Powder River Sportsmen's Club

December 2024 P.O. Box 162 Baker City, Oregon 97814

Regular Meetings @ 7:00 P.M., First Tuesday of every month, 2690 Broadway St.

Time to renew memberships. Dues Increase.

Effective January 1, 2025, PRSC annual dues are $60.
Members who renew prior to January 1 pay the old rate of $45 per year. Regardless of current membership status, all persons are permitted to join or renew for multiple years at the old rate as long as the application is postmarked before January 1, 2025. Mail your application and dues payment to PRSC, PO Box 162, Baker City 97814. An application is provided on page 9 of this newsletter.

Range Improvements

This year we installed bird netting at the Scorekeeping Shed to eliminate the bird dropping problem. We built new target holders and switched to plastic backers for longer life. Future projects include painting buildings, road grading, target pit clean-out and improvements, minor excavation at the running-deer pit, and nicer permanent toilets. Dues were increased to help pay for the cost of these improvements.

Litter. Take your targets home.

The most common litter found at the range is used targets that get wet, fall off, and scatter in the wind. Do not leave your used targets hanging on the backers. Go get them and take them home. Adhesive-backed targets are becoming popular. We will learn over time whether they stick or eventually fall off.

If you pack it in, pack it out. The Club is engaged in a month's long discussion about litter, brass, trash cans, and the cost of litter patrol. Come to a meeting if you want to participate. Or, email your opinions to info@prsportsmen.com .

The Club paid almost $300 in tire disposal fees this year to clean up old tires abandoned at the range. That is not the best use of member dues. Help police your range and discourage dumping.

We know that some members like to pick up brass at the range. No one collects .22 brass or aluminum cases. Under discussion: shall we create a new rule that requires all members to police all their brass, or, leave things as they are and ask members to pick up their own .22's and aluminum cases?

Also under discussion: why do we have trash cans? They give people a place to put trash that someone else must volunteer to clean up later. If all members pack out what they pack in, do we need trash cans? Large matches need to provide trash cans, but do we need them every day?

Also under discussion: if members are unwilling to keep a clean range, we can pay for a litter service and close the range once per month for cleanup. The cost of the litter service could be offset by another dues increase. It's either that, or convince everyone to stop leaving trash and targets at the range.

If you pack it in, pack it out.

New Classes

Introduction to Long Range Shooting. January 25 at the clubhouse. Pack a lunch, snacks, water, and warm clothes. Classroom instruction 9AM to 2PM, then drive to the range for 2 hours of shooting.

This is a class for anyone interested in accurate long range rifle shooting out to 500, 700, or 1000 yards. Topics: rifle setup, ballistic calculators, wind and weather conditions, and marksmanship techniques.

Bring: a rifle with a scope that has tool-less click-type adjustable target turrets, zeroed at 100 yards and capable of one inch groups; bring at least 40 rounds of same ammo (not mixed brand or weight); bring an Android or Apple tablet, phone, or iPad that can install apps. If you have them, bring bipod, shooting bag, binocs, spotting scope, or chronograph. Do not bring a lead sled or shooting rest.

Caliber restrictions: Cartridge must not damage AR500 steel targets at 200 yards (no FMJ's, no ferrous projectiles, no 50 BMG). Ho

Prior to the class, each participant should install the Hornady Ballistics app (free on Apple and Google stores), and try to look up their ammo information: caliber, bullet weight, and ballistic coefficient.

Class Fee - $25. Each class limited to five participants. Pre-registration required. Each class is conditional: the class will only be conducted if at least three people call MJ and pre-register by January 18th. For more info, call Instructor MJ Van Dine - 541-975-3000.

Introduction to Basic Reloading. Date TBD. Will cover single-stage press setup, brass processing, and order of operations for safe and effective metallic cartridge reloading.

All equipment will be provided. Each participant will learn the basics of single-stage bottleneck and straight-walled brass cartridge reloading, including powder and projectile selection, primer identification, brass processing, and identification of pressure and fatigue indicators on fired brass. The class will culminate with live fire where each person will test the ammunition they loaded in provided firearms.

Class Fee - $25. Pre-registration required. 9AM to 2PM at the Clubhouse, then 2:30 to 3:30 at the range. Each class limited to five participants. Pre-registration required. Each class is conditional: the class will only be conducted if at least three people pre-register by phone. If you are interested in this class, call Instructor: MJ Van Dine - 541-975-3000.

