



X-RING VR TSS & X-RING VR TAKEDOWN TSS



Thank you for purchasing your new Tactical Solutions rifle. Please follow these instructions for proper installation. THE FOLLOWING INSTRUCTIONS ARE DESIGNED TO HELP YOU WITH YOUR NEW X-RING RIFLE.

LOADED WEAPON WARNING

ALWAYS MAKE SURE YOUR GUN IS UNLOADED BEFORE ANY WORK IS STARTED.

NEVER CLEAN, LUBRICATE, DISASSEMBLE, REASSEMBLE OR WORK ON ANY FIREARM WHILE IT IS LOADED. KEEP ALL AMUNITION AWAY FROM THE WORK AREA.

EYE AND EAR PROTECTION REQUIRED

WHEN SHOOTING YOUR GUN ALWAYS WEAR SHOOTING GLASSES AND HEARING PROTECTORS!

LEAD EXPOSURE WARNING

DISCHARGING FIREARMS IN POORLY VENTILATED AREAS, CLEANING FIREARMS, OR HANDLING AMMUNITION MAY RESULT IN EXPOSURE TO LEAD AND OTHER SUBSTANCES KNOWN TO THE STATE OF CALIFORNIA TO CAUSE BIRTH DEFECTS, REPRODUCTIVE HARM, AND OTHER SERIOUS PHYSICAL INJURY. HAVE ADEQUATE VENTILATION AT ALL TIMES. WASH HANDS THOROUGHLY AFTER EXPOSURE.

HANDLING WARNING

IF DROPPED OR STRUCK WITH THE SAFETY "OFF", THE RIFLE MAY FIRE. KEEP CHAMBER EMPTY UNLESS ACTUALLY FIRING! KEEP SAFETY "ON" UNLESS ACTUALLY FIRING!

AMMUNITION WARNING

DEATH, SERIOUS INJURY, AND DAMAGE CAN RESULT FROM THE USE OF WRONG AMMUNITION, BORE OBSTRUCTIONS, POWDER OVERLOADS, OR INCORRECT CARTRIDGE COMPONENTS. 22 CASES ARE VERY THIN AND SOMETIMES SPLIT WHEN FIRED.

USE OF X-RING VR TSS:

The X-RING VR TSS rifles are designed to perform best with .22LR subsonic ammunition and to be used "dry" without any fluids added to the suppressor / baffle assembly. The addition of any fluids to the baffle system prior to firing may damage the baffle components.

OPERATION

The X-Ring rifle will fire if there is a cartridge in the chamber and the trigger is pulled, whether or not there is a magazine in place! Removing the magazine does not unload the rifle. Never assume the rifle is unloaded. With the rifle pointed in a safe direction visually inspect the chamber and the magazine each time the rifle is handled to be certain there are no cartridges in either.

SAFETY

The X-Ring rifle has a cross-button safety which is located in the forward portion of the trigger guard. The safety is engaged when it protrudes fully from the right side of the trigger guard assembly. The safety should always be in the engaged position except when the shooter is actually firing the rifle. The safety is in the fire position when it protrudes from the left side of the trigger guard assembly. When the safety is in the fire position the red band shows on the safety button. The rifle will fire whenever the safety is in the fire position and the trigger is pulled.

BOLT LOCK

The bolt lock is located in the forward section of the trigger guard. The bolt lock is the manually operated means of retaining the bolt in the open position. When the bolt is locked open, the rifle is in a safe condition for inspection and cleaning.

To lock the bolt open: pull back the bolt handle to its furthest rear position and, while continuing to hold the charging handle, press in on the lower section of the bolt lock. Release pressure on the charging handle and it will move forward just slightly then it will be locked in its open position. To release the bolt: Pull the bolt handle to the rearward position and then press in on the upper section of the bolt lock. Release the bolt and it will move fully forward.

MAGAZINE

The X-Ring rifle was designed to function with the Ruger® factory 10 round 22 long rifle magazine (BX-1).

