Grand Masters, L.L.C.

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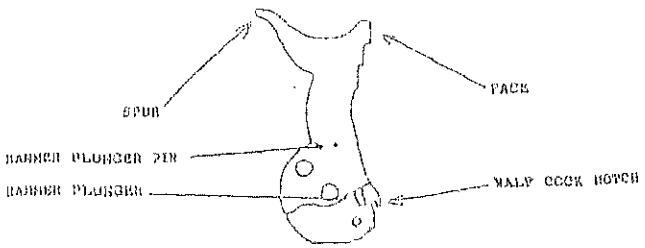
Ruger Single Action Power Hammer & Trigger Kit

Kit includes:
Hammer, hammer plunger, hammer plunger spring, hammer plunger pin. The hammer plunger is stainless steel, heat treated, ground to .093 diameter, with ground notch in location to allow for fine tuning and fitting. The hammer plunger pin is steel, l/l6" diam. x .250" long. Heat treated RC60. (Different than factory)
Trigger - Redesigned for half cock notch hammer.
Spring Kit - Guaranteed superior spring kit. includes (3) different reduced power hammer springs; 17 lb, l8 lb, l9 lb, (factory is 23lb.), (l) 30% reduced power trigger spring, plus (l) extra cylinder latch pin spring.

The Hammer and Trigger are deep case hardened R C56-58 steel. Manufactured by precision EDM and CNC methods producing the same external profile as the factory parts. Blued finish with flat sides polished bright, hand finished with polished engagement areas to allow for a 2 1/2 lb. to 3 lb. pull. All parts are user friendly, making the Ruger feel more like a Colt Single Action. The Hammer is redesigned with a half cock notch. A minor modification to the transfer bar will allow the loading gate to be opened when the hammer is put on half cock. When on half cock and the loading gate is open, the cylinder can be operated like a Colt Single Action. The cylinder will only rotate clockwise and the pawl will sing anytime the hammer is on half cook and the loading gate is open. If the hammer is down all the way, the leading gate may be opened and the cylinder may be opened like the original Ruger system. When the hammer is pulled to the rear, feel and hear 3 positive clicks. The hammer external profile is the same as the Ruger 57~XXXXX prefix series, new model, large frame revolvers.
Due to manufacturing tolerances, gunsmithing is required for correct timing of action. Detailed instructions are included.

Read and Understand all of the following information before installing parts!!!

Hammer instructions
Note: The added steel boss around the hammer pivot pin hole area and the area where the hammer plunger extends allows the plunger to be supported more in this area and the pivot pin has 100% bearing contact The factory parts may need to be altered so the action will time properly. Correct timing means that the cylinder rotates when the hammer is drawn back and the cylinder stop drops in the notches of the cylinder just before or at the same time the sear part of the trigger drops in the hammer hook. The hammer or custom trigger should not be altered in any way. If alterations are needed, they should only be made on the balance of the factory parts.



You may note - Most of the out of the box factory revolvers rely on the over cock of the hammer to determine when the cylinder locks up.

It is best to have the cylinder line up and the cylinder stop drops in the cylinder notches at the same time as the sear engages in the hammer hook. If the second step of the pawl is too long, the cylinder can not rotate any more than the stop will let it, and the hammer will not be able to be pulled back far enough for the trigger to catch the single action notch of the hammer. When this occurs, it is necessary to remove a few thousands of an inch from the top of the second step of the pawl. (This area (E) in the enclosed free spin instruction illustrations). Sometimes, ratchets are not cut the same on the back of the cylinder. When this is the case, fit the second step of the pawl to the loosest ratchets and then file the face of the balance of the ratchets to the pawl. This way all of the ratchets will be the same in relationship to the cylinder stop notches.