Watch your calendar and Club email updates. If a class is cancelled due to lack of registration, we will try again on a later date. If there is enough interest, we will offer an Advanced Reloading Class to cover load development, progressive presses, and other topics.

Thanks Garrett!

This year, club member Garrett Nelson donated a cherry picker and crew to remove the unused steel street sign at the Clubhouse.

Garrett's business is **A Cut Above Tree Service**. He also provides bonded snow removal service. Call 541-519-3313, or visit acutabove-treeservice.com .

The Powder River Sportsmen and Sportswomen wish Garrett's wife Erin and son Josiah a continued and speedy recovery from their recent encounter with a reckless driver on I-84.

Three ways a rotating-bolt action rifle can fire when you close the bolt:

1 - Something is touching the trigger when the bolt is closed.

2 - High primer. If a primer is not fully seated into the primer cup, and is protruding above the case head, the bolt face will contact the primer when the bolt is closed, which may detonate the primer.

3 - The trigger mechanism fails to catch the sear when the bolt closes. This failure is rare, and is usually caused by improper adjustment or modification of the trigger.

Most rotating-bolt action rifles cock on open. Inside the bolt is a striker (firing pin) and a heavy spring. When you lift the bolt handle, the rotation cams the striker back against the spring until the striker is captured by a slot in the bolt. The striker stays cocked while the bolt is pulled back, pushed forward, and locked down.

The striker spring pushes hard on the cocked striker. When you lower the bolt handle, the striker burden is transferred from the bolt-slot to the sear piece inside the trigger mechanism. The striker will try to push the sear out of the way, and the sear will try to rotate out of the way, but the sear will hit a ledge on the trigger and get jammed stuck between the striker and trigger.

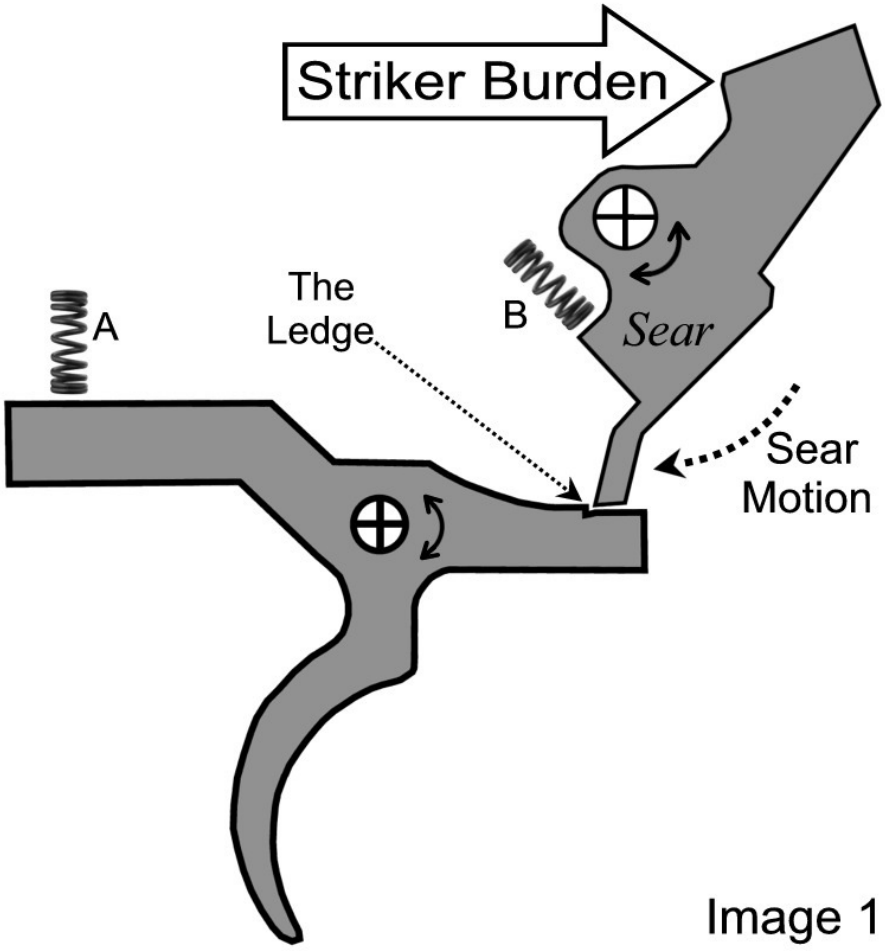

Image 1

Image 1 shows one type of Savage trigger, just before the sear has impacted the ledge. At this point in time, the sear is moving fast. It impacts the ledge sharply, especially if you slam the bolt shut.