LOADING THE MAGAZINE

To load the magazine, press the rim of the cartridge against the magazine follower at the widest section of the steel feed lips until the cartridge enters far enough to be pushed to the rear of the magazine. Continue this process until all 10 cartridges are loaded into the magazine.

LOADING THE RIFLE

1. Make sure the muzzle is pointed in a safe direction and lock the bolt in the rear position (follow previous bolt lock instructions).
2. Load magazine (refer to magazine loading instructions).
3. Insert the loaded magazine into the receiver with the bullet facing towards the muzzle of the rifle. The magazine will not insert into the receiver if the magazine is reversed.
4. To load a cartridge into the chamber, release the bolt from the locked position, allowing the bolt to travel fully forward (see bolt lock instructions). *Do not force the bolt to close, if a cartridge does not chamber properly, lock the bolt into the open position, remove the magazine, and clear the stuck cartridge.*
5. Once the bolt is in battery and the cartridge is fully seated in the chamber, the rifle is now ready to fire.
6. The safety should remain in the *on* position until ready to fire.
7. Firing the rifle will automatically load another cartridge into the chamber.
8. Every time the trigger is pulled, if there is a cartridge in the chamber the rifle will fire.
9. The safety must be engaged when firing has finished and should remain there until ready to engage the intended target.
10. The rifle will fire if the magazine has been removed and a round is still in the chamber.
11. The bolt does not automatically remain open after the last round has been shot. Make sure the chamber is clear after the last shot has been fired.

UNLOADING YOUR RIFLE

1. Keep the muzzle in a safe direction.
2. Keep your finger off the trigger.
3. When firing has been completed lock the bolt in the Rear position and remove the magazine for reloading.
4. Visually inspect the chamber to verify that the chamber is empty.

DISASSEMBLY OF SUPPRESSOR / BAFFLE ASSEMBLY

Unload firearm; visually and physically check that the chamber is empty and magazine is removed.

1. Slide the suppressor wrench over the end cap, aligning the notches on the wrench with the grooves in the end cap. ***Disassembly Figure 1*** While holding the barrel firmly in one hand, turn the suppressor wrench counter clockwise to unscrew the end cap.

Disassembly Figure 1



Suppressor Wrench

2. Once the end cap is unscrewed and free of the threads, the suppressor assembly can be removed from the X-RING TSS body. The complete assembly can now be removed by pulling the end cap away from the barrel body. ***Disassembly Figure 2***

Disassembly Figure 2

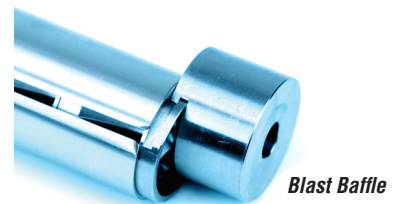


End Cap

Note: If an excess of carbon has built up within the suppressor / baffle assembly, it will not easily slide out of the barrel body. If the baffle assembly will not easily slide out of the barrel body please contact our technical support for further assistance.

3. The blast baffle will need to be removed first to begin cleaning. The baffles are fitted together in a dovetail like engagement. Slide the blast baffle away from the assembly. ***Disassembly Figure 3***

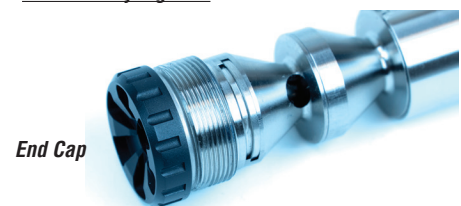
Disassembly Figure 3



Blast Baffle

4. Next, grasp the split tube firmly, and with your other hand, pull the end cap and connected baffles out of the split tube until they are free. ***Disassembly Figure 4***

