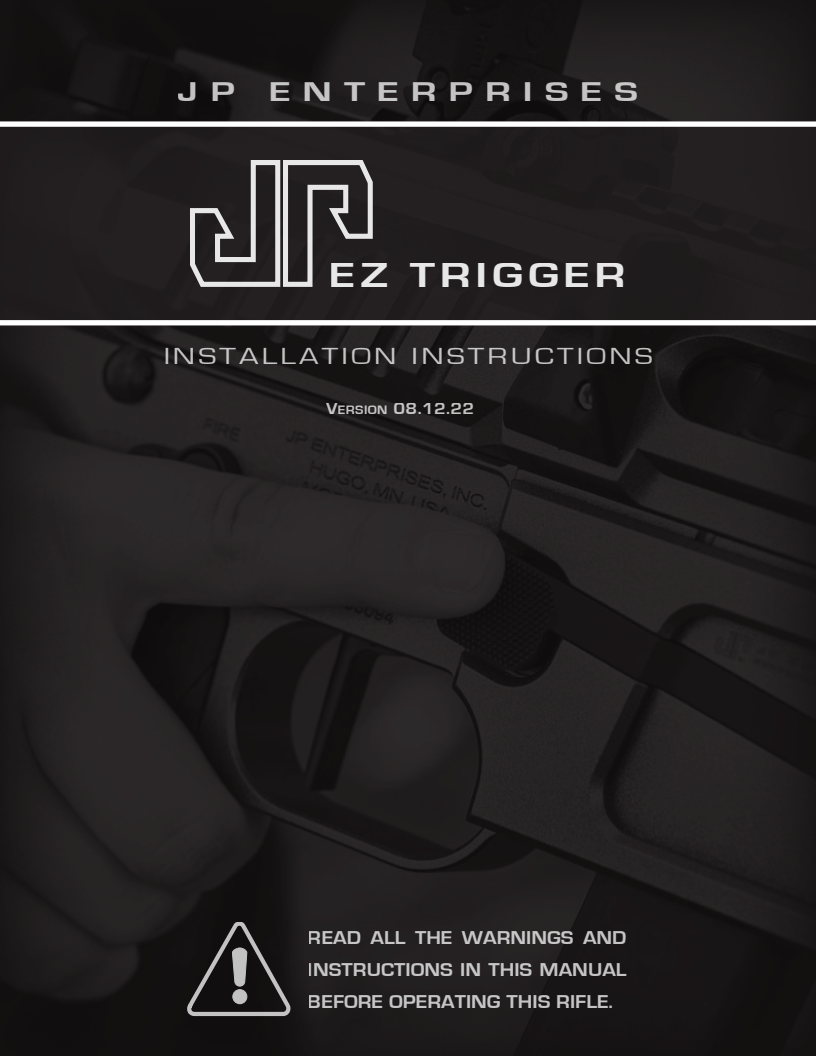
JP ENTERPRISES

EZ TRIGGER

INSTALLATION INSTRUCTIONS

VERSION 08.12.22



READ ALL THE WARNINGS AND INSTRUCTIONS IN THIS MANUAL BEFORE OPERATING THIS RIFLE.

PARTS INCLUDED

TRIGGER

- JP EZ Trigger
- Two (2) 4-40 x 3/8” overtravel set screw (one spare)
- Two (2) 4-40 x 1/2” engagement set screw (one spare)
- JP EZ Disconnector
- 4-40 x 1/4” disconnector adjustment set screw
- Disconnector spring
- Reduced power trigger spring

HAMMER

- JP Speed Hammer
- Competition reduced power hammer spring (yellow)
- Tactical reduced power hammer spring (red)

SAFETY

- Selector drum
- Safety lever
- 8-32 x 3/8” flat head cap screw
- 8-32 x 1/4” flat head cap screw

PINS

- Two (2) JP Anti-Walk Pins
- Four (4) 4-40 x 3/16” buttonhead cap screws

TOOLS

- Two (2) T8 hex key
- .050 hex key
- Thread locker

CONTENTS

TOOLS REQUIRED

To perform the installation in this manual, you will need to have the following additional items available:

- Padded vice
- Plastic mallet
- Lacquer thinner or acetone
- Compressed air
- Protective eyewear
- 5/64 hex key
- Drift pin / slave pin (slightly smaller than the trigger pin)
- Quality sear grease (Armite LP-250 recommended)

INTRODUCTION

Thank you for purchasing the **JP EZ Trigger™** for your gas gun application. The installation of this fire control system can be performed by almost anyone, takes only about five minutes, and avoids any troublesome gunsmith fitting and the danger of ruining parts. The design intent was to make it possible for even those with limited tools or mechanical knowledge to achieve a successful, expert trigger installation. The **JP EZ Trigger™** combines the versatility of our proven component parts with the convenience of a modular trigger. It really is the best of all worlds: a superb trigger job on par with our professional, in-house installation, the speed and ease of a module and the versatility of a components trigger.

Before beginning the installation, read these instructions thoroughly and review the instructional video available on our YouTube channel: **youtube.com/JPRifles**. This video details our professional in-house installation procedure as a visual aid for the process.

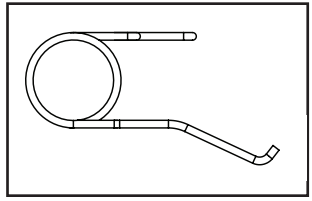
Terms of orientation in these instructions—such as right/left side of the rifle—assume the perspective of the operator handling the rifle as normal with the muzzle facing away. We also assume that you are starting from a stripped receiver, so begin by removing the original trigger group and safety (if applicable). If you need some direction on removing these components, there are many good resources available online. We recommend saving all your original trigger components in case you want to convert back to your original trigger at some point. When removing the original safety selector, take care not to lose the safety detent and plunger. With the trigger parts removed, make sure to thoroughly clean out the fire control cavity to remove any dirt or debris that might interfere with the trigger mechanism.

SPRING SELECTION

The final pull weight of the **JP EZ Trigger™** is determined primarily by your spring selection and will range from three to five pounds depending on the choice of hammer spring. For recreational or competition applications where absolute reliability is not a necessity, we recommend using the yellow competition hammer spring. This spring will yield a final pull of 3-3.5 pounds. Be aware that this spring setup may not yield full ignition reliability with military primers.

Alternately, the red tactical spring will yield a pull of 3.5-4 pounds and full ignition with all primers. The red tactical hammer spring must be used if you are installing the **JP EZ Trigger™** in a .308 rifle, which requires a heavier pull weight in order to prevent the “finger bounce” doubling effect. Any rifle used for military/police duty or home defense must also use this spring to ensure full ignition reliability.

If you wish to achieve a 4.5-lb. trigger for service rifle high-power competition, use your original trigger return spring and hammer spring. Be aware that it may be necessary to increase the tension on the trigger return spring to achieve the 4.5-lb. weight due to the minimal hammer camming effect from our improved sear geometry. You can do this by bending the two legs of the spring further down (about 20° to 25° as shown) to apply more return tension. This “tuning” will slightly increase engagement so the finished trigger weight to meet your requirement. If you would like an extra set of springs pre-balanced for the 4.5-lb. weight, you can order our **JPS4.5** spring kit.



USING THREAD LOCKER

The **JP EZ Trigger™** and adjustable disconnector include adjustment set screws in order to optimize function for the particular receiver. If these adjustments are set properly the first time, they should not need to be readjusted or tuned. To complete the final setup, thread locker must be used and will never loosen once cured unless heat is applied to the screw collars. A capsule of appropriate thread locker is included with this kit. Do not not Loctite® 242 (blue) or substitute products like nail polish.

When using the included thread locker, be aware that you will have somewhere between a few minutes to an hour of working time, depending on humidity and heat. Because of this, make sure to practice the adjustment steps at least once before committing to the thread locker. If it sets before you obtain the correct setting, you will have to apply heat to the set screw collar to degrade the thread locker and remove the set screw, then clean the screw and collar for another run. Make sure also not to apply excess thread locker. If the thread locker bleeds into the pin bearings or between the trigger and the receiver, it will lock up the entire mechanism.