(Spring B is not a coil spring in the actual gun; it is a wing spring. I used a coil spring in the diagram to show the direction of spring force.)

Generally, on any cocked bolt-action rifle, if the safety is disengaged, the sear is the only thing holding the striker. If the ledge fails to catch the sear when the bolt is closed, or fails to hold the sear when the rifle is jolted, the rifle will fire instantly.

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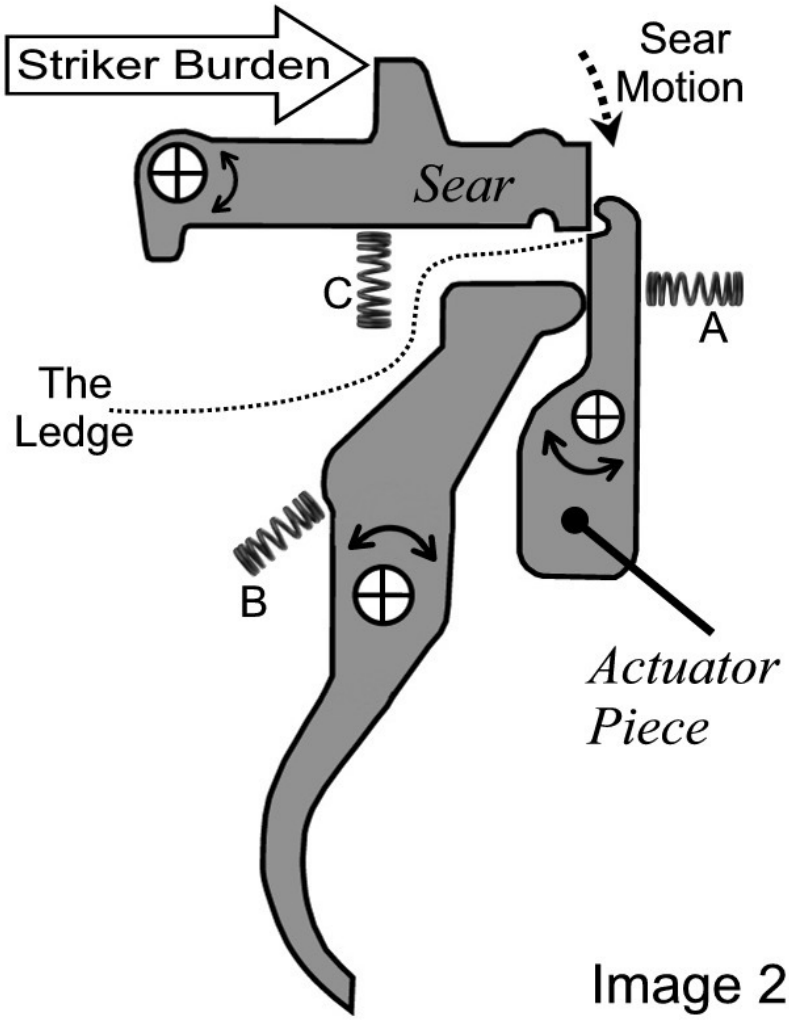

Image 2

Image 2 shows one type of Winchester trigger, just before the sear has impacted the ledge.

In this design, the ledge is on a separate piece called an actuator. When the trigger is pulled on a cocked rifle, it pushes the actuator forward until the sear slips off the ledge, which releases the striker.

(Spring B is not a coil spring in the actual gun; it is a wing spring. I used a coil spring in the diagram to show the direction of spring force.)

In a cocked rifle, the striker burden is constantly pushing the sear against the ledge, which increases friction between the sear and ledge. That friction helps keep the sear on the ledge even if the rifle is jolted. The sear and ledge are made from hardened steel and cut at certain angles. The angles ensure that the ledge catches and holds the sear reliably.