UNDERSTAND HOW THE PARTS WORK

When the face of the hammer is down (against the frame), the hammer plunger should be behind the rear of the cylinder stop. When the hammer is drawn to the rear, the plunger cams to the rear of the stop up and the stop will disengage from the cylinder notch. The top step of the pawl engages in the ratchet of the cylinder , the cylinder starts to rotate. The hammer plunger then disengages from the rear of the stop and the stop is pushed up by the stop plunger and spring. The stop will put drag on the cylinder. This drag is necessary and there will be a small mark on the cylinder. This has to be. Do not try to alter the plunger, and let it out so far as to try to have the cylinder stop drop into the flutes of the cylinder notches like some try to do on the Colt Single Actions. When cocking the hammer fast, the cylinder stop drag does prevent cylinder "skip". As the hammer is drawn further to the rear, the cylinder is rotating and the load of cylinder rotation is transferred from the top of the pawl to the second step of the pawl. When the second step of the pawl is the correct height, the cylinder will rotate until the cylinder stop drops into the cylinder notch, and at the same time, the sear/trigger will drop into the single action notch of the hammer. When the trigger is pulled, the sear/trigger is disengaged from the hammer hook, and the hammer goes forward. The hammer is pushed by the hammer strut from the power supplied by the hammer spring. With the trigger to the rear, the transfer bar is up, which allows the hammer to strike the transfer bar, and the bar pushes the firing pin forward. When the trigger is allowed to return forward, the transfer bar drops down from the engagement of the firing pin and the second step of the face of the hammer. This creates a void area for the rear of the firing pin. Next to an empty chamber under the firing pin, this is the safest system ever designed. For safety, remember to always have an empty chamber under the firing pin. When the hammer is down, the loading gate will operate the same. When on half cock, the loading gate will not open all the way until you make an alteration to the transfer bar.

Alteration of the Transfer Bar

Use a good file and lower the step .075" straight across the bar. You do not need the angle lead in like the factory has. This will let the pivot stud of the loading gate clear the trigger bar when the hammer is on half cock. Safety - Do not take too much off. The hammer should only be able to go to full cock when the loading gate is closed.

Trigger Alteration

Note: Do not alter the custom trigger in any way!! If you only purchase a custom hammer, and wish to alter the factory trigger, make changes as per this Illustration. Use a small grinder and remove metal only on the upper side of the sear area. Grind to where point of sear area is .040" wide. Be sure this area is a maximum of .040" wide and doesn't wedge in the hammer half cock notch. If it is too tight in the hammer half cock notch and you drop the hammer on half cock, it may damage the hammer half cock notch, voiding the warranty. The inside of the sear area should not be changed at the point of the sear. The inside of the curved area has to be relieved to make room for the half cock notch of the hammer when the hammer is down. When the hammer is down, the trigger has to be far enough forward for the transfer bar to be below the firing pin and second step of the hammer face.

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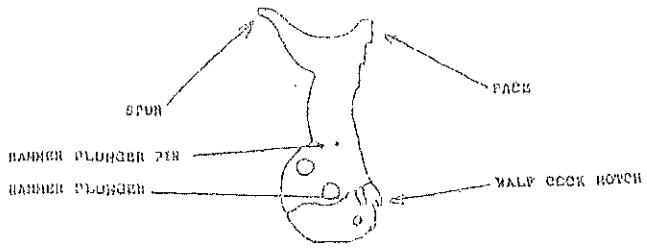

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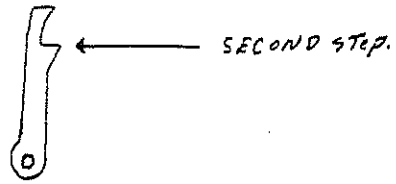
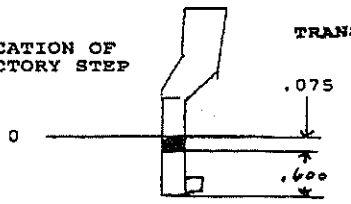
Illustrations

PAWL



LOCATION OF FACTORY STEP

TRANSFER BAR ALTERATION

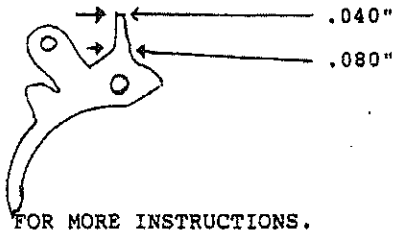


REMOVE METAL IN DARK AREA FROM THE STEP TO THE BOTTOM OF THE BAR SHOULD BE .600"+-.005

FACTORY TRIGGER

REMOVE METAL IN DARK AREAS

ALTERED TRIGGER



SEE FREE SPIN PAWL INFORMATION FOR MORE INSTRUCTIONS.