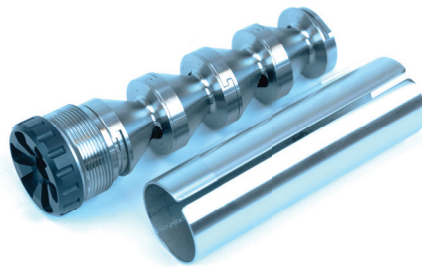
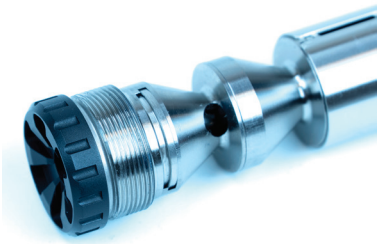
Disassembly Figure 4



End Cap

DISASSEMBLY OF SUPPRESSOR / BAFFLE ASSEMBLY CONTINUE

5. The baffles can now be separated for cleaning. *See sequential illustration below*



CLEANING OF BAFFLE ASSEMBLY

Tactical Solutions recommends frequent cleaning of your baffle assembly. We recommend cleaning your baffle components every 250 rounds for best performance and ease of disassembly. The baffle assembly and its components are machined to very tight tolerances, so it is extremely important to clean any lead fouling and carbon build up on a regular basis.

Caution: Use protective eyewear and solvent resistant gloves when cleaning your suppressor. Only use cleaning solvents in well ventilated areas and avoid breathing vapors. Dispose of all chemicals in an environmentally safe manner.

We recommend using mineral spirits to soak all suppressor components [blast baffle, baffles, and split tube] for 12-24 hours at a time. Once the disassembled suppressor components have soaked, we then recommend scrubbing the parts with a nylon brush to remove any remaining carbon. Use a cloth to wipe any residual mineral spirits or debris from the baffle components before assembly. Make sure to clean any residue off of the barrel body, muzzle threads, and end cap threads before inserting the baffle assembly back into the barrel body.

REASSEMBLY OF SUPPRESSOR / BAFFLE ASSEMBLY

1. After cleaning the baffle system and its components, start first by placing the end cap face down [with threads facing upward] on your work surface.
*Shown at right **Reassembly Figure 1***

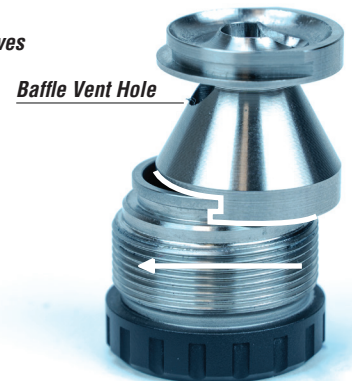
Reassembly Figure 1



2. Next, slide the first baffle onto the end cap, aligning the grooves that interlock the two pieces. *Shown at right **Reassembly Figure 2***
Note: The location of the baffle vents will alternate from left to right for each additional baffle.

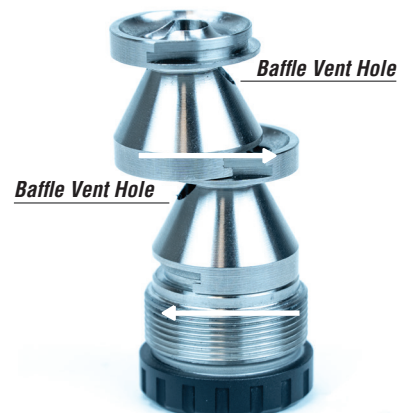
Reassembly Figure 2

Interlocking Grooves



3. With the next baffle in hand, slide it into the grooves in the first baffle, in the same manner. Note the location of the baffle vents and the direction of the groove alignment. *Shown at right **Reassembly Figure 3***
The location of the baffle vents will alternate from left to right for each additional baffle.

Reassembly Figure 3



Repeat this process of aligning and stacking baffles until all 4 baffles are interlocked.

