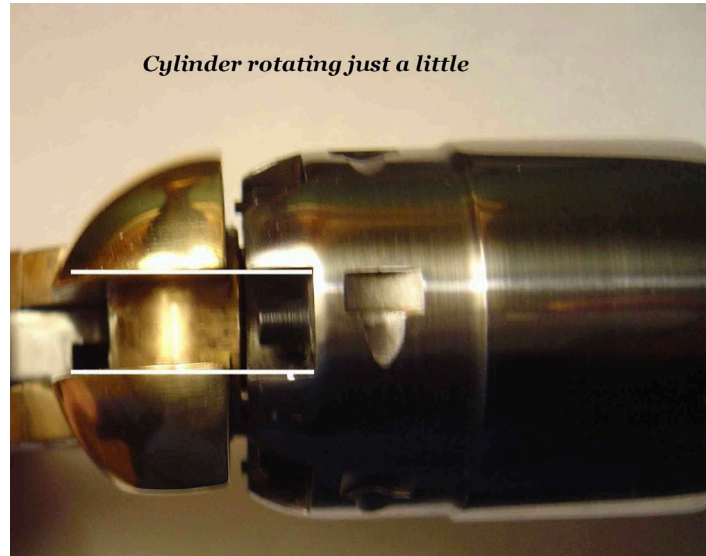


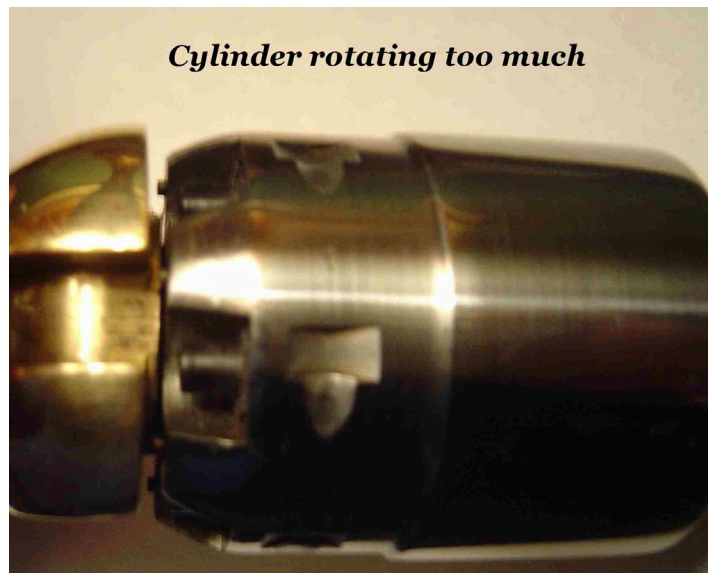
Evaluating and Setting the Timing on a Colt Revolver

By Tj Bynum, Cliff Manley and Roy L. Oak

How do I tell if the timing on my Colt Percussion Revolvers is off. Rather than go into a long dissertation... pictures are worth a thousand words. So follow me:



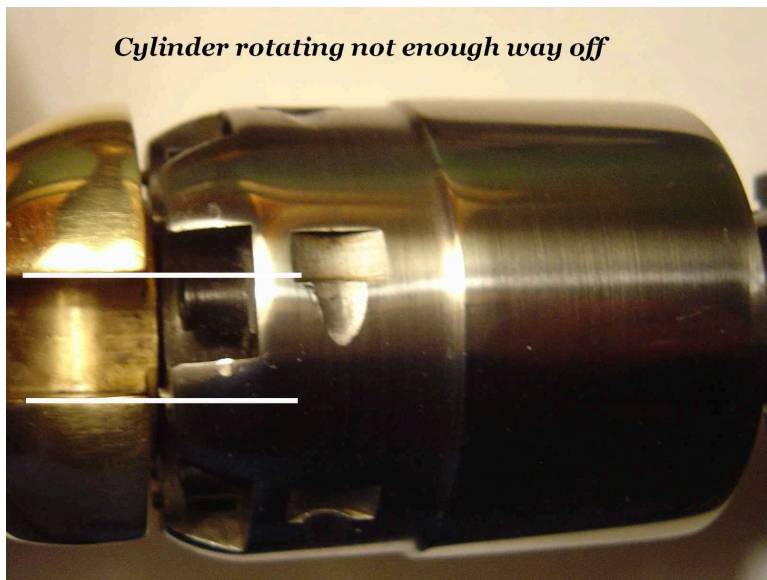
Picture 1: Shows Timing off just a tad if your revolver looks like this at full cock it is telling you... I am starting to get out of time. The revolver will still fire at this stage, but if not corrected it will continue to get worse. When the revolver cylinder looks like this it is telling you the hand is starting to lengthen and is rotating the cylinder a wee bit too much.



