



TACTICAL SOLUTIONS  
INSTRUCTION MANUAL  
FOR THE

**TSAR-223**

# 1 - TSAR-223 INSTRUCTIONS

*Thank you for purchasing your new Tactical Solutions TSAR-223. Please read the full owner's manual before use.*

*The following instructions are designed to help you through the process of installation, loading, disassembly, cleaning, lubrication, and reassembly of your TSAR-223.*

*This unit will work on any standard AR-15 small pin lower and is sold as a self-contained complete unit, consisting of an upper receiver, bolt assembly, and barrel. This unit is designed to operate with "military spec" AR-15 triggers. Aftermarket triggers may or may not impact the performance of this conversion unit. Your TSAR-223 upper was designed for both full auto and semi-auto use.*

## **LOADED WEAPON WARNING**

Always make sure your gun is unloaded before any work is started. Never clean, lubricate, disassemble, reassemble or away from the work area. Eye and ear protection required. When shooting your gun always wear shooting glasses and hearing protectors!

## **WARNING**

Do not shoot the TSAR-223 without an inert suppressor or an actual suppressor installed. Shooting without an inert or actual suppressor in place may damage the TSAR-223 or cause injury to the shooter.

## **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.

## **AMMUNITION WARNING**

Death, serious injury, and damage can result from the use of wrong ammunition, bore obstructions, powder overloads, or incorrect cartridge components.

## **OPERATION OF THE TSAR-223**

The TSAR-223 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 TSAR-223 is unloaded. Visually inspect the chamber and the magazine each time the rifle is handled to be certain there are no cartridges in either.

## **SAFETY**

The Safety Selector Lever is located on the left side of the lower receiver and has two positions, "FIRE" and "SAFE." When set to "FIRE," the firearm will fire a single shot each time the trigger is pulled without manually reloading. When set to "SAFE," a cam bears upon the rear portion of the trigger, blocking the sear surface of the trigger and preventing the hammer from being released.

## **INSTALLATION OF TSAR-223 UPPER**

- Step 1 - Start with an unloaded rifle and keep the rifle pointed in a safe direction at all times.
- Step 2 - Press the magazine release button and remove the magazine.
- Step 3 - Lock the bolt open by pulling the charging handle fully to the rear and pressing in on the bottom of the bolt release.
- Step 4 - Look into the ejection port and visually check the chamber and magazine well for cartridges, ensuring the firearm is completely unloaded.
- Step 5 - Press in on the top of the bolt release to allow the bolt to move into the forward position.
- Step 6 - Push out the two receiver takedown pins holding the original upper to the lower receiver.
- Step 7 - Remove the original upper from the lower receiver.
- Step 8 - Check to see that the bore of your TSAR-223 is clean. If there is any oil or fouling in
- Step 9 - Your TSAR-223 is ready to use.

## RECOMMENDED AMMUNITION

The TSAR-223 was designed to function with commercially loaded .223 Remington ammunition without the need for an adjustable gas block. If you are experiencing any issues please contact Tactical Solutions directly. Do not make any modifications to the TSAR-223 Upper.

## LOADING THE MAGAZINE

### WARNING

Always check the cartridge for the correct designation before loading the firearm. Use of an incorrect cartridge could result in property damage, personal injury and/or death.

### WARNING

The use of improperly loaded or hand loaded ammunition can lead to barrel obstructions, excessive pressure and/or inadvertent discharge of a firearm, may result in personal injury, property damage and/or death. Use only quality factory ammunition suitable for your firearm. Examine each Cartridge, particularly around the primer. Look for dents, scratches, and other signs of damage.

## DO NOT LOAD DAMAGED AMMUNITION

- Step 1 - Hold the magazine with the front of the magazine facing forward.
- Step 2 - Position a cartridge of proper caliber on top of the magazine, between the feed lips.
- Step 3 - With the cartridge properly positioned, push down on the cartridge until it is fully seated in the magazine.  
Make sure the rear of the cartridge is touching the rear inside face of the magazine.
- Step 4 - Place the next cartridge on top of the previously seated cartridge and push it down between the feed lips until it becomes seated in the magazine. The cartridge will sit on the opposite side of the magazine with respect to the cartridge that preceded it.
- Step 5 - Repeat step four until the magazine is full or the desired number of rounds have been loaded.  
Do not attempt to exceed magazine capacity as it may damage the magazine and your firearm.