REASSEMBLY OF SUPPRESSOR / BAFFLE ASSEMBLY CONTINUED

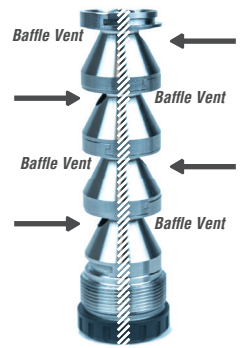
4. At the right are the assembled baffles stacked prior to the addition of the split tube. **Reassembly Figure 4**

Next, you will need to align the *split* in the split tube in a perpendicular orientation to that of the baffle vent hole alignment. Note the hash-marked line along the center of **Reassembly Figure 5**, the “split” in the split tube will need to be located there, which will expose a small portion of the baffle stack. DO NOT align the split tube in a way that exposes the baffle vent holes. Slide the split tube down the baffle stack, being careful not to separate baffles.

Reassembly Figure 4



Reassembly Figure 5

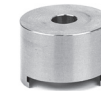


FOR X-RING TAKEDOWN TSS Rifle Only

- 5A. When the split tube is properly aligned and fitted, the last baffle will be slightly visible, with its interlocking groove exposed. **Reassembly Figure 6**

Finally, align and attach the blast baffle to complete the assembly of the suppressor baffle system. **Reassembly Figure 7**. Slide the Front Sight / Spacer on to the baffle / suppressor assembly with the lugs on the spacer facing towards the suppressor body. Reinsert the baffle / suppressor assembly into the X-RING TAKEDOWN TSS barrel and insert the spacer lugs into the notches on the barrel body. Carefully thread the baffle system and barrel together until securely tightened.

The endcap threads should be clean of any residue, solvents, etc., prior to tightening.



Reassembly Figure 6



Reassembly Figure 7

FOR X-RING TSS Rifle Only

- 5B. When the split tube is properly aligned and fitted, the last baffle will be slightly visible, with its interlocking groove exposed. **Reassembly Figure 6**

Finally, align and attach the blast baffle to complete the assembly of the suppressor baffle system. Slide the Spacer on to the baffle / suppressor assembly with the lugs on the spacer facing towards the suppressor body. Reinsert the baffle / suppressor assembly into the X-RING TSS barrel and insert the spacer lugs into the notches on the suppressor body. Carefully thread the baffle system and barrel together until securely tightened.

The endcap threads should be clean of any residue, solvents, etc., prior to tightening.



Reassembly Figure 6



Reassembly Figure 7

DISASSEMBLY OF RIFLES

Safety Glasses *As a safety note, the recoil springs will be under considerable tension when removing the bolt from the receiver. Safety glasses are necessary to protect your eyes during this process. *

1. Starting with an unloaded rifle (after following the aforementioned safety rules), turn the rifle upside down exposing the action screw, and remove. Push the trigger group's safety to the middle position, allowing it to clear the stock. Turn the rifle back upright, pivot the barrel slightly upwards, and raise the barreled action out from the stock.
2. Clamp the barreled action in either a padded vice, or hold it down on the V-Block and gently tap out the two receiver pins with a 5/32" punch and remove the trigger group. Be careful to tap the pins out gently.
3. With a 9/64" sized Hex / Allen wrench, unscrew the charging handle from the bolt and remove.