The ledge is small. The portion of the ledge-face that catches the sear is called the engagement surface.

Generally, twenty-five thousandths of an inch (.025") of engagement surface can provide a trigger that is both crisp and reliable.

In a field gun, .010" of engagement is not enough; the ledge may not reliably catch the sear, and the sear may be easily knocked off the ledge if the gun is jolted.

Generally, .040" of engagement may be considered "too much". Instead of a crisp trigger “break”, you will feel the ledge creeping along the sear as you pull the trigger.

Potential pitfalls:

Creep can be eliminated by reducing the engagement surface, which can be accomplished by stoning down the sear or ledge. Improper stoning will cause problems.

Aggressive stoning (grinding) causes heat, which can change the temper of the steel. Aggressive stoning can also cut through the hardened surface of case-hardened parts, exposing softer metal underneath.

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If the engagement surfaces on the sear or ledge are no longer hardened, friction may wear them down, or repeated sear impact on the ledge may deform the metal.

Free-hand stoning can change the angle of the engagement surface. Changing the vertical aspect angle may reduce the ability of the ledge to catch and hold the sear. Changing the horizontal aspect angle will cause the sear face to be misaligned with the ledge face, which will increase the pressure of the sear impact on the ledge (same force, smaller footprint), which may deform the metal.

If too much material is removed from the sear or ledge, the engagement surface will be too small, which will diminish the ability of the ledge to catch and hold the sear, and will also increase the pressure of the sear on the ledge (same force, smaller footprint), which may deform the metal.

If the sear or ledge metal begins to deform, the sear may eventually skip over the ledge, or, the sear may start jumping off the ledge when the rifle is jolted.

The trigger pull weight required to release the sear can be reduced by:

1 - Polishing the sear and ledge faces to make the friction easier to overcome. The ripple effect is that the sear may become easier to jolt off the ledge, especially if the polish work changes the angle of the engagement faces.

2 - Decreasing the strength of Spring A. Ripple: If A is set too light, the ledge-piece may reset less affirmatively, or, the sear impact may move the ledge-piece, making the engagement less reliable.