For the thread locker to function properly, it is important that the set screw threads and the threaded collars of the trigger be thoroughly cleaned with solvent to remove any oil from the surface. Lacquer thinner or acetone work well for this as does aerosol brake cleaner spray from an auto parts store. Be careful with solvents and avoid contact with any plastic or painted surfaces. Simply soaking the parts in solvent will loosen the oils but may not carry them out of the threads, so follow the soaking with a blasting of compressed air. Be sure to wear eye protection during compressed air use.

PREPARATION

CAUTION

REMOVE MAGAZINE AND VISUALLY CHECK CHAMBER TO ENSURE THAT THE FIREARM IS UNLOADED.

ALWAYS WEAR EYE PROTECTION WHEN WORKING ON FIREARMS.

1. ***Secure the lower assembly in a padded vice***

   There are several options for clampable vice blocks that insert into the magazine well, but you can also clamp the receiver itself between wooden blocks around the outside of the magazine well. In either case, be sure you have access to the top opening in the receiver, the trigger and hammer pin holes, and the grip, trigger and safety area. Clamp the receiver just tight enough that it is secure but will not deform the receiver.

2. ***Degrease components with lacquer thinner or acetone***

   To ensure that the thread locker holds to the surfaces, degrease the safety drum, the screw boss threads of the trigger and disconnector, the anti-walk pins, and all included screws ***EXCEPT*** the 4-40 x 3/16" buttonhead cap screws. These screws have a blue thread locker coating already applied and should not be cleaned. Refer to the **Using Thread Locker** section for more details.

3. ***Install a single screw in each anti-walk pin***

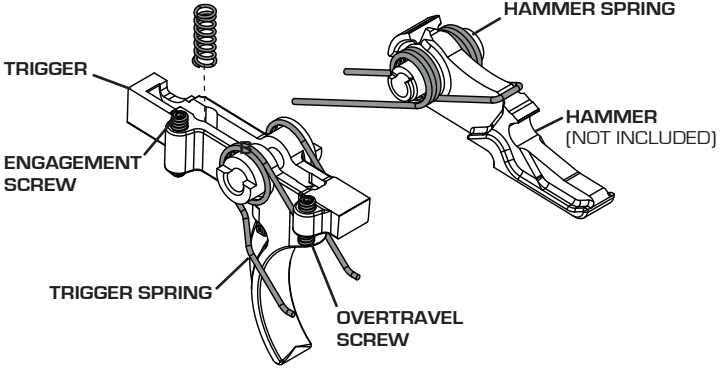
   Apply a very small amount of thread locker to two of the 6-32 x 3/16" buttonhead cap screw and install one screw tightly into

each of the anti-walk pins. Make sure that excess thread locker does note overflow the pin once the screw is installed.

4. Assemble the trigger and hammer.

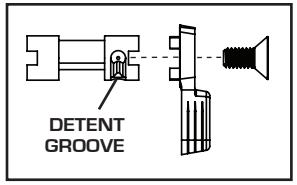
Install the disconnector return spring included in the kit by pressing the slightly wider end of the spring into the rear of the JP trigger. Then, install the supplied trigger spring on the JP trigger as shown as well as the overtravel and engagement set screws as shown just far enough to hold them in place.

Select one of the included hammer springs and install it on your hammer making sure to orient as shown. If installed backwards, the spring will not provide adequate energy for ignition. See the **Spring Selection** section of this manual for more information.



5. Temporarily assemble the safety selector drum

Install the safety lever using the 8-32 x 3/8" flat head screw into the safety drum on the side with the detent grove as shown. This assembly is temporary, so ***DO NOT*** apply thread locker to the flat head screw at this time.



6. Apply sear grease to the detent groove of the safety drum

Use only a small amount of grease, and take care that the threaded screw holes of the safety drum remain free of grease.