DISASSEMBLY OF RIFLES CONTINUED

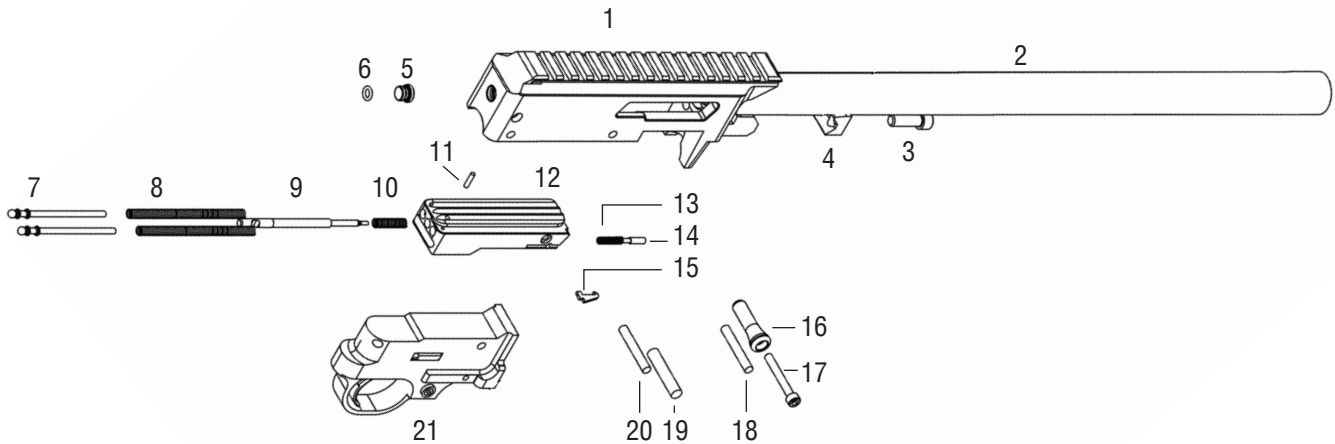
4. Invert the action and gently tap down on the rear of the two recoil spring guide rods, fully seating them into the action. Then tap out the bolt buffer from the side of the action. To remove the stainless steel plug in the rear portion of the receiver, push it from the outside of the receiver to the inside of the receiver.
5. Notice the two small holes on each side of the bolt. These are designed to allow a pair of paperclips or 1/16" sized punches to be inserted once the bolt is pushed back, locking the recoil guide rods in place. This is necessary to remove the bolt. It's easier to use two small paperclips because they will stay in place. To start, push the bolt completely to the rear of the action and hold in place. Slide a straightened end of a paperclip into each hole, approximately 3/4" deep, securing the guide rods in place.
6. Turn the barreled action right side up and carefully tap the top of the receiver. This should allow the rear of the bolt to drop down and out of the receiver. Keep in mind that the bolt needs to pivot slightly from the front to drop out.
7. With the bolt removed, the barreled action and bolt are now ready for cleaning.

CLEANING OF RIFLE BARREL / RECEIVER

1. With the rifle disassembled, start by wiping down the inside of the receiver and breech-face of the barrel with a shop rag. Once the receiver is clean, wipe down the bolt, recoil guide rods, and springs. Then brush off the bolt face, making sure you get under the extractor.

PARTS LIST

- | | | | |
|-------------------|-------------------------|------------------------------|---------------------------|
| 1. RECEIVER | 6. CLEANING PLUG O-RING | 11. FIRING PIN STOP PIN | 16. CHARGING HANDLE |
| 2. BARREL | 7. GUIDE RODS | 12. BOLT | 17. CHARGING HANDLE SCREW |
| 3. V-BLOCK SCREWS | 8. RECOIL SPRINGS | 13. EXTRACTOR PLUNGER SPRING | 18. RECEIVER PIN |
| 4. V-BLOCK | 9. FIRING PIN | 14. EXTRACTOR PLUNGER | 19. RECOIL BUFFER |
| 5. CLEANING PLUG | 10. FIRING PIN SPRING | 15. EXTRACTOR | 20. RECEIVER PIN |
| | | | 21. TRIGGER GROUP |



2. When the baffle assembly is removed from the barrel body, you can either use a traditional cleaning rod and patch, or pull-through cleaning system to remove fouling from the chamber and barrel. With all rimfire rifles, it's important to clean any fouling from the chamber.
3. To clean the bolt, cover the rear of the bolt with a shop rag and pointed in a safe direction, carefully remove the paperclips one at a time and gently remove the recoil guide rods and springs. Remember that the springs are under pressure and will shoot out if not restrained.
4. From the bottom of the bolt, tap out the firing pin retaining pin with 3/32" size punch, while holding pressure on the rear of the firing pin. Remove the firing pin and rebound spring. Firing pin is under spring tension.
5. Clean out the holes in the rear of the bolt, and brush off the bolt face.