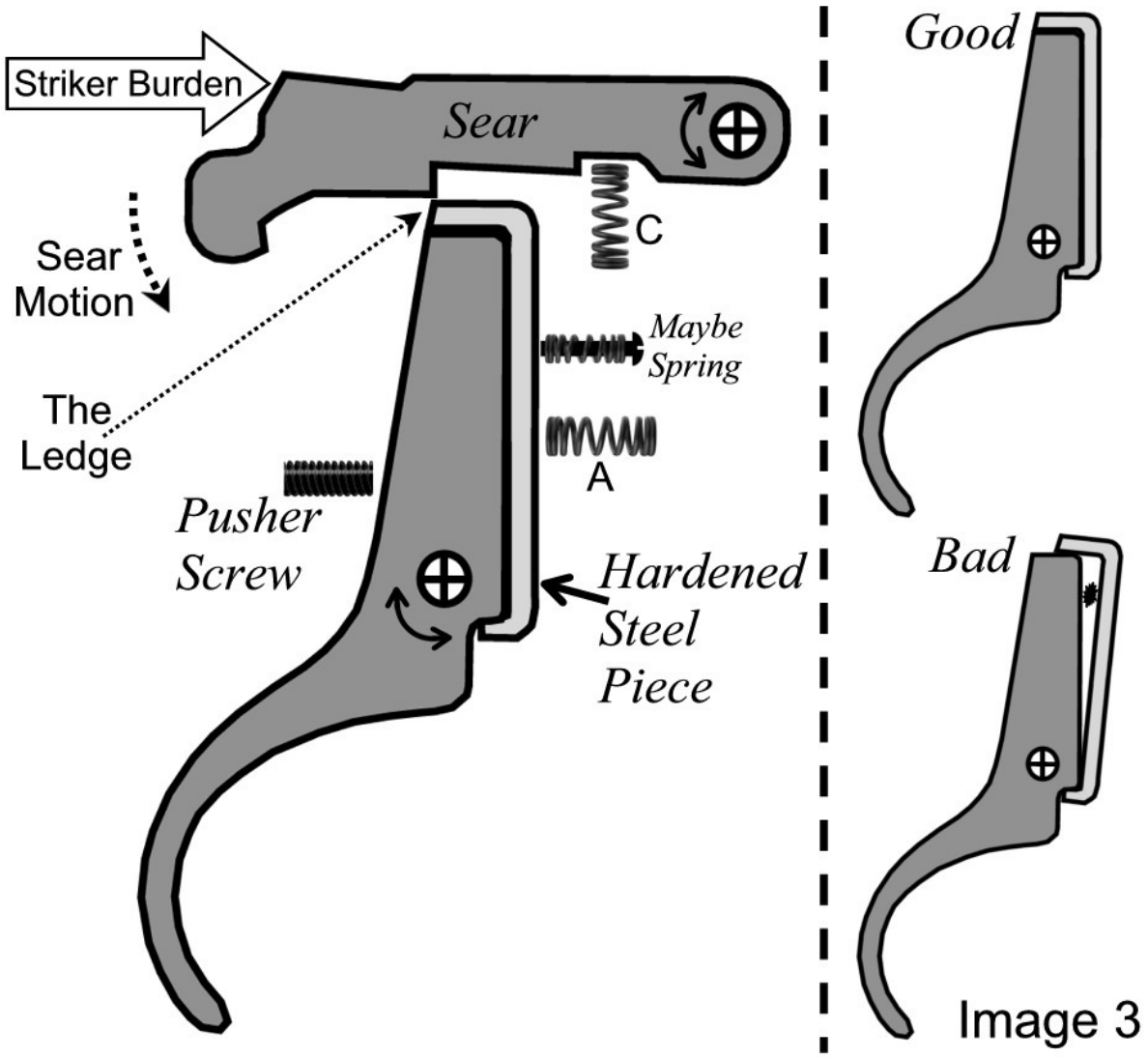
3 - Increasing the strength of Spring C. This is not something people normally do, but it is worth noting that C opposes the striker burden, thus a stronger C will reduce friction between the sear and ledge because C opposes the striker load that creates the friction. Less friction requires less trigger force to move the ledge free of the sear. The primary effect of a stronger C is a stronger sear reset; the potential ripple effect is less friction between the sear and ledge.

4 - Increasing the strength of Spring B. Again, people do not normally modify this spring. In the Savage trigger, B opposes the striker burden. A stronger B will have the same effect as described above. In the Winchester trigger, B keeps the trigger in constant contact with the actuator. A stronger B will constantly push harder on the actuator, resulting in a lighter trigger, but also a less reliable engagement.

On any trigger, if you change the ledge height, ledge angle, sear length, sear angle, or the strength of any of the small springs, or if you change the temper of the steel, or polish off the hardened surface of case-hardened parts, each change will have ripple effects, and ripple effects can stack up.

Obviously, triggers can be safely improved with proper modifications, but improper modifications will diminish the reliability of the mechanism, specially over long periods of time and use.

Image 3 on the next page shows one type of Remington trigger; the infamous Walker trigger.



This trigger is interesting because the sear motion is more "down" than "rotate." The sear piece must move down to release the striker, but it can't move down while the trigger is in the way.

The Walker mechanism is a smart design, but Remington complicated things by using a two piece trigger: a big piece of mild steel with a small piece of hardened steel shell covering the front of the big piece. The two pieces fit together perfectly, but they are two separate parts.

You can tighten the Pusher Screw to reduce engagement depth (reduce creep), and loosen a screw behind Spring A to reduce trigger reset force, which will also reduce trigger weight.

You can also tighten the stop screw within the Maybe Spring to adjust over-travel. I call it the Maybe Spring because it is tiny and easily lost. Some owners may never know it is missing, because the rifle can work fine without it.

The Walker problem occurs when the hardened shell piece moves off the trigger body, which may be more likely to happen if Spring A is set too light or the Maybe Spring is missing. If the shell gets debris trapped under it, it will look like the "Bad" configuration in the lower right corner.

As you can see, the Bad configuration may allow the sear to drop far enough to release the striker when the user closes the bolt. This trigger is famous because it resulted in 150 lawsuits and led Remington to offer a voluntary recall on 8 million rifles.

