



RAVEN OWNER'S MANUAL

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1. SAFE USE - WARNINGS

THANK YOU FOR YOUR PURCHASE OF A LOCKHART TACTICAL RAVEN.

!! WARNING: READ THE INSTRUCTIONS AND WARNINGS IN THIS MANUAL CAREFULLY BEFORE USING THIS FIREARM.

Failure to use this firearm in its prescribed manner may result in injury or death to user or bystanders. THIS MANUAL WILL HELP YOU USE YOUR RIFLE SAFELY.

KEEP THIS MANUAL WITH YOUR RIFLE. IF YOU SELL THE RIFLE, GIVE THIS MANUAL TO THE NEW OWNER.

WARNING: IT IS YOUR RESPONSIBILITY TO ENSURE THAT YOUR FIREARM IS HANDLED, FIRED, AND STORED SAFELY AND RESPONSIBLY AT ALL TIMES.

This manual provides instructions on the operation and maintenance of your Lockhart Tactical Raven Rifle.

READ AND UNDERSTAND IT CAREFULLY BEFORE YOU TRY TO USE YOUR FIREARM.

Your safety, and that of those around you, depends on your knowledge of your firearm and on your knowledge of safety rules common to all firearms. Please study the common-sense safety rules noted in this manual.

Your first responsibility as a gun owner is always safety!

This manual may serve several models of firearms. Ensure you identify which specific model you possess and follow those instructions and guidelines.

NOTICE:

Lockhart Tactical and affiliates has no control over the use of your firearm, and shall not be responsible for injury, death, or damage to property resulting from either intentional or accidental discharge of this firearm.

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2. SAFE USE - SAFETY DISCLAIMER

SAFETY IS YOUR NUMBER ONE RESPONSIBILITY!!!!

YOUR FIRST CONCERN AS A FIREARM OWNER SHOULD BE SAFETY, REGARDLESS OF WHETHER YOU ARE IN THE FIELD, AT HOME, OR AT THE RANGE. APPLY THE SAFETY RULES LISTED BELOW AND THROUGHOUT THIS MANUAL IN EVERY SITUATION, WITH ANY KIND OF FIREARM.

IF YOU ARE UNSURE ABOUT ANY OPERATIONAL ASPECTS OF YOUR FIREARM, PLEASE CONTACT LOCKHART TACTICAL Tactical AT 1 (250) 715-7290 BEFORE PROCEEDING WITH ITS OPERATION.

!! WARNING: YOU MUST FOLLOW ALL OF THESE SAFETY RULES TO ENSURE THE SAFE USE OF YOUR FIREARM. IF YOU FAIL TO FOLLOW THE INSTRUCTIONS AND WARNINGS IN THIS MANUAL YOU COULD CAUSE SERIOUS PERSONAL INJURY OR DEATH TO YOURSELF OR OTHERS, AS WELL AS DAMAGE TO PROPERTY.

! YOU ARE THE MOST IMPORTANT SAFETY DEVICE WHEN IT COMES TO THE USE OF YOUR FIREARM AND NEITHER LOCKHART TACTICAL NOR THE DISTRIBUTORS, WHOLESALERS, OR DEALERS OF THIS FIREARM WILL BE RESPONSIBLE FOR ANY PERSONAL INJURY, DEATH OR PROPERTY DAMAGE THAT RESULTS FROM: (1) THE CRIMINAL OR NEGLIGENT USE OF THIS FIREARM; (2) A DISREGARD OF THESE SAFETY INSTRUCTIONS AND WARNINGS; (3) IMPROPER OR CARELESS HANDLING OF THIS FIREARM; (4) THE USE OF NON-STANDARD, DEFECTIVE, IMPROPER OR RELOADED AMMUNITION; OR (5) IMPROPER OR NEGLIGENT MODIFICATIONS OR REPAIRS TO THIS FIREARM.

! USE YOUR FIREARM ONLY FOR LEGAL PURPOSES. LEGAL PURPOSES INCLUDE TARGET SHOOTING AND HUNTING. YOU MUST ENSURE THAT YOU ARE IN COMPLIANCE WITH ALL APPLICABLE LAWS AND ORDINANCES REGARDING THE USE OF YOUR FIREARM.