Picture 2: Shows the timing way off. The hand has stretched too much or is too long, if it is a brand new hand, and the revolver will not fire. This can be very typical with a brand new replacement hand.

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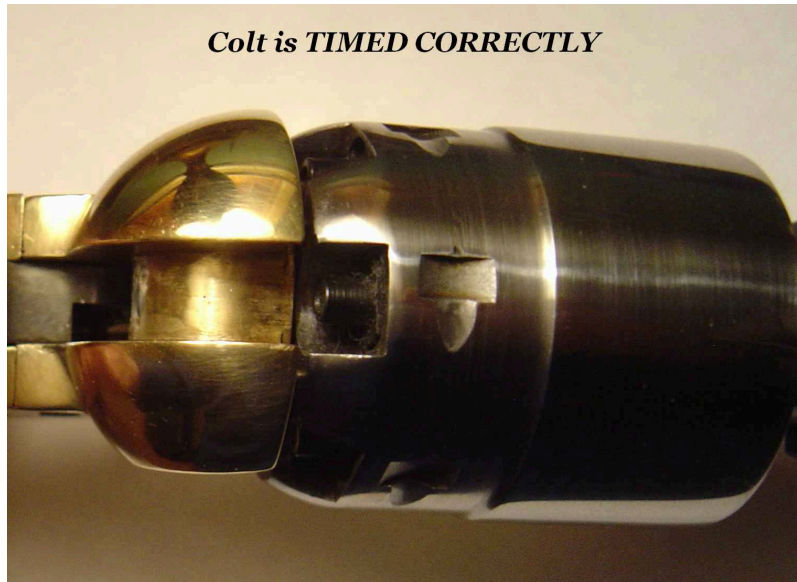
Picture 3: Shows the timing way off also when the cylinder looks like this at full cock it is telling you the hand is too short.



Picture 4: Again this shows signs that the hand is too short but the revolver "May Fire" as the hammer may move the cylinder to the right when you pull the trigger. Even though the revolver "May Fire"... Timing is off and should be fixed.

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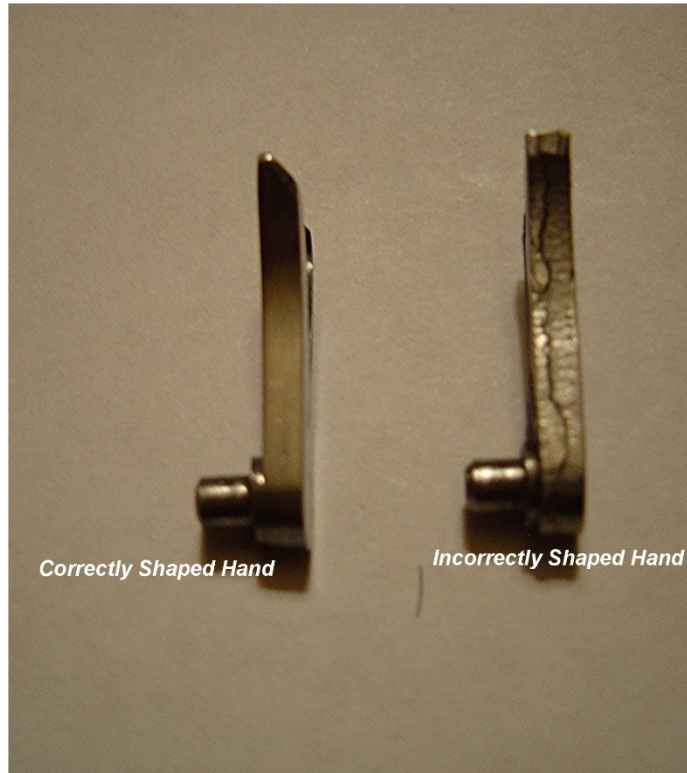
Picture 5: This what the Colt Open Top should look like when it is in perfect time. Timing for the Colts is always an ongoing thing. The more you shoot them, they will get out of time... just the Nature of the Beast. Owners of Colt Open Tops (Walkers, 1st thru 3rd Model Dragoons, '49 Pocket Pistols and the Wells Fargo, '51 Navies, Army '60's, '61's and '62 Pocket Navies) the above applies to all of these and not the Remington 58's.