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Safeties:

In the context of this article, if the safety is engaged, and if the ledge fails to catch or hold the sear, what happens next depends on the type of safety on the gun:

1 - With a striker-block safety, nothing will happen because the safety prevents the striker from moving. However, the rifle may fire when the user disengages the safety.

2 - With a sear-block safety, what happens depends on whether the sear-block is located "before" or "after" the ledge. If the sear is blocked "before" the ledge, then disengaging the safety may lower the sear onto the ledge. If the sear is blocked "after" the ledge, then disengaging the safety may fire the gun.

3 - With a trigger-block safety, the gun will probably fire at the instant of the engagement failure, regardless of safety position, because blocking a trigger has no effect on a sear that has skipped over its ledge.

Many rifles have dual safeties, such as a striker-block + sear-block. These designs may change what happens if a ledge fails to catch or hold a sear, if the safety is engaged when the failure occurs.

Many rifles have three position safeties, which also may affect what happens if a failure occurs.

Other:

Most hunting and military rifles have a single-stage trigger. Two-stage triggers are different, and typically less susceptible to some of the failures discussed in this article.

Some rifles cock on close: the bolt begins to cock the striker as you push it forward, and the bolt loads the striker burden onto the sear as you close the bolt. This loading of the sear may differ from the abrupt transfer of the striker-burden that occurs in many cock-on-open designs. Cock-on-close designs are relatively uncommon.

Home test:

Unload the rifle, disengage the safety, cycle the bolt, point in a safe direction, make a hammerfist, and bang on all sides of the buttstock. Then thump the butt on the ground a few times. Then pull the trigger. If pulling the trigger releases the striker with a loud click, then your trigger mechanism survived the rough treatment. If it doesn't click, then your gun "fired" while you were banging on it. Test it again with the safety engaged. Don't load an unreliable rifle until you remedy the problem.

On many rifles, trigger mechanism parts are visible if you remove the rifle from the stock. Clamp the barrel in a padded vise, grab a chair, sit down in front of the rifle, and cycle the action. Work the safety. Pull the trigger. See how things work. If the sear is visible, watch and see if it leaps at the ledge when you close the bolt.

AccuTrigger:

Image 4 on the next page shows the AccuTrigger introduced by Savage about 20 years ago. It is nearly the same as the older trigger shown in Image 1. The main difference is the addition of a trigger blade.

The trigger blade does nothing to improve accuracy. The only thing the blade does is create a 2nd backup ledge next to the trigger ledge. The only way to move the backup ledge out of the sear path is to pull the trigger blade.

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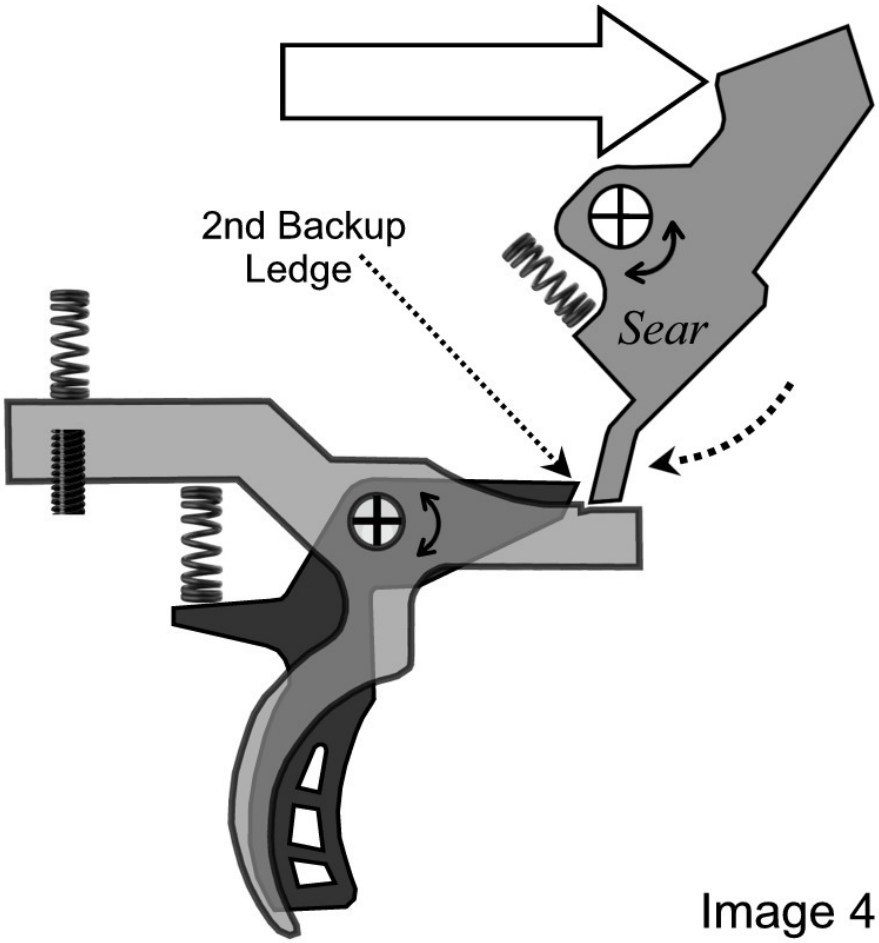