! NEVER USE ALCOHOL OR DRUGS BEFORE OR WHILE SHOOTING. DO NOT USE YOUR FIREARM IF YOU ARE ON ANY MEDICATION THAT IMPAIRS, EVEN SLIGHTLY, YOUR MENTAL OR PHYSICAL ABILITY.

SAFE HANDLING

! BEFORE HANDLING ANY FIREARM, UNDERSTAND ITS OPERATION. NOT ALL FIREARMS ARE THE SAME. FAMILIARIZE YOURSELF WITH THE MECHANICAL FEATURES OF ANY FIREARM YOU INTEND TO USE. IF YOU FEEL UNCERTAIN ABOUT ANY OPERATIONAL ASPECTS OF YOUR FIREARM, PLEASE CONTACT LOCKHART TACTICAL AT 1 (250) 715-7290 BEFORE PROCEEDING WITH ITS OPERATION.

3. SAFE USE - ACTS AND PROVE

WHAT DO THE ACRONYMS ACTS & PROVE STAND FOR?

ACTS

Assume every firearm is loaded.

IF you pick up a firearm you will always assume it's loaded!)

Control the muzzle direction at all times.

IF you pick up a firearm, ensure you always control the muzzle direction and keep it pointed in the SAFEST available direction.

What is the safest available direction? Each situation is different.

IF you are standing on concrete, pointing downwards would be unsafe due to the possibility of ricochets. IF you are near water, that direction could be unsafe due to the possibility of ricochets.

IF you are near rocks, that direction could be unsafe due to the possibility of ricochets.

IF you are near other, people or animals, that direction could be unsafe due to the possibility of ricochets.

TIF there is anything overhead, pointing upwards could be unsafe.

Remember: Whenever a firearm is in your hands, it's your responsibility to ensure you are acting in the safest possible manner.

Trigger finger must be kept off the trigger and out of the trigger guard.

IF you pick up a firearm, ensure you keep your finger off the trigger, so that you don't accidentally pull it.

IF you pick up a firearm, ensure you keep your finger out of the trigger guard, to once again ensure you can't accidentally pull the trigger.

See that the firearm is unloaded - PROVE it safe.

IF you pick up a firearm, you will ensure you PROVE it safe

PROVE

Point the firearm in the safest available direction.

Remember the safety concerns above about selecting the correct direction in each unique circumstance.

Remove all ammunition.

If the firearm has a removeable magazine, ALWAYS remove it first!

Scenario: Assume the previous user left a loaded magazine in the firearm. When you cycle the action to remove the ammunition it's possible that a round will be loaded in the chamber. If the firearm trigger group was faulty or you accidentally touched the trigger, the firearm could accidentally fire.

Observe the chamber.

The chamber is the part of the barrel closest to you. This is where the ammunition cartridge will be seated in preparation for firing

Verify the feeding path.

The path between the ammunition source (example: magazine) and the chamber. If the chamber is empty, and the magazine is empty but you failed to check the feeding path, as you cycle the action you could still accidentally load a round into the chamber

A squib round is possible in all firearms. They are most often caused by negligence in the powder loading process (insufficient or no powder load), or a failure of the primer to ignite the powder at all. The bullet is fired, but remains somewhere in the barrel. Firing a second shot may cause the barrel to burst causing injury or death.

Examine the bore.

This step MUST be completed as the last step. Doing this in any other order WILL result in injury or death! Once you have completed the previous steps of PROV, you will examine the bore in preparation for firing. What should I be looking for and why? If there are any obstructions in the barrel such as rocks, or a squib round

4. SAFE USE - PERSONAL PROTECTIVE EQUIPMENT

WHENEVER POSSIBLE, WE RECOMMEND YOUR EYE PROTECTION IS BALLISTICALLY RATED.

THIS STANDARD DIFFERS QUITE A LOT FROM THAT OF SAFETY EYEWEAR FOR CIVILIANS. BALLISTIC-RATED EYEWEAR IS **DESIGNED AND TESTED TO SURVIVE THE MILITARY'S HIGH-SPEED IMPACT AND FRAGMENTATION STANDARDS**

MAKE SURE THAT NEARBY BYSTANDERS ALSO WEAR EYE AND EAR PROTECTION.

NOISE **ABOVE 70 DB** OVER A PROLONGED PERIOD OF TIME MAY START TO DAMAGE YOUR HEARING. LOUD NOISE ABOVE 120 DB CAN CAUSE IMMEDIATE HARM TO YOUR EARS.