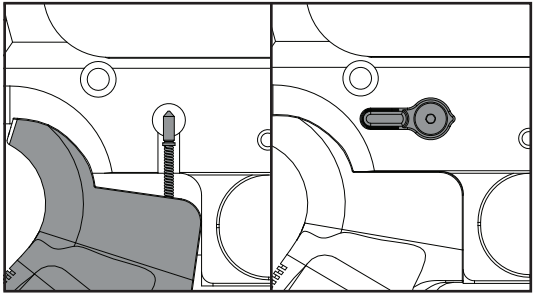
INSTALLATION

1. ***Insert the safety drum into the receiver.***

   At this time, the safety lever should be on the right side of the rifle such that the detent groove is located above the detent plunger. If desired, the safety lever may be switched to the left side of the rifle at a later point.

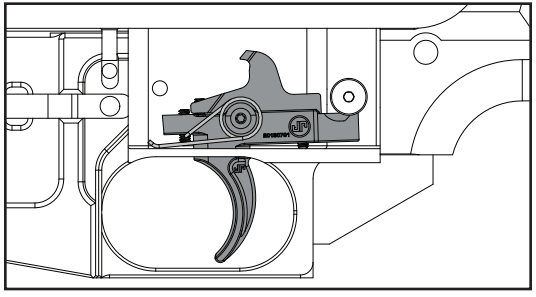
2. ***Insert the safety detent and spring, and install the pistol grip.***

   The detent and spring will slide into the channel as shown and be retained by the pistol grip. The tip of the detent will settle into the detent groove of the safety. Tighten the grip screw of the psitol grip while making sure the detent spring is not pinched.



3. ***Insert the trigger and disconnector into the receiver.***

   Insert the disconnector in the trigger slot, and place them into the trigger cavity with the tail of trigger underneath the safety selector.

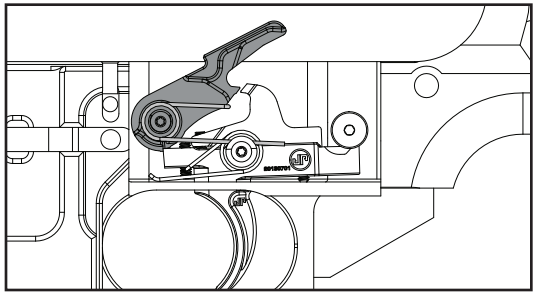


4. ***Insert an anti-walk pin through the trigger and disconnector to secure them in the receiver***

   If you are having trouble aligning the disconnector and trigger in order to slide the anti-walk pin through both the trigger and disconnector, insert your drift pin or a smaller standard trigger pin first, using it as a slave pin. Then, press it out with the anti-walk pin. The JP pin is sized to be a tight fit into the holes in the receiver and may require a bit of gentle force to install. If you have to tap the pin in, use a plastic mallet on the protected the end of the pin with the button head screw installed.

5. ***Install the hammer with the hammer spring oriented as shown.***

   Like the trigger, it may be easier to install first with the original standard-sized pin and then push it out with the JP Anti-walk pin.



6. Test the trigger and hammer function.

Let the hammer forward by pulling the trigger and easing the hammer up with your thumb. If the hammer is hooked by the disconnector, you must first press down on the tail of the disconnector until it releases.

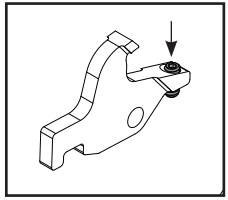
ADJUSTMENT

The following steps will require the use of thread locker to finalize the installation. Please review the **Using Thread Locker** section of this manual. It is recommended that you practice the adjustments at least once to familiarize yourself with the steps before performing them with the thread locker.

DISCONNECTOR

1. Install the disconnector adjustment screw in the disconnector.

Place the 4-40 x 1/4" set screw on the included .050 hex key and apply a small drop of thread locker to the screw threads only. Insert the screw into the threaded hole at the front of the disconnector. Thread the set screw in until it reaches bottom and the disconnector just starts to move. Then, turn it 1 ½ turns further. If you place your thumb on top of the disconnector while turning in the screw, you should be able to feel it start to move.