Timing is a function of the hand and the bolt working in unison. IF either one the hand or the bolt gets out of sync, timing will be affected. Buying a new bolt or a new hand is one way to fix the problem... BUT replacement hands or bolts are not drop in's... they will need to be "FITTED" to get the timing correct. Replacement hands and bolts are machine cut and, generally, will not work correctly due to their sharp edges and burrs.

If stretched, the hand can be lengthened using a brass punch and your brass mallet but this is NOT recommended for the occasional BP Shooter, due to the hand having a spring attached to the rear of the hand. The best solution is to replace the hand w/spring to a hand with plunger and coil Spring. But this requires precise drilling of the frame to do this adjustment and ONLY should be done by seasoned home gunsmiths or a professional. That being said, the stretched hand is also going to be experiencing some fatigue and it is still best to replace than repair by honing down.

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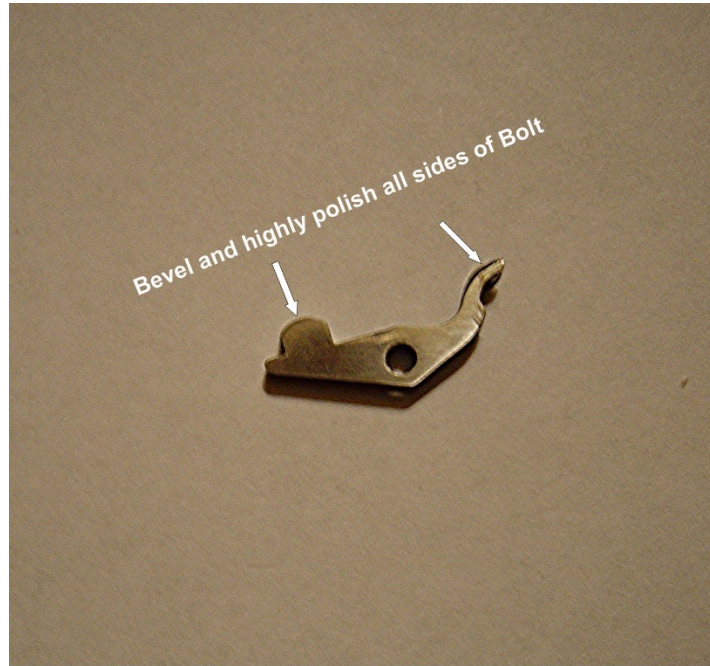
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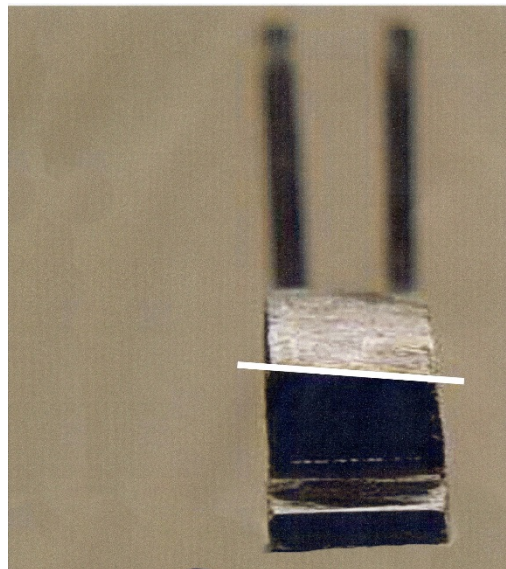
Picture 6: A new hand, when ordered as a replacement hand, will need adjusting where the hand engages the cylinder star (Ratchet on backside of cylinder) for rotating the cylinder. In Picture 6 above on the right you can see what the hand will look like when you order a new one. Before installing the new hand, the hand will need to be highly polished on the front where the curve is and on the right and left side of the hand, use 120 grit sandpaper and work up to 2000 grit or use a Dremel polishing bit.