HANDLING / VENTILATION

WHENEVER POSSIBLE, WE RECOMMEND WEARING GLOVES.

HANDLING OF CARTRIDGES AND FIRING FIREARMS MAY EXPOSE YOU TO LEAD. ALWAYS ENSURE THAT THERE IS ADEQUATE VENTILATION.

WASH YOUR HANDS AFTER HANDLING AMMUNITION

ALWAYS WASH YOUR HANDS AFTER HANDLING AMMUNITION OR FIRING YOUR FIREARM.

5. SAFE USE - PROPER HANDLING

READ THESE IMPORTANT REQUIREMENTS AND TIPS BEFORE HANDLING OR SHOOTING.

YOUR FIRST CONCERN AS A FIREARM OWNER SHOULD BE SAFETY, REGARDLESS OF WHETHER YOU ARE IN THE FIELD, AT HOME, OR AT THE RANGE. APPLY THE SAFETY RULES LISTED BELOW AND THROUGHOUT THIS MANUAL IN EVERY SITUATION, WITH ANY KIND OF FIREARM.

IF YOU ARE UNSURE ABOUT ANY OPERATIONAL ASPECTS OF YOUR FIREARM PLEASE CONTACT LOCKHART TACTICAL AT 1- (250)715-7290 BEFORE PROCEEDING WITH ITS OPERATION.

!! NEVER RELY ON MECHANICAL SAFETY FEATURES ALONE to ensure safety. THE ONLY SURE WAY TO ENSURE THE SAFE USE OF YOUR FIREARM IS TO ALWAYS PRACTICE SAFE FIREARM-HANDLING HABITS. THIS IS YOUR RESPONSIBILITY.

!! ALWAYS TREAT EVERY FIREARM AS IF IT IS LOADED AND WILL FIRE. ALWAYS PERSONALLY CHECK FOR YOURSELF TO DETERMINE THAT THE FIREARM IS UNLOADED; DO NOT TAKE ANYONE'S WORD ON IT. ALWAYS LOCK THE BOLT OF YOUR FIREARM TO THE REAR AND LOOK THROUGH THE OPEN EJECTION PORT TO EXAMINE THE CHAMBER AND VISUALLY CHECK THAT IT IS UNLOADED BEFORE PASSING IT TO ANOTHER PERSON. YOU MUST FOLLOW THIS PROCEDURE EVERY TIME A FIREARM LEAVES YOUR HAND, IS CLEANED, HANDED TO YOU OR ANOTHER PERSON, TRANSPORTED OR STORED.

WARNING: GRIPPING THE FIREARM LOOSELY WHEN FIRING CAN CAUSE THE SHOOTER TO FIRE TWO SHOTS (THE SECOND AS THE TRIGGER STRIKES THE SHOOTER'S TRIGGER FINGER DURING COUNTER-RECOIL.) THIS IS A SHOOTER ERROR, NOT A FIREARM MALFUNCTION.

THE FIRED CARTRIDGE CASE IS HOT WHEN IT IS EJECTED FROM THE FIREARM. DO NOT ALLOW IT TO BURN YOU OR TO DISTRACT YOU FROM SAFE HANDLING OF THE FIREARM.

ALWAYS ENSURE THAT THE CHAMBER IS EMPTY. THE FIREARM SHOULD NOT BE CONSIDERED TO BE SAFE UNLESS THE MAGAZINE IS REMOVED, THE SAFETY IS ON, AND THE BOLT / SLIDE IS OPEN, AND THE CHAMBER IS EMPTY.

WARNING: ALWAYS ASSUME ALL FIREARMS ARE LOADED. ANYTIME YOU HANDLE A FIREARM, YOU SHOULD IMMEDIATELY INSPECT IT TO ENSURE THAT IT IS COMPLETELY UNLOADED.

WARNING: DO NOT APPLY LUBRICANT OR PRESERVATIVE TO YOUR AMMUNITION. DOING SO MAY CAUSE THE CARTRIDGE TO PARTIALLY MALFUNCTION, LEAVING THE BULLET LODGED IN THE BORE, CREATING A BORE OBSTRUCTION.

WARNING: LEAD MAY BE PRESENT IN THE FOULING OF A DIRTY FIREARM. AVOID CONTACT WITH IT, AND CLEAN HANDS AFTERWARD TO AVOID INGESTING LEAD.