If this trigger is improperly modified such that the 1st ledge fails to catch or hold the sear, the gun will not fire because the backup ledge on the blade will catch the sear, as long as the user is not pulling the trigger.

Savage came up with this idea because they knew people like to modify factory triggers.

The AccuTrigger encourages owners to tune trigger weight by adjusting the trigger reset spring, but it also eliminates the risk of engagement failure caused by setting a trigger too light or improperly modifying other parts of the trigger.

Image 4

The purpose of this article is not to promote Savage or any other brand. It is to discuss the nature of bolt action rifle triggers, and how they can fail. There are hundreds of different rifle and trigger designs. All are susceptible to problems if improperly modified.

Not everyone knows this information. Recently, a hunter near Halfway didn't know it. He chambered his rifle with his muzzle pointed at his guide, and the rifle discharged when he closed the bolt, killing the guide.

The tragedy on that day was not the malfunction. It was the muzzle direction.

Part of the PRSC mission is teaching safe gun handling. Members can serve the community by helping spread appropriate knowledge.

Weapon state, trigger discipline, ammo inspection, and equipment maintenance are all vitally important, but **muzzle discipline is king.** If you have a mistake or a failure, your problem cannot shoot people if your muzzle is **never** pointed at people or in a direction where people may be.

The annual number of American hunter-fatally-shoots-person incidents is down to about one per state, on average. This is much lower than fifty years ago, thanks to mandatory hunter ed and blaze orange laws.

One is still too many.

Powder River Sportsmen's Club Membership Application / Renewal

All persons are required to sign this form when joining the Club or renewing a Membership.

Virtue Flat Range Rules

1. Keep the range entrance gates closed. Always lock the gate when you leave.
2. Keep firearms pointed in a safe direction.
3. Keep firearms unloaded until ready to shoot.
4. Know where other persons are at all times.
5. DO NOT fire from the 1000, 600 or 300-yard berms until you have physically checked all facilities and determined that no other persons are on ANY part of the range east of your intended firing position.
6. Do not use glass items for targets. Do not fire any rifle at the Plate Rack in the pistol bays.
7. Clean up after firing. If you packed it in, then please pack it out.
8. To prevent livestock damage, always re-install the wooden rails after using the covered shooting area on the Pistol Range.
9. Do not share any PRSC lock combination with any person.
10. Eye and ear protection is strongly recommended, and required for all minors.
11. PRSC Memberships are Individual. Each Member must complete the PRSC Range Safety Seminar before receiving authorization to independently access and use the Range. Seminar Video: **www.prsportsmen.com/seminar.html**

Failure to comply with rules can result in termination of membership.

*** I acknowledge that I have read PRSC's Range Rules and Range Priority Policy, and I agree to abide by them. ***

_____ _____

Signature ***Date***

Mail this form with check payable to Powder River Sportsmen's Club, PO Box 162, Baker City, Oregon 97814.

Annual Dues are $45, due each January, good through December 31.
Late dues paid before November 1 apply to the current year.

☐ New Membership ☐ Multi-year membership ($45 per year)

☐ Renewal Membership ☐ $10 Life Membership Renewal

Name _____

Address _____

City/State _____ Zip _____

Phone _____ Email _____

Club newsletters will be sent to your email address. If you do not use email, check here. ☐

☐ I have included $_____ as a donation to our Range Purchase Fund.