## LOADING THE RIFLE

A magazine may be inserted into this firearm with the Bolt Assembly starting in the open or closed position.

### LOADING THE RIFLE WITH THE BOLT CLOSED

- Step 1 - Always keep the rifle pointed in a safe direction.
- Step 2 - With the magazine facing forward, center the loaded magazine in the firearm's magazine well and push the magazine up until magazine catch engages and holds the magazine.
- Step 3 - Press upwards on magazine bottom to ensure it is seated fully.
- Step 4 - Pull down on the magazine bottom to verify it is securely engaged in the magazine well. If the magazine releases from the magazine well, repeat steps two through five.
- Step 5 - With a loaded magazine secured in the magazine well, pull the charging handle fully rearward and release it to allow the bolt to close and chamber a loaded cartridge.
- Step 6 - Press the forward assist with the heel of your hand to ensure the bolt is fully forward and closed.
- Step 7 - Verify the safety selector is in the "Safe" position. If it is in the "Fire" position, rotate it fully to the "Safe" position.

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## LOADING THE RIFLE WITH THE BOLT OPEN

- Step 1 - Always keep the rifle pointed in a safe direction.
- Step 2 - With the magazine facing forward, center the loaded magazine in the firearm's magazine well and push the magazine up until magazine catch engages and holds the magazine.
- Step 3 - Press upwards on magazine bottom to ensure it is seated fully.
- Step 4 - Pull down on the magazine bottom to verify it is securely engaged in the magazine well. If the magazine releases from the magazine well, repeat steps two through five.
- Step 5 - With a loaded magazine secured in the magazine well, pull the charging handle fully rearward and release it to allow the bolt to close and chamber a loaded cartridge.
- Step 6 - Press the forward assist with the heel of your hand to ensure the bolt is fully forward and closed.
- Step 7 - Verify the safety selector is in the "Safe" position. If it is in the "Fire" position, rotate it fully to the "Safe" position.

## FIRING THE TSAR-223

### WARNING

Do not fire your TSAR-223 upper without an inert or an actual suppressor installed.

- Step 1 - Always keep the firearm pointed in a safe direction.
- Step 2 - Point the muzzle at your intended target.
- Step 3 - Rotate the safety selector lever fully to the "Fire" position.
- Step 4 - With the target acquired and with the firearm securely held against your shoulder, pull the trigger.

The firearm will discharge and continue to discharge each time the trigger is pulled, until the magazine and chamber are empty. After the last Round is fired, the bolt carrier should lock in the rear position.

## DISASSEMBLING THE TSAR-223 FOR CLEANING

### WARNING

Before disassembling your firearm, make sure it is completely unloaded (both the chamber and the magazine) and engage the safety mechanism by placing the safety lever in the "SAFE" position. Failure to follow these instructions may cause property damage, personal injury and/or death.

- Step 1 - Always keep the firearm pointed in a safe direction.
- Step 2 - Ensure the hammer is fully cocked and the safety lever is in the "Safe" position.
- Step 3 - Push out the takedown pins as far as it will go to the shooter's right.
- Step 4 - Separate upper receiver from the lower receiver.
- Step 5 - Pull back charging handle rearward.
- Step 6 - Pull the bolt assembly fully rearward and remove it from the Upper Receiver.
- Step 7 - Remove the Charging Handle by pulling rearward and up until the "ears" clear the cutouts in upper receiver.

- Step 8 - Remove firing pin retaining pin. Do not open or close the split end of firing pin retaining pin.
- Step 9 - Remove the firing pin from the rear of the bolt carrier.
- Step 10 - Push the bolt fully rearward into bolt carrier.
- Step 11 - Remove the cam pin by rotating it 1/4 turn and lifting it out of the Bolt Carrier.
- Step 12 - Pull the bolt assembly out of the bolt carrier.
- Step 13 - Press the rear of the extractor to check the extractor spring function. The extractor should return to its original position when the pressure is removed.
- Step 14 - Remove the extractor pin by pushing it out with a punch or the tip of a Bullet.
- Step 15 - Remove the extractor and extractor spring.

### **CLEANING THE TSAR-223**

#### **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 ammunition away from the work area. After discharging your rifle, clean it as soon as possible to avoid corrosion. When the firearm is to be stored, it should be carefully cleaned and thoroughly oiled. When the firearm is to be reused, all excess lubrication must be removed. The chamber and bore must be thoroughly wiped dry. For safe and dependable operation of your firearm, the barrel and action must be cleaned periodically.