CAUTION: NEVER MIX TWO OR MORE BORE CLEANING SOLVENTS. SOME COMBINATIONS OF SOLVENTS PRODUCE ACIDS THAT MAY DAMAGE THE FIREARM OR HARMFUL VAPOUR THAT CAN CAUSE INJURY TO THE USER.

6. SAFE USE - BEFORE FIRST USE

!! WARNING

! READ THESE INSTRUCTIONS AND WARNINGS CAREFULLY AND THOROUGHLY BEFORE REMOVING THIS FIREARM FROM ITS PACKAGING, AND PRIOR TO LOADING AND FIRING.

UNDERSTAND THESE INSTRUCTIONS AND WARNINGS BEFORE USING THIS FIREARM.

FAILURE TO READ THESE INSTRUCTIONS AND TO FOLLOW THESE WARNINGS MAY RESULT IN SERIOUS INJURY OR DEATH TO YOU AND OTHERS, AND DAMAGE TO PROPERTY.

! THOROUGHLY CLEAN YOUR RAVEN BEFORE SHOOTING IT FOR THE FIRST TIME.

IN ORDER TO ENSURE MAXIMUM FUNCTION AND RELIABILITY YOUR RIFLE SHOULD BE CLEANED AND LUBRICATED EVERY 200 ROUNDS OR BETWEEN SHOOTING SESSIONS – WHICHEVER OCCURS SOONER.

**USE SLIP 2000 EWL (EXTREME WEAPONS LUBRICANT) ON YOUR FIREARM
– SLIP 2000 EWL IS BOTH A LUBRICANT AND A CLEANING SOLUTION OR A SIMILAR PRODUCT.**

**! USE MAGAZINES MADE BY THE ORIGINAL EQUIPMENT MANUFACTURER (OEM).
THIS FIREARM HAS BEEN DESIGNED TO USE POPULAR OEM PISTOL MAGAZINES.**

AFTERMARKET MAGAZINES CAN VARY WIDELY FROM OEM SPECIFICATIONS, SO THEY MAY OR MAY NOT WORK WELL IN YOUR RIFLE.

! BUTTSTOCK WARNING! THIS FIREARM HAS BEEN DESIGNED TO USE A SPECIFIC LENGTH OF BUFFER TUBE, BUFFER AND BUFFER SPRING.

!! CHANGING OUT PARTS MAY RESULT IN A DIFFERENT CYCLING LENGTH WHICH MAY RESULT IN INJURY OR DAMAGE TO YOURSELF OR YOUR RAVEN.

CHANGING THE RECOIL SYSTEM WILL VOID THE WARRANTY FOR ANY RESULTING DAMAGE TO YOUR RAVEN.

IF YOU CHOOSE TO INSTALL A RIFLE-LENGTH, NON-COLLAPSIBLE BUTTSTOCK YOU MUST CALL LOCKHART TACTICAL FOR INSTRUCTIONS BEFORE DOING SO.

7.1 SAFE USE - AMMUNITION WARNINGS

! DO TO THE TREMENDOUS DEMAND FOR AMMUNITION THE MANUFACTURERS ARE PRODUCING AS FAST AS THEY CAN. It is possible that your ammunition could contain LIGHT LOADS, SQUIB LOADS, AND PRIMER ONLY LOADS. THIS IS A SIGNIFICANT SAFETY ISSUE. WHEN A VERY LIGHT, SQUIB, OR PRIMER ONLY ROUND IS FIRED, THE BULLET REMAINS STUCK IN THE BARREL. FIRING ANOTHER ROUND INTO AN OBSTRUCTED BARREL MAY CAUSE THE BARREL TO BURST AND OR THE SPENT ROUND TO BURST AND EJECT PIECES OF BRASS ALONG WITH FLAMES AND GASES AND COULD INJURE OR KILL!

❖ THE FEEL AND SOUND OF A LIGHT, SQUIB, OR PRIMER ONLY ROUND IS VERY DIFFERENT FROM A NORMAL ROUND IF YOUR RIFLE FIRES A ROUND THAT SOUNDS OR FEELS DIFFERENT FROM THE PREVIOUS ROUND, DO NOT PULL THE TRIGGER AGAIN!

