is 14 lbs. A 12 lb spring is recommended, however a 10 lb spring can be used with increased risk of light primer strikes.

Step 7

Carefully sand rough spots on the edges of the hammer strut [23]. Gently polish the rounded end of the hammer strut.



Step 8

Remove The Hammer

Pull the trigger to free the hammer pivot pin [22].



Step 9

While holding the trigger back, remove the hammer pivot pin.



Step 10

While holding the trigger back, pull the hammer free.



Step 11

Remove The Hammer Dog

The hammer dog [66] mates with the trigger as the trigger is pulled back.

Use a paper clip to remove the hammer dog pivot pin [21]. Remove the hammer dog, plunger [4] and the spring [3].



Step 12

The hammer assembly...

Polish the hammer sear, but do not change the angles. Do not sand the hammer sear.



Step 13

Polish the bottom side of the hammer dog and sand any rough edges. This is a factory fitted part. Be very careful not to remove too much metal or change the angles.

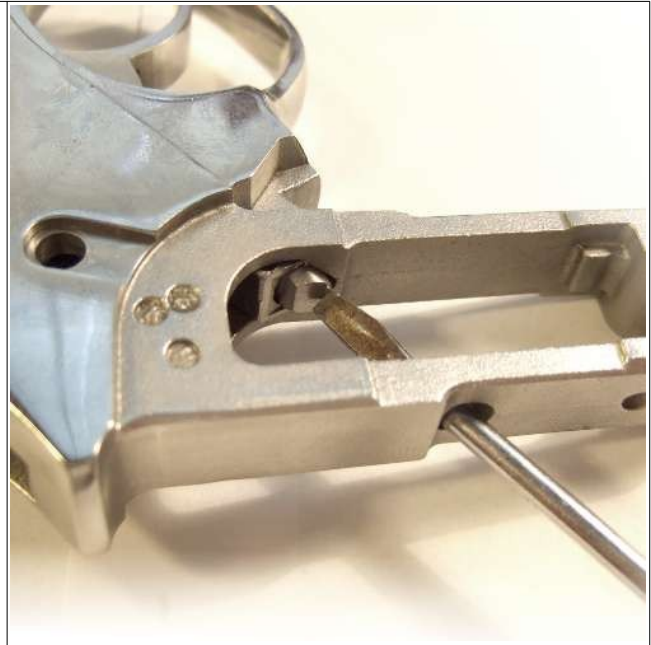


Step 14

Remove The Trigger Guard Housing

Insert a long, narrow screwdriver, bar, etc. through the hole in the rear of the frame grip and push the trigger guard latch [42]. It may take quite a bit of force to press the latch. Be careful not to let the screwdriver slip off while pressing.

I prefer to hold the frame with my left hand while using my right hand to depress the trigger guard housing plunger. I press the muzzle into my leg during this procedure. I place a left hand finger in the trigger guard housing [63].



Step 15

While pushing the trigger guard housing latch completely in, pull down on the trigger guard housing so the rear swings downward.

If the trigger guard housing refuses to move while the plunger is depressed, you may use a small screwdriver to gently pry the housing away from the frame. Do not pry on the seam where the trigger guard housing mates with the frame.



Step 16

Remove the trigger guard housing.

Do not sand or polish the edges where the trigger guard housing mates with the frame.



Step 17

Remove The Transfer Bar

Pull the trigger slightly and slide the transfer bar [41] sideways to free it. **Note** - Do not pull the trigger all the way back or the pawl spring [3] will launch out.

Sand any rough edges on the transfer bar.



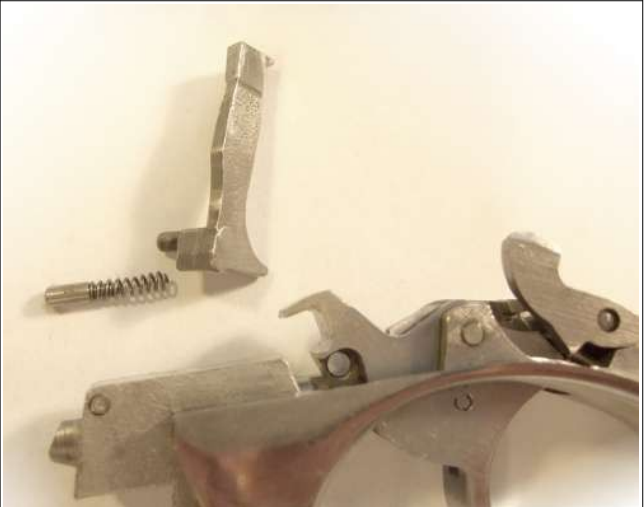
Step 18

Remove The Pawl

Note - The pawl spring [3] will try to launch during this procedure.