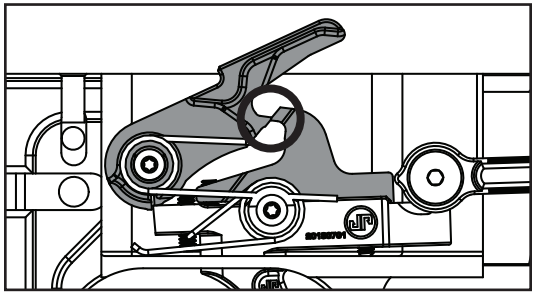


2. Adjust the disconnector screw until the disconnector tip just touches (interferes with) the spur of the hammer.

When you pull the hammer back at this point, it should not be retained by the disconnector. If this is the case, pulling the trigger will release hammer. Be careful not to let the hammer fall and strike the receiver. We recommend our **JP Hammer Stop Block** (**JPFC-HS**), or other blocking material if available.

If the hammer is retained by the disconnector at this point, you will have to release it by pressing down on the tail of the disconnector and then turning the set screw in another half turn. The hammer must be forward for you to adjust the screw. Once the hammer is not being held by the disconnector, you can begin to fine-tune the adjustment until it is set right at the point of release.

Back the set screw out gradually while testing the fit each time by cocking the hammer until the tip of the disconnector just touches the disconnector spur of the hammer but will not retain it. Refer to the installation video for this adjustment for help.



3. Verify the disconnector setting

Cock the hammer while keeping the trigger pulled. The hammer should be retained by the disconnector. When you slowly release the trigger, the hammer should release from the disconnector with an audible click and reset to the sear face of the trigger. If it does not release, you may have to turn the screw back in slightly.

Allow the thread locker to set before proceeding further.

TRIGGER

Adjust ment of the overtravel set screw (front of trigger) is optional and not necessary for a functional trigger, but the most refined feel with the shortest gate from fire to reset is achieved with a tight overtravel setting as described below. However, if you prefer to bias towards a higher fouling tolerance in a duty rifle used in adverse conditions, a more conservative setting or the elimination of the overtravel set screw is an option. The engagement set screw (rear of trigger) serves only as a plug screw and need not be adjusted.

1. With the hammer fully forward (un-cocked), install the overtravel screw in the trigger with thread locker.

Place the 4-40 x 3/8” set screw on the included .050 hex key and apply a small drop of thread locker to the screw threads only. Insert the screw into the screw boss at the front right side of the trigger. Thread the screw in until it reaches the bottom of the receiver, and then back it out half a turn.

2. Verify the trigger’s function with the overtravel setting

With the trigger pulled, you should be able to pull the hammer back with no interference until the hammer touches the disconnector. In other words, you do not want the hammer to drag on the trigger as you cock the hammer.

With the trigger released, cock the hammer normally. With your thumb or hammer stop block ready to catch the hammer as it falls forward, slowly pull the trigger. The trigger should release cleanly and have a very slight amount of overtravel after the trigger releases. The trigger should not touch the hammer at all as it is lowered forward provided you keep the trigger pulled.

FINAL VERIFICATION

If you encounter difficulties installing the **JP EZ Trigger**™ in your receiver or cannot verify the success of the installation as outlined below, call JP Technical Support at 651-426-9196. Do not attempt to use your rifle with a potentially faulty trigger mechanism.

1. ***Install the remaining buttonhead screws into the anti-walk pins.***

   Apply a very small amount of thread locker to the two remaining 6-32 x 3/16" buttonhead cap screws and install them tightly into each of the anti-walk pins. Use the two T8 Torx key provided to firmly tighten the screws into the threaded holes of the pins.

2. ***Remove the safety lever and install it as desired***

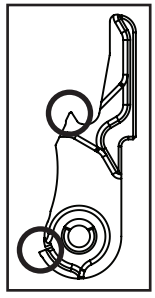
   Once removed from the safety drum, the safety lever and 8-32 x 3/8" flat head screw can be installed into the drum on the left side (for right-handed shooters) or right side (for left-handed shooters) with a drop of thread locker on the threads of the screw.

3. ***If you do not desire an ambidextrous safety, install the remaining flat head screw in the open side of the safety drum***

   Apply thread locker to the threads of the 8-32 x 1/4" flat head screw and insert it into the open side of the safety.