REASSEMBLY & LUBRICATION

1. Reinstall the firing pin and firing pin spring into the bolt, making sure the firing pin slot is lined up in the same direction as the firing pin stop pin hole.
2. Gently tap in the firing pin stop pin into the bolt from the top of the bolt.
3. Reassemble the bolt by inserting the recoil springs into the bolt, then push one recoil rod into place at a time and secure with a paper clip or punch.
4. Place a small amount of oil lubricant on the top and sides of the bolt.
5. To insert the bolt into the receiver, tip the front of the bolt slightly downward into the receiver bolt channel, then slip the rear of the guide rod ends into the slots in the back of the receiver. Slide the bolt down with the nose of the bolt pointed down. After the bolt has been inserted into the receiver remove the paperclip or punches. Insert the cleaning plug back into the rear portion of the receiver and insert the recoil buffer into the buffer hole on the side of the action.
6. With the bolt in place, reinstall the trigger group and bolt handle. Slide the safety to the middle position and insert the barreled action back into the stock.
7. Install action screw and tighten firmly. [Approximately 15 in-lbs.]

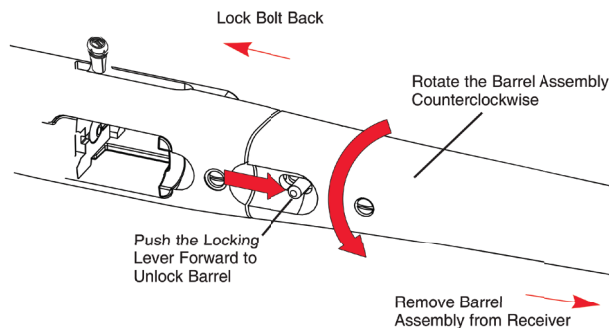
SWITCHING THE CHARGING HANDLE

Use a 9/64" Hex/Allen wrench to unscrew the charging handle bolt. Once the charging handle screw has been unscrewed from the rifle's bolt, the charging handle can be removed and switched to the alternate side of the rifle. Reinsert the screw into the charging handle and firmly tighten.

X-RING VR TAKEDOWN TSS BARREL INSTRUCTIONS

BARREL REMOVAL

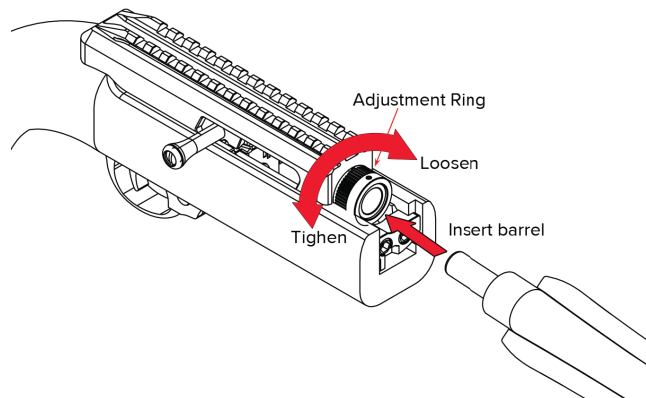
1. Remove the magazine and lock the bolt open. Once the magazine is removed verify the rifle is unloaded by visually inspecting the chamber.
2. Loosen the adjustment ring by turning it clockwise.
3. Push the locking lever forward towards the muzzle then rotate the barrel assembly counterclockwise.
4. You can now pull the barrel assembly out of the receiver.



X-RING VR TAKEDOWN TSS BARREL INSTRUCTIONS

BARREL INSTALLATION

1. Slightly rotate the barrel assembly towards the left side of the rifle and insert the barrel shank into the receiver.
2. Rotate the barrel clockwise until it locks into place.
3. Tighten the adjustment ring by turning it counterclockwise until it is tight.
4. Cycle the bolt manually several times to properly seat the barrel prior to inserting a loaded magazine and firing the rifle.
5. Your rifle is now ready to use.