Place the trigger guard housing in a plastic bag or hold your finger over the pawl spring. Carefully pull the trigger and slide the pawl [30] sideways to free it along with the pawl spring.

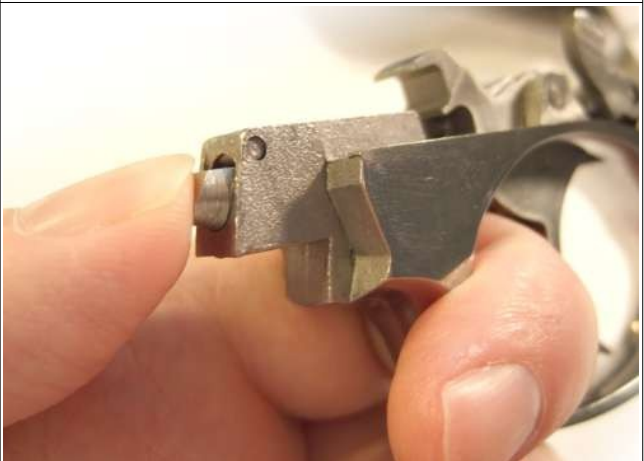
Polish the top, flat area of the pawl and the bottom area that rubs the frame. Sand any rough edges.



Step 19

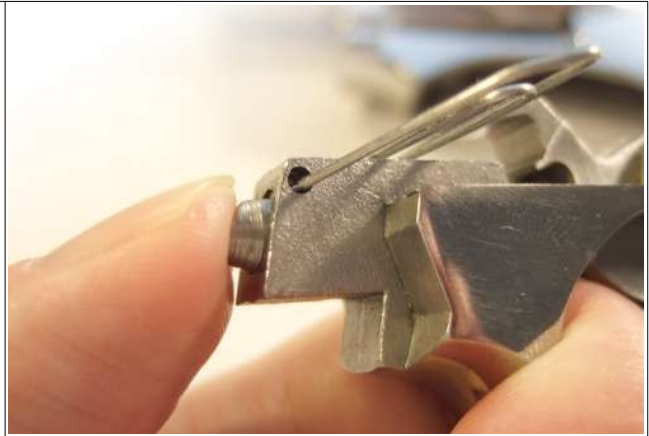
Remove The Trigger Guard Latch

Place a finger in the trigger guard housing behind the trigger and use your thumb to push in the trigger guard latch [42].



Step 20

While pushing in the trigger guard latch, use a paper clip to push out the latch retaining pin [48].



Step 21

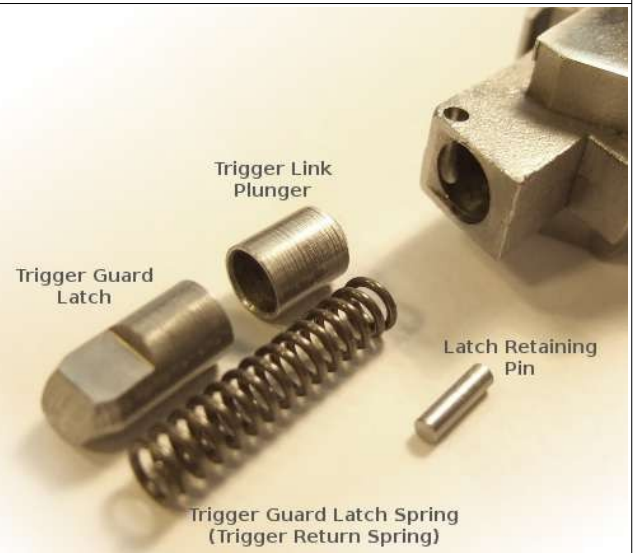
Remove the trigger guard latch, trigger return spring [43] and trigger link plunger [46].



Step 22

The trigger guard latch assembly...

The factory trigger return spring is 11 lbs. I recommend a 8 lb spring. If the trigger is hesitant to reset, use a 10 lb spring.



Step 23

The surface inside the trigger guard latch hole is often rough. Use a 1/4 inch drill bit to clean out chips and rough areas. Do not make the hole any deeper. Do not use a drill, turn the bit by hand.



Step 24

Remove The Trigger

If you plan to install trigger shims and have not measured the gap beside the trigger, do so now. Refer back to the [shims](#) section for directions.

Use a paper clip to push out the trigger retaining pin [64].