   If you would prefer an ambidextrous safety, you will need an extra safety lever available from JP. Be aware that if you choose to install the second lever at a later date, you will need to apply heat to break the thread locker holding the 8-32 x 1/4" screw installed in this step.

4. ***Apply a dab of sear grease to the engagement notch and disconnector notch of the hammer.***



5. ***Reassemble the upper and lower receivers.***

6. ***Verify function of the trigger as follows:***
   1. Turn the safety to FIRE position
   2. Cycle the bolt with the charging handle
   3. Squeeze the trigger but do not release it
   4. Cycle the action again while still holding the trigger back
   5. Release the trigger while listening for the click of the hammer reconnecting
   6. Repeat this process several times

7. ***Verify the function of the safety as follows:***
   1. Turn the safety to the SAFE position
   2. Pull the trigger to make sure the hammer does not fall
   3. Release the trigger
   4. Turn the safety to the FIRE position and verify that the hammer does not fall
   5. Repeat this process several times

   With the hammer in the cocked position, verify that the safety turns freely with a pronounced click at the SAFE and FIRE positions. With the safety in the SAFE position, there should be

little to no movement of the trigger, and the hammer should not be able to drop. With the safety in the FIRE position, the trigger should release the hammer with little or no perceptible creep.

6. ***Allow the thread locker to set up for at least 24 hours prior to firing the rifle.***

7. ***Test the tightness of the anti-walk pin screws***

   After the thread locker has set, use the two T8 Torx keys to verify the tightness of the anti-walk pin screws. With one wench in each of the screws on either side of the receiver, apply light counterclockwise force to the screws of each pin, which should not move. If the thread locker breaks under light force, remove the screws, degrease the components, and reinstall with thread locker.

USING YOUR RIFLE

When you've finished the installation of the **JP EZ Trigger™**, we recommend that you or any operator of the rifle practice dry-firing it prior to using live ammunition in order to become acquainted with the feel and function of the new trigger. This is another good use for our **JP Hammer Stop Block**, which is ideal for repeated dry-firing without damage either to the receiver or your thumb.

While using your firearm, always remember the following rules:

1. ***Handle all guns as if they were always loaded.***
2. ***Never sweep yourself or anyone else with the muzzle.***
3. ***Keep your finger out of the trigger guard until ready to fire.***
4. ***Be certain of your backstop and your target.***

This fire control system is intended for use only by experienced competitive shooters and professionals. You must take responsibility for your own actions. JP Enterprises will not be responsible for any injury, death or property damage resulting from the use or misuse of these parts.

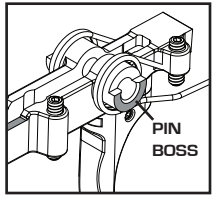
TROUBLESHOOTING

PROBLEM

The trigger will not even fit into lower receiver.

SOLUTION

The receiver is slightly too tight for the trigger. Remove a little material from the sides of the trigger pin bosses until the trigger will slide into the lower with no resistance.

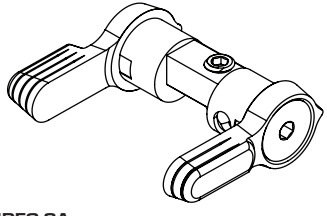


PROBLEM

The safety either does not properly block movement in the trigger or it prevens the trigger from falling.

SOLUTION

The pin holes of the receiver are out of spec. If this is the case, we recommend the use of our **JP Adjustable/Reversible Selector**. This safety will allow for the proper safety engagement setting to be quickly achieved by merely adjusting the safety selector and locking it in place. The selector comes with two reversible levers making it ambidextrous to favor right- or left-handed operators.



JPFC-SA

ADJUSTABLE/REVERSIBLE SELECTOR

PROBLEM

Rifle occasionally “doubles” (fires more than one round with a single trigger pull) under live-fire conditions.

SOLUTION

This is a potentially dangerous problem and must be solved before further use of the rifle. It may also get you in trouble with the authorities. More than a few people have been prosecuted for attempting to “manufacture” a machine gun.