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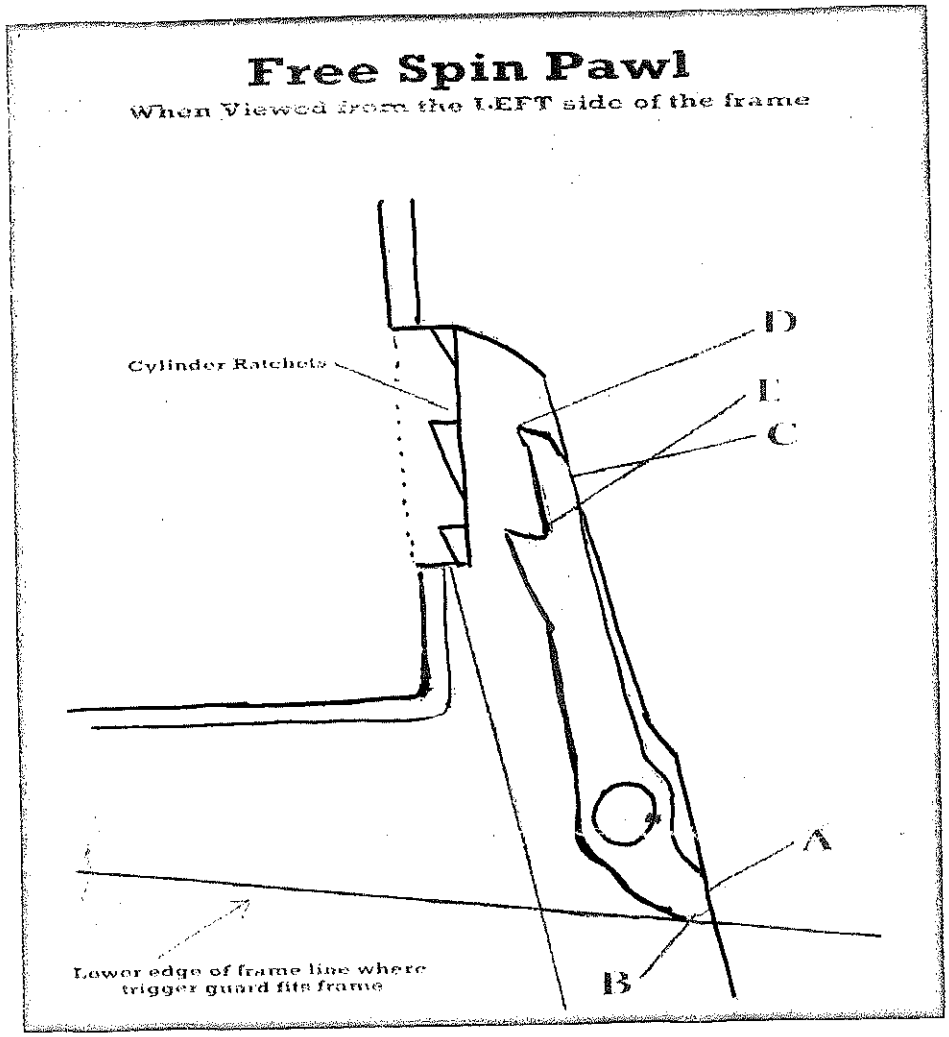
Free Spin Pawl
Designed for the Ruger Vaquero, BlackHawks,
Super BlackHawks, and some clones
Material - Tool Steel, Heat Treated

The use of this part allows the shooter to take advantage of being able to load the cylinder when it is rotated in either direction (free spin mode), When the loading gate is open. It is a drop in part on some revolvers. Due to the variation of tolerances in factory production revolvers, it is usually necessary to make minor gunsmith alterations for proper function. This requires a qualified gunsmith for installation.

Read and understand these instructions before installation. It is best to have a complete action job and have the single action pull set before installation. Disassembly - Be sure that the revolver is unloaded and safe. Place the revolver in a padded vice, clamped by the sides of the top strap (upside down), with the barrel pointed away. Use proper size screwdrivers and punches. Remove grips, cock hammer, use a 1/16" punch or small pin as a keeper for the hammer strut. Place pin or punch through the strut hole, allow the hammer to go to the forward position. Remove the strut, spring, keeper and pin or punch as one assembly. Remove all backstrap and trigger guard screws. Note which screw goes in each hole and the direction of the cross pins. These will have to be replaced the same way. Remove pawl tension spring and plunger. Depress the bolt stop spring and at the same time push pivot pin from right to left just far enough to allow the trigger to be free. Push out the hammer pivot pin, trigger, transfer bar. Hammer and pawl can be removed all in the assembled position at the same time. Depress center pin latch and pull out center pin, with cylinder open, remove cylinder.