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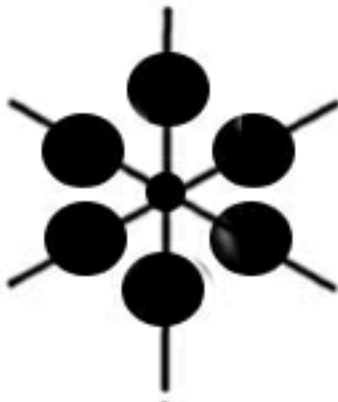
Picture 7: Here you will see the bolt. Bevel the bolt where indicated in the picture and polish (DO NOT BEVEL the right side looking at bolt from the rear or "Leg side". Bevel the left side as seen from the rear or Leg side. For a new bolt as they come from a supplier they will probably not have the proper right angle cut, as in Picture 8, on the bolt which engages the cylinder stop well. You will need to cut the correct angle in accordance with the photo below and the following diagrams.



Picture 8: We see the correct angle on the bolt. You will notice on the cylinder there are 6 bolt stop wells preceded by a ramp. (The Walkers and Dragoons will not have the ramp).

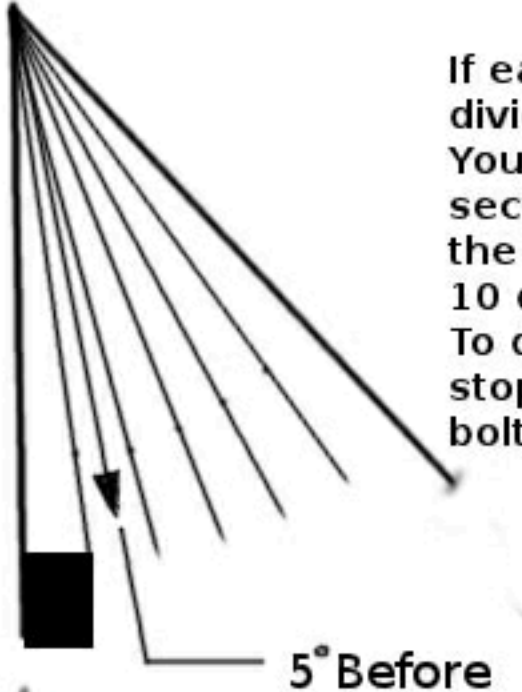
Bolt Should Pop up 5° before the stop

Cylinder each Part 1/6



So what does 5 degrees mean? Let's look at the layout of the cylinder. It is equally divided by 6. Each section being 60 degrees.

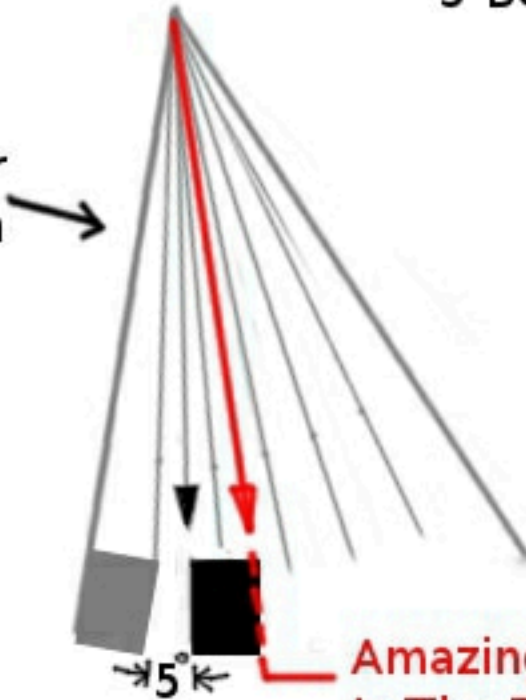
Each Section is further divided into 1/6. (Bolt Width)



If each 60 degree section is divided into 6 equal pieces, You would get 10 degree sections. It so happens, that the width of the bolt, is about 10 degrees. So if the Bolt is To drop 5 degrees before the stop, it is half the width of the bolt. That point is shown Here.

Cylinder Rotation

Bolt Drops Here!