☐ I have included $_____ as a donation to our Youth Program Fund.

☐ Cash, or, Check # _____

Date Received _____

By Whom _____

Card issued? YES NO

www.prsportsmen.com

PRSC Matches & Events

Long-Range Open Rifle

Read online about PRS Matches precisionrifleseries.com , WPR Matches westernprecisionrifle.org , and NRL Hunter Matches nrlhunter.org. Register at practiscore.com/clubs/powder_river_precision_rifle. Check the Club calendar for dates. Call MJ Van Dine for info. 541-975-3000. Also available: 1000-Yard Open Rifle Benchrest Meets. $8 per rifle + $2 per string fired. Club Records: 2.65”-42 Steve Simons, 3"-48 Casey MacDonald, 3.125”-50-3X Gary Paananen. If you’d like to see these meets resumed, call David Spaugh 541-519-7417.

SASS Cowboy Action

$10 match fee. Single Action Revolvers, Lever Action Rifles, DBBL or Mod 97 shotguns. Western attire encouraged! Contact Chuck Buchanan 541-519-8550 or Dan McGuire 541-212-5840.

USPSA Practical Pistol

$20 adults, $10 juniors; first match is free. Round count is typically ~140, bring 200. Learn about this sport at www.uspsa.org. All match activities are conducted by NROI Range Officers. Phil O’Connell 208-850-1313.

Steel Varmint Silhouette

$10 match fee. 2 sighters + 5 shots for record at each distance: 200M Squirrels, 300M Rabbits, 385M Rockchucks, 500M Coyotes. 5 minutes per stage. Prone, any rifle, any sights, any rest. Rifle and gear must be handcarried to the line in one trip, no carts. No steel or ferrous bullets, No FMJ’s. Helpful hint: 55gr bullets often fail to topple the Coyotes; use 68gr or heavier. Contact Ken Bardizian 541-519-6772.

Powder River Pistolettes

Ladies-only shooting group, new members are always welcome! See Calendar for range events. Certified Range Safety Officers are present at every range event. Contact Bette Horan 541-523-3659 (w) or 541-518-1986 (h).

1911 U.S. Cavalry Match

$10 match fee. Round count = 45. Firearm: Model 1911 Pistol in 45acp. One-handed fire only: 10 shots slow fire at 25yd bullseye, 10 shots timed fire at 15yd bullseye, 10 shots rapid fire at 15yd bullseye, 15 shots timed fire at 25yd silhouette. Contact Buck Buckner: (541) 519-8750.

Annual Club Championship Match

Open to Club Members and their guests. $10 match fee. Course of Fire: Pistol - 5 shots standing (one-handed) at 25yd bullseye, 5 shots sitting (two-handed) at 50yd bullseye, any centerfire pistol with iron sights. Rifle - 5 shots offhand & 5 shots sitting at 200yd deer target, any legal deer rifle with iron sights or scope set at $\leq$ 8x. Shotgun - 20 shots at sporting clay singles. Any legal shotgun may be used. Contact: David Spaugh 541-519-7417.

Annual Turkey Shoot

November. $3 per event, 6 shooters per event, $10 prize for event winner. Events: Lucky .22 @ 10 yards, Chicken Silhouette Pistol at 50 yards iron sights only, Turkey Head Silhouette Rifle at 200 yards prone with sling (no bipod or rear rest), Running Deer at 80 yards iron sights or 200 yards scoped rifle. Fun for the whole family!

NRA High Power Sporting Rifle

$12 match fee. Any center-fire rifle $\leq$ 9.5lbs total, with 4rd capacity. 200-yard standard high-power bullseye target. Prone - 2 sighters + 8 shots in 10 minutes, Offhand - 8 shots in 8 minutes, Sitting - two 4-shot strings in 30 seconds each, Prone - two 4-shot strings in 30 seconds each. Contact: Vic Savage 541-523-4462.

Powder River Sportsmen's Club
P.O. Box 162
Baker City, Oregon 97814

Club Officers 2024

President: Fred Stampflee
Vice President: Brody Charpilloz
Treasurer: David Spaugh
Secretary: David Spaugh 541-519-7417
Range Master: Buck Buckner 541-519-8750

www.prsportsmen.com