#### **CLEANING THE BORE**

##### **ALWAYS CLEAN FROM CHAMBER TOWARD THE MUZZLE.**

- Step 1 - Always keep the firearm pointed in a safe direction. Visually and physically verify the Chamber is completely unloaded.
- Step 2 - Disassemble the firearm per the instructions in the “Disassembling the TSAR-223 for Cleaning,” section of this manual.
- Step 3 - At this point you can either use a traditional cleaning rod and patch, or pull-through cleaning system to remove fouling from the chamber and barrel.
- Step 3 - We recommend the use of good quality, name brand chemical cleaners on a proper fitting patch/jag combination and good quality properly sized nylon or bronze brushes. Follow the instructions on the bottle of cleaning solvent.

#### **CLEANING THE BOLT AND CARRIER**

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 AMMUNITION AWAY FROM THE WORK AREA.

- Step 1 - Always keep the firearm pointed in a safe direction.
- Step 2 - Disassemble the firearm per the instructions in the “Disassembling the TSAR-223 for Cleaning,” section of this manual.
- Step 3 – Use the Bore Brush (wet with cleaning solvent) to clean carbon and powder residue from around the Gas Tube.

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- Step 4 - With a brush (wet with cleaning solvent) clean the Bolt Locking Lugs, Bolt Rings, Firing Pin and Bolt Cam Pin.
- Step 5 - With a non-abrasive brush (wet with cleaning solvent) clean the extractor spring.
- Step 6 - Wipe all components clean and dry.
- Step 7 - Inspect all components for excessive wear, corrosion or mechanical damage.

## LUBRICATION

### LUBRICATING THE UPPER RECEIVER

- Step 1 - Always keep the firearm pointed in a safe direction.
- Step 2 - Lightly lubricate the inside of upper receiver.
- Step 3 - Lightly lubricate the outer surfaces of the barrel and surfaces under the hand guard.
- Step 4 - Lubricate in and around all the locking lugs.
- Step 5 - The forward assist should be lightly lubed inside the receiver.

### LUBRICATING THE BOLT ASSEMBLY

- Step 1 - Always keep the firearm pointed in a safe direction.
- Step 2 - Lightly lubricate the firing pin and the firing pin recess in the bolt with oil.
- Step 3 - Generously lubricate the bolt, its cam pin area and the bolt gas rings.  
A lighter application is good on the extractor and its pin.
- Step 4 - Lightly lubricate the charging handle and its latch and spring.
- Step 5 - Lightly lubricate the inner and outer surfaces of the bolt carrier. Generously lubricate the “slide” rail areas of the bolt carrier where they contact the inside of the receiver.

## REASSEMBLING THE TSAR-223

### 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 ammunition away from the work area.

- Step 1 - Always keep the firearm pointed in a safe direction.
- Step 2 - Insert the extractor and the extractor spring into the bolt.
- Step 3 - Firmly push the extractor into the bolt to compress the extractor spring and reinsert extractor pin.
- Step 4 - Insert bolt into bolt carrier.
- Step 5 - Twist the bolt to align the cam pin hole in the bolt with the cam profile in the bolt carrier.
- Step 6 - Insert the cam pin in the bolt assembly. The cam pin can only be installed in bolt from one side, if it does not fit, twist the bolt 180° and try again.
- Step 7 - Once cam pin is fully inserted, twist it 90° (this will allow insertion of the Firing Pin).
- Step 8 - Insert the firing pin into the bolt assembly.
- Step 9 - Pull bolt fully forward of the bolt carrier.

- Step 10 - Reinsert the firing pin retaining pin. After reinserting firing pin retaining pin, the firing pin should not fall out when bolt carrier group is turned with the bolt facing up.
- Step 11 - Insert charging handle into upper receiver and align the lower the “ears” at front end of handle into cutouts in upper receiver.
- Step 12 - Open the ejection port cover.
- Step 13 - Slide charging handle partially into the upper receiver.
- Step 14 - Insert the complete bolt carrier assembly into upper receiver. The gas key will fit into the groove of the charging handle.
- Step 15 - Slide the bolt carrier assembly and charging handle fully into the upper receiver.  
The charging handle latch will lock onto the Upper Receiver.
- Step 16 - Ensure the hammer on the lower receiver is fully cocked and the safety lever is in the “Safe” position.
- Step 17 - To join the Upper and Lower Receivers, position the front takedown pin lug of upper receiver into slot at front of your lower receiver and push the pin into place.
- Step 18 - Pivot the upper receiver onto the lower receiver until they are fully mated, push in the rear takedown pin.