There are several causes of doubling in live fire. The first is mechanical. If you have just completed the installation, and the rifle is malfunctioning, you have not achieved proper disconnector timing. What is actually happening is a “fire on release” situation. Specifically, the weapon fires when the trigger is pulled and fires again when the trigger is released because the hammer is released by the disconnector before the sear is there to receive it. If the rifle has worked properly for some period of time and suddenly develops this problem, your disconnector has probably worn back at the tip and should be replaced. All M15-type rifles will develop this problem given enough use. Still, a properly timed disconnector will last many thousands of cycles before failure.

The second common cause of doubling is the “finger bounce” effect. There are even devices on the market specifically designed to enhance this effect resulting in mock full-auto fire. This problem can be caused by a combination of improper trigger control technique and a trigger release weight that is too light. As the rifle moves in and out from your shoulder under the recoil impulse, the trigger is bouncing against your finger. If the trigger weight is too light, your finger will trip the sear under the recoil impulse resulting in multiple shots. This technique is not appropriate with self-loading rifles. For

a demonstration of proper trigger control technique as it relates to semi-automatic rifles, refer to the videos on our YouTube channel. We have a wealth of information regarding all aspects of rifle use, maintenance, loading, optics selection and proper bench technique including trigger control.

The doubling effect is also most common when the finished weight of the trigger is below 3 lbs. Weigh the trigger with a weight or spring gauge to verify that your finished trigger weight is at least 3.0 to 3.5 lbs. If it is much below 3 lbs., you should increase the pull weight. This can be done without redoing the set screws by increasing the hammer and/or trigger spring tension, assuming that you have proper engagement setting in the first place. People who are accustomed to shooting bolt guns with very light triggers and use "bench rest" techniques are particularly prone to experiencing this condition, as they have a very light grasp of the rifle and feather the trigger. This is also not an appropriate technique for a self-loader. Additionally, rifles not equipped with a muzzle brake—short-barreled carbines in particular—require a heavier trigger setup to avoid the finger bounce problem. Remove the JP trigger spring and replace it with the original. This will add about six ounces to the pull weight. If that is insufficient, bend the legs down about 25° (see **Spring Selection**) to further increase the trigger reset tension. If you approach 3.5 lbs. and still experience the problem, you may have some other problem that needs professional attention, which we can help to diagnose.

The final cause of firing more than one round per pull of the trigger is the "slam-fire" effect. This is caused by the firing pin striking the primer as the bolt carrier assembly comes forward into battery at high velocity. The inertia is imparted to the firing pin, and as the bolt closes, the firing pin continues forward at speed to strike the primer. You will notice that, when unloaded, the last round in the chamber will always show a firing pin witness mark due to this effect. If the primer is sufficiently sensitive and the firing pin velocity high enough, you may have a slam fire. Always use appropriate primers (small rifle or small rifle magnum) for a semi-auto rifle. Use of certain operating system components that speed up the bolt velocity or over-gassed operating system can exacerbate this problem. If the double occurs so fast that it is almost indistinguishable, then it is probably a slam fire. The sure fix for a constantly slam firing rifle is switching to a titanium firing pin. The lower mass of the titanium pin makes it impossible for the pin to transfer enough kinetic energy to cause ignition.

PROBLEM

Repeated ignition failures are occurring.

SOLUTION

Our custom springs (color-coded yellow) are balanced to give a 3- to 3.5-lb. pull weight and give reliable ignition using domestic (US-manufactured) ammunition and primers for recreational or competitive shooting use. If your rifle's intended use is for military, police or home defense, or if you intend to use foreign-manufactured ammunition, you must use a full power Mil-spec hammer spring. This will solve any ignition problems and give "duty" ignition reliability, which should be the criterion if lives may depend on the function of the weapon. If you are using reloaded ammo, you may also have high primers. Box the ammo with the case head up and examine the primers making sure that all primers are below flush.

TRIGGER ACCESSORIES

HAMMER STOP BLOCK

Trigger install tool to save damage to your receiver (or your thumb)

ARMITE LP-250

Premium sear grease that creates a smooth, consistent let-off for any trigger setup