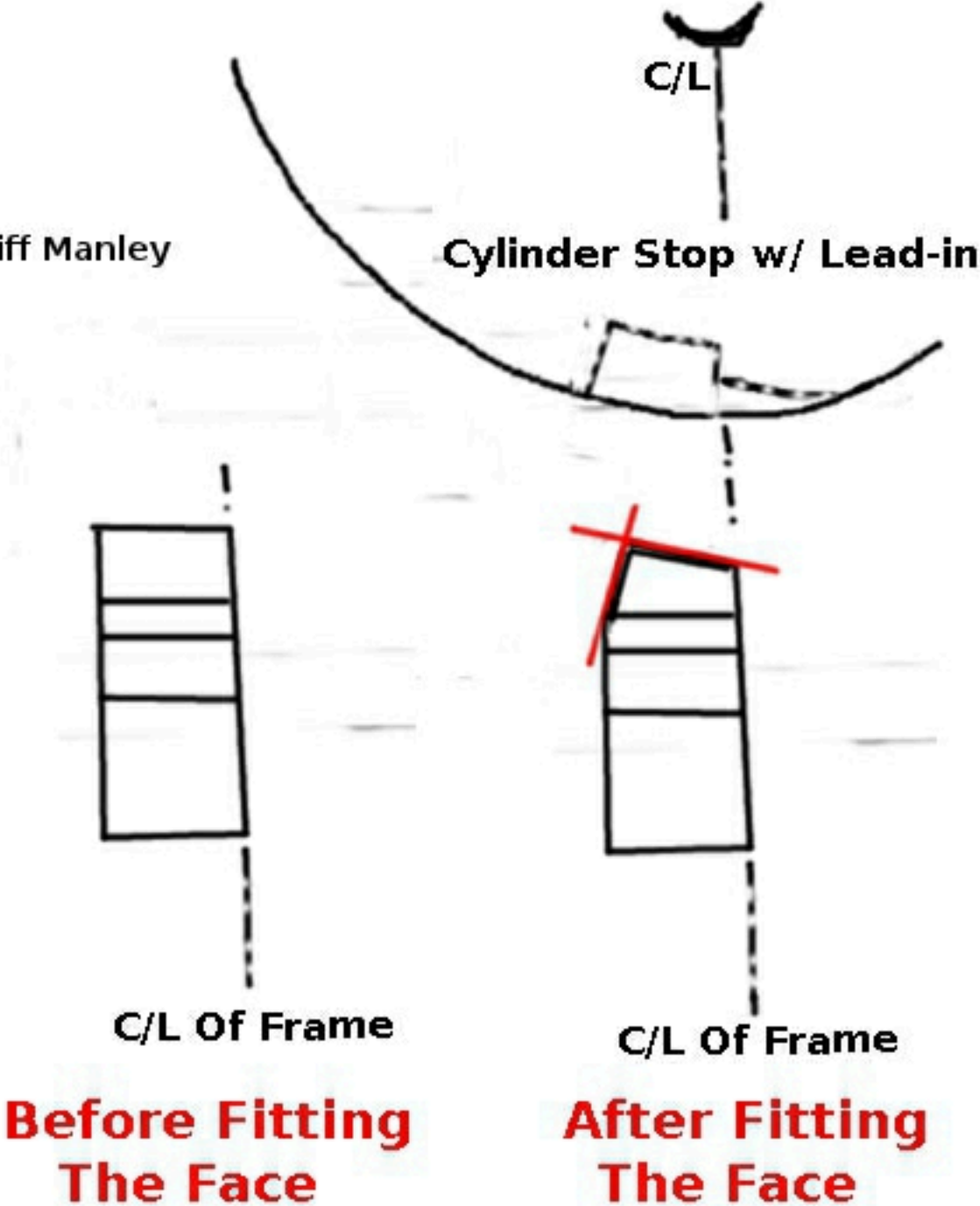


If The advancing Bolt face, Drops 5 degrees before the cylinder stop, the rear, or following bolt face is at about 15 degrees, before the cylinder stop. Width of the bolt, plus 5 degrees. Amazing at it is, This point is where Colt decided to start the lead in channel. Huh.. Pretty Smart, those old guys were!