## GENERAL HANDLING CAUTIONS

- \_ Always handle your firearm as if it were loaded.
- \_ Never point your firearm at anything you do not intend to shoot.
- \_ Always make sure your firearm is not loaded before working on it or handing it to another person.
- \_ Firearms should be unloaded when not in use.
- \_ Be sure the barrel is clear of obstructions before shooting.
- \_ Be sure of your target before you shoot and always be sure your backstop is adequate.
- \_ Wear shooting glasses and hearing protectors when you shoot.
- \_ Never consume alcoholic beverages or take drugs before or during shooting.
- \_ Never transport a loaded firearm.
- \_ Don't shoot at a hard surface or at water.

TACTICAL SOLUTIONS IS NOT RESPONSIBLE FOR ANY PHYSICAL INJURY OR DEATH, PROPERTY DAMAGE, OR DAMAGE TO A FIREARM RESULTING IN WHOLE OR IN PART FROM:

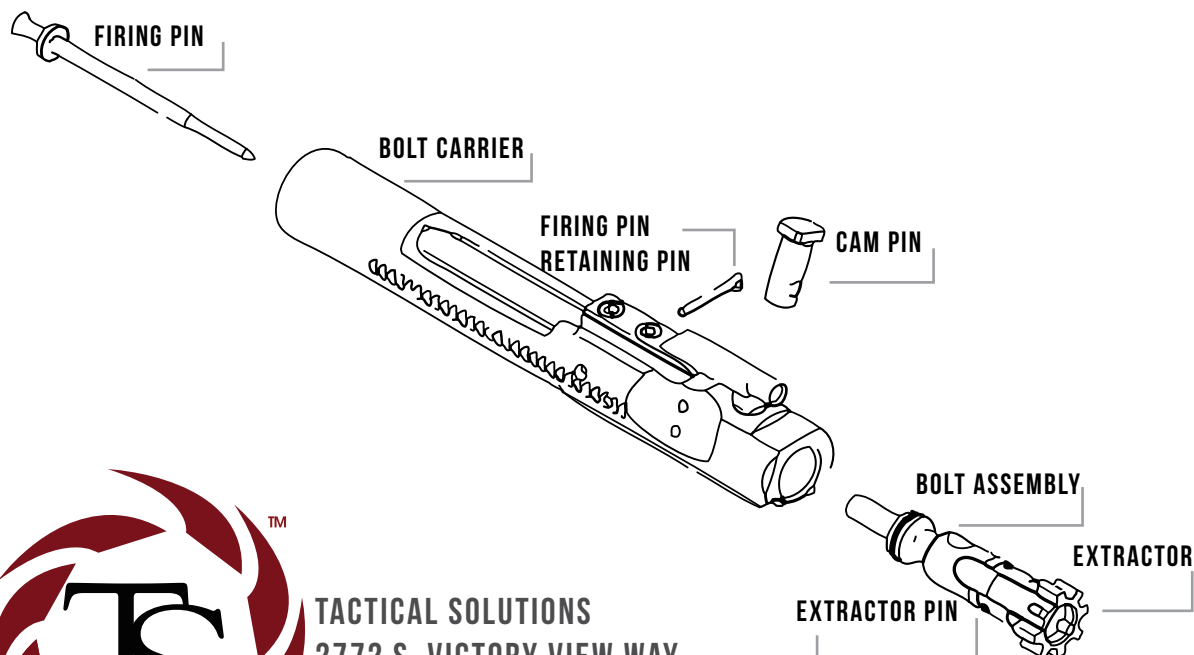
- \_ INTENTIONAL OR NEGLIGENT DISCHARGE OR FIRING OF THE FIREARM.
- \_ IMPROPER OR CARELESS USE OR HANDLING OF THE FIREARM.
- \_ UNAUTHORIZED MODIFICATIONS OR REPAIRS TO THE FIREARM.
- \_ DEFECTIVE, IMPROPER, REMANUFACTURED OR RELOADED AMMUNITION.
- \_ NEGLIGENCE OF THE FIREARM OR OTHER CAUSES BEYOND THE CONTROL OF THE COMPANY

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## TSAR-223 BOLT ASSEMBLY



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