FIREARM SAFETY RULES

The following rules must be used by gun users at all times. Safe gun handling is absolutely essential to your safety, the safety of others, and the continuation of gun ownership and sport shooting!

1. Learn the mechanics and handling uses of the firearm you are using.
2. Always keep the muzzle pointed in a safe direction.
3. Firearms should be unloaded when not in use.
4. Be sure the barrel is clear of any objects, mud, snow or excess grease or lubricant.
5. Be sure of your target and what is beyond your target before shooting.
6. Wear shooting glasses and hearing protection when shooting or when around other people that are shooting.
7. Never climb a tree or fence when holding a firearm.
8. Do not shoot at a hard surface or at water.
9. Never transport a loaded firearm.
10. Do not consume alcohol when shooting.

STATE BY STATE FIREARM WARNINGS

CALIFORNIA:

"Children are attracted to and can operate firearms that can cause severe injuries or death. Prevent child access by always keeping guns locked away and unloaded when not in use. If you keep a loaded firearm where a child obtains and improperly uses it, you can be fined and sent to prison!"

ADVERTENCIA

"A los niños los atraen las armas de fuego y las pueden hacer funcionar. Ellos pueden causarse lesiones graves y la muerte. Evite que los niños tengan acceso a las armas de fuego guardándolas siempre con no las este utilizando. Si usted tiene un arma de fuego cargada en un lugar en que un niño tiene acceso a ella y la usa indebidamente, le pueden dar una multa o enviarnos a la cárcel."

CONNECTICUT:

"Unlawful storage of a loaded firearm may result in imprisonment or fine."

FLORIDA:

It is unlawful, and punishable by imprisonment and fine, for any adult to store or leave a firearm in any place within the reach or easy access of a minor under 18 years of age or to knowingly sell or otherwise transfer ownership or possession of a firearm to a minor or a person of unsound mind."

MAINE:

Endangering the welfare of a child is a crime. If you leave a firearm and ammunition within easy access of a child, you may be subject to a fine, imprisonment or both. Keep firearms and ammunition separate. Keep firearms and ammunition locked up. Use trigger locks!"

MARYLAND:

"WARNING: Children can operate firearms which can cause death or serious injury. It is a CRIME to store or leave a loaded firearm in any location where an individual knew or should have known that an unsupervised minor would gain access to the firearm. Store your firearms responsibly!"

MASSACHUSETTS:

"WARNING FROM THE MASSACHUSETTS ATTORNEY GENERAL: This Handgun is not equipped with a device that fully blocks use by unauthorized users. More than 200,000 firearms like this one are stolen from their owners every year in the United States. In addition, there are more than a thousand suicides each year by younger children and teenagers who get access to firearms. Hundreds more die from accidental discharge. It is likely that many more children sustain serious wounds, or inflict such wounds accidentally on others. In order to limit the chance of such misuse, it is imperative that you keep this weapon locked in a secure place and take other steps necessary to limit the possibility of theft or accident. Failure to take reasonable preventive steps may result in innocent lives being lost, and in some circumstances may result in your liability for these deaths."

"It is unlawful to store or keep a firearm, rifle, shotgun or machine gun in any place unless that weapon is equipped with a tamper-resistant safety device or is stored or kept in a securely locked container!"

NEW JERSEY:

"It is a criminal offense to leave a loaded firearm within easy access of a minor."

NORTH CAROLINA:

"It is unlawful to store or leave a firearm that can be discharged in a manner that a reasonable person should know is accessible to a minor."

TEXAS:

"It is unlawful to store, transport, or abandon an unsecured firearm in a place where children are likely to be and can obtain access to the firearm."

WISCONSIN:

"If you leave a loaded firearm within the reach or easy access of a child you may be fined or imprisoned or both if the child improperly discharges, possesses, or exhibits the firearm." Please check with your licensed retailer or state police for additional warnings which may be required by local law or regulation. Such regulations change constantly, and local authorities are in the best position to advise you on such legal matters



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