Installing the free spin pawl - It is necessary to understand how this pawl works. See the drawing. When the pawl is installed on the hammer, with the hammer all of the way forward, Point A contacts the inside of the slot in the frame, this retracts point D from engaging the cylinder ratchets. When the loading gate is open, the cylinder is free to spin in either direction. Assemble pawl, hammer and hammer pivot pin in frame. Hold the hammer all the way forward, check to make sure of the following - Point A contacts lower rear frame slot, Point D should be retracted from window in frame, Point B should not be below lower part of frame (so that it can not contact the trigger guard when it is installed. If this protrudes, remove just enough metal to clear the trigger guard. If the hammer will not go all the way forward (towards the firing pin), Point A is too full and tries to retract point D too far out of ratchet engagement. When this happens, Point C hits the inside of the slot at the rear. It is best to remove metal from point A, keeping the same contour, so it will not dig into the frame. Caution Here, only remove .002" to .005". A little here goes a long way at point D. (some revolvers do not require any pawl fitting, the most I have taken off is .012", This depends on the size of the pawl window when the frame is cast.) Holding the Hammer all of the way down, be sure the pawl is free, it should have a little movement forward and backward in the slot. Put pawl plunger and spring in correct hole and the spring held flush with the rear of the frame, with the hammer held forward. Point D should be able to be pushed fore and aft a few thousands, this assures that point C is not contacting rear of slot.

With these checks and alterations made, the pawl should work good except for one thing, point E may need to be altered. The second step of point E is what determines timing. Assemble all parts in reverse order of removal. During the cycling of the action, the cylinder should rotate and the cylinder stop should drop in the cylinder stop notches before the hammer is cocked cylinder lock up and sear engagement should happen at the same time. This is also determined by the length of the sear (area of trigger). This is why it is best to have a trigger job done before installing the free spin pawl. After a the trigger job is satisfactory, try to cock the hammer. If the hammer will not cock far enough for the sear (trigger) to engage the hammer hook, metal has to be removed from point E. This step needs to be lowered a few thousands to allow the above requirements to happen. A fine file or stone will work. Take caution and do not remove too much metal. For best accuracy with minimum of lead spitting it is necessary to have good timing. When everything is correct, you will get positive ignition with a 17 lb. spring.



FREE SPIN PAWLS
Patent # 6,385,888
READ AND UNDERSTAND ALL INSTRUCTIONS!!

When proper fitted, Free Spin of the cylinder will work when the hammer is down and the gate is opened. Requires gunsmithing alterations. Know and understand Free Spin Pawls for Ruger Single Action Revolvers. Free Spin Pawls will only work with current models with the transfer bar (not old 3 screw models). If you install a Free Spin Pawl in models that have the anti-back up device in the recoil shield, it is necessary to remove it with a 1/16th Allen wrench from the rear with the internal parts removed. Manufactured from A-2 steel, heat treated so they will not break and may still be filed with a sharp file for fitting. When proper fitted, they have a very long life with hard use.

Free spin pawl Part #Q-8-2 for RUGER SINGLE SIX .22. NOTE, this is the smallest pawl and may be altered for the single 7 in .327 center fire and single 10 revolvers.

Free Spin Pawl Part #Q-7-3 for RUGER SINGLE SIX .32. NOTE. there have been four different pawls manufactured by the factory at different times for the .32 cal. Revolvers. They have to be fitted for the individual six shot .32 cal. Revolver. If you have a single 7, use the single six .22 free spin pawl.

Free Spin Pawl Part #Q-7-4 for the NEW MODEL VAQUERO. This is the one that has a smaller cylinder, frame and grip that is (2005 model) more like a Colt size.

Free Spin Pawl Part #Q-8-1 for the BLACKHAWK, VAQUERO, SUPER BLACKHAWK. This is the large frame models. Most calibers up to the .44 mag. & 45 L.C. size.

Free Spin Plus Part #Q-7-2 for 5 shot. This is oversize in length and is used for (very few) full size Black hawks, that the standard size free spin pawls will not work in. Designed to be altered for the large frame Blackhawk, 5 shot .454 and Ruger .460. NOTE-Gunsmith TIPS-- SEE FREE SPIN PAWL Illustration. The easiest way to fit a free spin pawl is to remove all the internal action parts. Place the pawl on the hammer, insert it in the frame and install the hammer pivot pin. Check to see if the top of the face of the hammer contacts the frame. If not, remove metal at point A until the hammer can be held against the frame and pawl will have a minimum amount of free horizontal movement at pivot point of the pawl on the hammer. If there is no free horizontal movement and the hammer is allowed to drop, it may shear off the pawl pivot pin. If too much is removed from point A, free spin will not happen as the pawl will not retract from the ratchets or be below the face of the recoil shield. Accomplish the above first, then you are ready to fit step E & D. Copy the size of the factory pawl only add about .005 inch to the free spin pawl. Measure from the bottom of the pawl pivot pin to point E and point D. This will be a good starting point towards final fitting.