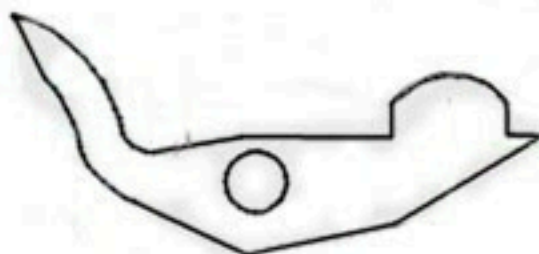
Amazing As It May Seem, This Point Is The Top Of The Lead In Channel

Looking At The Bolt From The Front Of The Gun.

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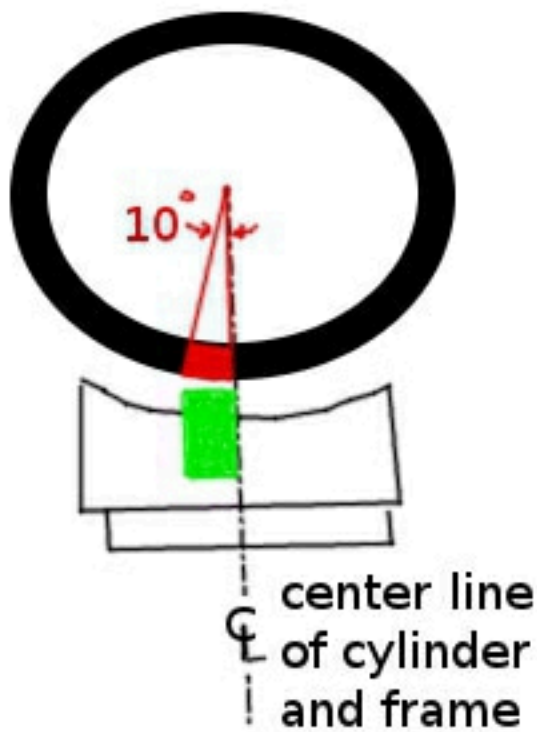
This Is A New Bolt, Before Fitting. Basically A Stamping. The Following Steps To Fit The New Bolt, Are In A Specific Order. When You Adjust One Spot, It Effects The Next. There Is A Method To This Madness, And Here It Is!



AS PAUL HARVEY
WOULD HAVE SAID..

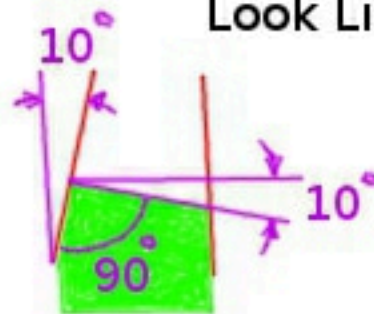
"NOW FOR THE
REST OF THE

STORY! " 1



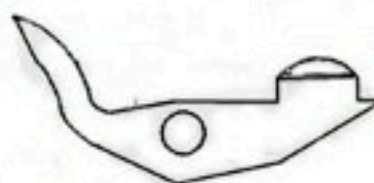
In Our Last Discussion, We Determined That The Bolt Width Was About 10 Degrees. One Side Of The Bolt, is Located On The Center Line Of The Frame, Making The Other Side 10 Degrees Off Center. To Contour The Bolt Face We Need A 10 Degree Shoulder And A 10 Degree Slope To The Face To Fit The Cylinder Stop. So The Bolt Face And Shoulder Need To

Look Like This:

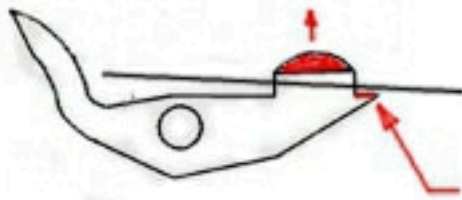


As Viewed From The Front Of The Frame

The Shoulder Is Cut Only The Depth Of The Cylinder Stop. DO NOT REMOVE ANY OTHER MATERIAL FROM THE WIDTH OF THE BOLT OR IT WILL BE LOSE IN THE FRAME. Profile The Face First, Then Cut The Shoulder To Fit The Cylinder Stop. The Shoulder Has To Bear The Load Of The Spinning Cylinder. The Faster The Gun Is Cocked, The More Potential Energy Is Built Up, That The Shoulder Of The Bolt Must Stop. If The Shoulder Is Not Cut To 10 Degrees, The sharp angle will cut into the cylinder stop notch, damaging it. The faster you cock the gun, or even fanning it, will cut into that stop notch sidewall.