Step 25

With the trigger retaining pin removed, pull the trigger out.



Step 26

Remove the trigger plunger [47] from the trigger.

Sand and polish the edges of the trigger where your finger makes contact. This is one spot where you can safely sand with more aggressive sandpaper if you wish to have a more rounded edge on your trigger.

Sand any rough edges on the trigger plunger. Polish the top and bottom of the pointed side where it makes contact with the cylinder latch [5].



Step 27

Polish the top of the trigger cam surface where it mates with the hammer dog [66].



Step 28

Remove The Cylinder Latch

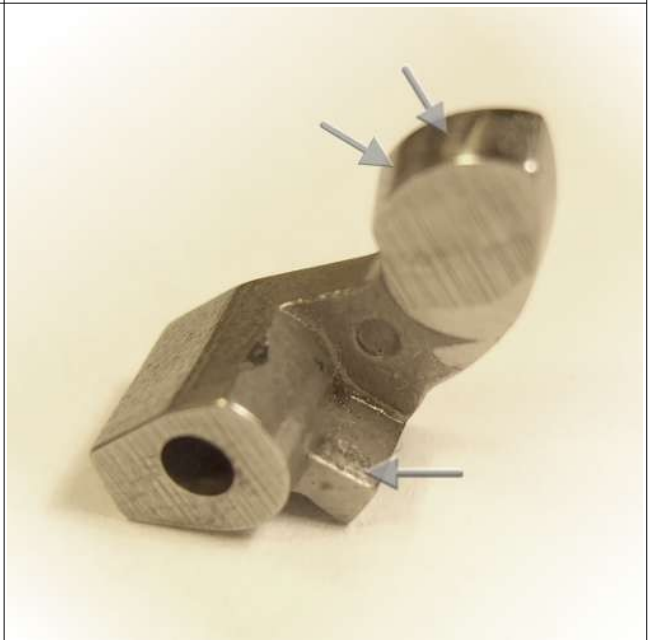
Note - The cylinder latch spring [7] will try to launch during this procedure.

Place the trigger guard housing in a plastic bag or hold your finger over the cylinder latch spring. Carefully pull the cylinder latch [5] to the side and remove it.



Step 29

The cylinder latch should be polished where it mates with the cylinder and trigger plunger [47].



Step 30

The pawl [30] will drag on the frame as the trigger is pulled.

After the trigger is removed, polish the frame where the pawl drags. Do not remove too much metal. The surface does not need to be completely smooth. Just sand lightly to remove any rough spots. The bottom of the pawl where it drags on the frames can also be polished.



Reassembly

Apply a thin coat of oil to all surfaces. I prefer [Slip 2000](#). At the risk of opening a debate, I think good synthetic 5W-30 motor oil works well.

Reassembly is basically the reverse of disassembly. If the trigger guard assembly refuses to swing back into the frame, the transfer bar or pawl may need to be repositioned, the trigger pivot pin may be sticking out or the cylinder latch may not be fully inserted. Be careful not to pinch yourself between the trigger guard housing and the frame.

While holding the trigger back, insert the hammer into the frame. Insert the hammer shims. Insert the hammer pivot pin. You may need to use a paper clip or feeler gauge to align the hammer shims before inserting the pivot pin.

With the trigger forward, insert the hammer strut and mainspring. Be sure not to put the strut in backward. Pull the trigger half way and remove the paper clip or pin from the hammer strut.

Test your revolver for proper operation. The trigger pull should be smoother and lighter.

FAQ

Can I use emery cloth instead of sandpaper? Sure.

Where can I find 1000 - 2000 grit sandpaper?

You can find it at auto parts stores and in the auto parts section of most big retail stores (like Wal-Mart). Some home improvement stores will have it.

Can I use this guide for my Ruger Security Six or other revolvers?

This guide was written specifically for the SP-101. You can read through this guide to get a feel for the process, but there are some differences between various Ruger models. I don't recommend using this guide for other models.

Helpful Links

If you break something, replacement parts can be ordered from www.gunpartscorp.com.

Here you can watch a simple animation of the [Ruger SP101 trigger pull sequence](#).

You may also be interested in my [custom wood grip guide](#) or [my other pages](#).

High quality stainless steel shims can be bought from Lance at TriggerShims.com. He also has an eBay store under the seller name "Michigan Center Outdoors". Lance produces all his shims by hand.

rugerforum.net is a great forum full of helpful information and friendly people.

Credits

This guide was inspired by my personal experience, "Iowegan's Book of Knowledge", posts from the rugerforum.net forum, the Ruger SP-101 owners manual and various other sources.