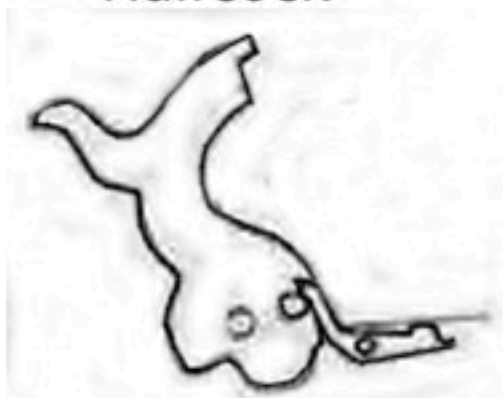
So Now Your New Profiled Bolt Should Look Like This And Should Fit The Cylinder Stop Perfectly. Next We Need To Get It To The Right Depth Into The Cylinder Stop.



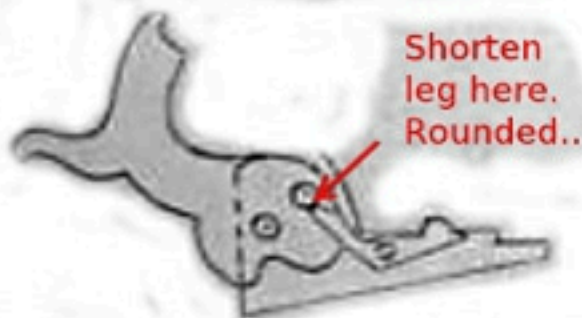
Frame

File Here Until The Bolt Just Touches The Bottom Of The Cylinder Stop. Adjust a little at a time, then push it up with your thumb, and wiggle the Cylinder.. You Will Feel When It Touches.

Leg on cam at Halfcock



5 degrees before Fullcock, Bolt drops Off the cam..



The next step is The TIMING! WHEN IT DROPS, IS WHEN IT POPS! Many People Get Confused, When I Say "When The Bolt Drops" Because it is when the bolt Pops up through the frame. I Say When It Drops, because that's when the bolt leg drops off of the cam on the hammer. We want the timing to be, that the bolt drops at the beginning of the lead in groove. To make it easy, cock the hammer back and watch as the lead in approaches the center of the hammer channel, on top. When It Is Centered, Put A Pencil Mark On The Hammer, Where It Intersects The Frame. Then Take The Parts Out And Reassemble On The Right Side Of The Frame. You Can Aproximate the picture above To Adjust The Leg Length, For The Right Timing.

Hammer Down
Just Clear Of
Nipples



Hammer Face
Flush With Frame

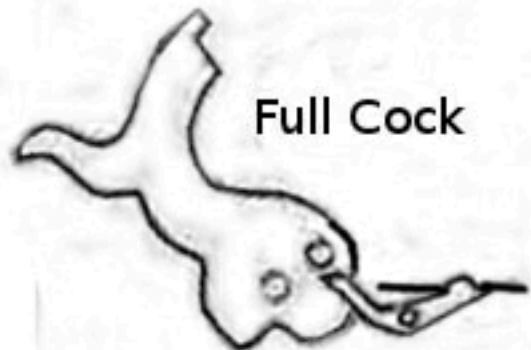


The Last Step, Is The Timing Of The Bolt Reset. It Should Reset On The Hammer Cam Just As The Hammer Face Comes Flush With The Frame. If It Does Not Reset Before Full Hammer Drop, It Will Not Reset When You Have Caps On The Nipples, And The Gun Will Lock Up. To Adjust The Reset, Again Mark The Hammer Where It Intersects The Frame, When The Face Is Flush, Then Assemble The Parts On The Right Side Again, And Fit The Bolt Leg For Reset.

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Half Cock

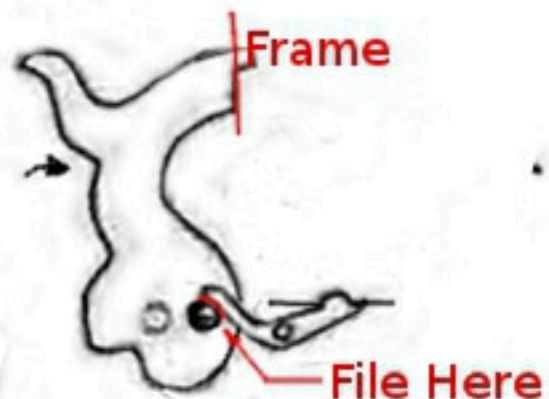


Full Cock



Hammer
Falling

As The Hammer Is Cocked, The Bolt Leg Rides The Cam, At 5 Degrees Before The Cylinder Stop, The Bolt Leg Drops Off The Cam, And The Cylinder Locks. When Fired, The Hammer Falls, And The Bolt Leg Slides Over The Cam. When The Hammer Face Is Flush With The Frame, The Leg Snaps Back Over The Cam, And Resets To Begin Again!

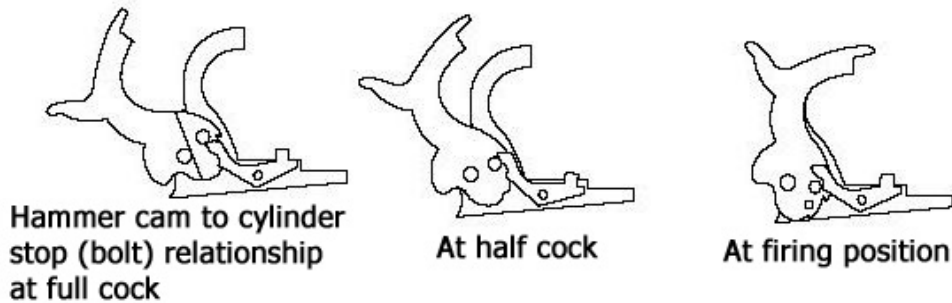


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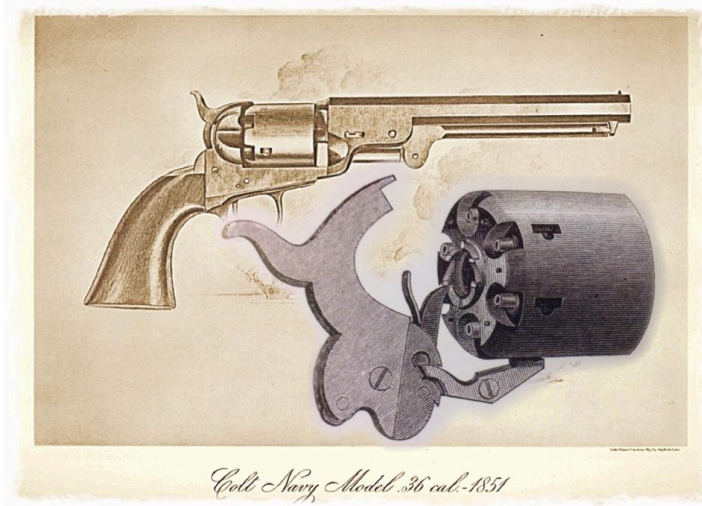
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The Bolt must have the proper angle I spoke of so that when you are cocking the revolver and the cylinder rotates the bolt, the bolt will drop down properly. As the hand pushes the cylinder in clock wise rotation... at HALF COCK you will here a CLICK... that CLICK is the bolt leg slipping off of the sear on the bottom of the hammer and the bolt is all the way down allowing the cylinder to turn freely for reloading.



As you go thru the half cock and continue to full cock the cylinder should turn and just before you reach full cock, the bolt rises to the ramp. As you finish going to full cock the bolt will slide on the down the ramp and when it engages the stop well you will hear a CLICK. The bolt is at its highest point and the cylinder should lock in place with no play or slop. There are issues that can keep this process from happening exactly as described. The bolt notch (that portion of the Bolt that rises above the slot cut for the bolt in the frame) may need to be thinned down a bit to fit the cylinder stop well. Check this when cutting the angle for the bolt. When all is done the Colt will be in perfect time.



Hope this helps for all the new folks to the Cap & Ball Revolver Shooting. I used "My Brassier" for the pictures... the brass frame and highly polished cylinder show up better in pictures. These timing procedures do not apply for Remington 58's...that's an article with another story!