❖ PLACE THE SAFETY SELECTOR IN THE "SAFE" POSITION, REMOVE THE MAGAZINE, AND REMOVE THE SHELL FROM THE CHAMBER.

!! ONCE YOU ARE ABSOLUTELY SURE THE RIFLE IS UNLOADED, MAKE SURE THE BARREL IS UNOBSTRUCTED EITHER VISUALLY OR BY RUNNING A CLEANING ROD ALL THE WAY THROUGH THE BARREL.

IF THERE IS A BULLET STUCK IN THE BARREL, PUSH IT OUT USING THE CLEANING ROD. IF YOU ARE UNABLE TO REMOVE THE STUCK BULLET, PLEASE TAKE YOUR GUN TO A GUNSMITH.

!! UNDER NO CIRCUMSTANCES SHOULD THE FIREARM BE FIRED. FIRING INTO A PLUGGED BARREL MAY CAUSE PROPERTY DAMAGE, INJURY, AND OR DEATH.

!! WE RECOMMEND TAKING THE FIREARM TO A QUALIFIED GUNSMITH FOR EXAMINATION BEFORE USING IT AGAIN.

! NEVER KEEP AMMUNITION IN THE SAME LOCATION AS THE FIREARM.

STORE EACH IN A SEPARATE AND SECURE PLACE.

USE CORRECT AMMUNITION

! WARNING: NEVER USE AMMUNITION NOT SPECIFICALLY DESIGNATED FOR USE IN YOUR FIREARM.

!! DO NOT USE +P or +P+ (OVER PRESSURE AMMUNITION)

USING ANY AMMUNITION ABOVE THE STANDARD PRESSURE GIVEN BY SAAMI AND NATO SPECS CAN BE VERY DANGEROUS ESPECIALLY ON A BLOWBACK FIREARM.

DOING SO IS STRICTLY PROHIBITED AND WILL VOID ALL WARRANTIES.

FAILURE TO USE THE CORRECT TYPE OR CALIBER OF AMMUNITION MAY CAUSE THE FIREARM TO JAM, FAIL TO FIRE, OR EVEN GENERATE EXCESSIVE PRESSURE WHICH CAN DAMAGE OR EVEN RUPTURE YOUR FIREARM, CAUSING PERSONAL INJURY, DEATH OR PROPERTY DAMAGE.

! A FIREARM AND AMMUNITION ARE A SYSTEM AND MUST WORK TOGETHER.

THERE ARE DIFFERENT TYPES OF AMMUNITION FOR DIFFERENT TYPES OF FIREARMS. YOUR FIREARM HAS BEEN DESIGNED FOR AMMUNITION OF A SPECIFIC TYPE AND A SPECIFIC GAUGE OR CALIBER.

IT IS IMPORTANT TO SELECT THE PROPER AMMUNITION FOR YOUR FIREARM. DIFFERENT COMBINATIONS OF BULLET VELOCITY, BULLET WEIGHT AND FIREARM WEIGHT CAN HAVE MAJOR IMPACT ON FELT RECOIL; HIGH FELT RECOIL COULD BE UNCOMFORTABLE TO SOME SHOOTERS.

LOCATE THE CARTRIDGE DESIGNATION MARKED ON YOUR FIREARM. THIS INFORMATION INDICATES THE CORRECT AMMUNITION THAT MUST BE USED IN THIS FIREARM. YOU ARE RESPONSIBLE FOR SELECTING AMMUNITION THAT MEETS INDUSTRY STANDARDS AND IS APPROPRIATE IN TYPE AND CALIBER FOR THIS FIREARM.

LOCATE THE CARTRIDGE DESIGNATION MARKED ON YOUR FIREARM. THIS INFORMATION INDICATES THE CORRECT AMMUNITION THAT MUST BE USED IN THIS FIREARM. YOU ARE RESPONSIBLE FOR SELECTING AMMUNITION THAT MEETS INDUSTRY STANDARDS AND IS APPROPRIATE IN TYPE AND CALIBER FOR THIS FIREARM.

! ALWAYS USE THE CORRECT AMMUNITION FOR YOUR PARTICULAR FIREARM

AS INDICATED BY THE MARKING ON THE FIREARM. NEVER USE NON-STANDARD, RELOADED, OR "HAND LOADED" AMMUNITION THAT HAS NOT BEEN SUBJECTED TO INTERNAL BALLISTIC PRESSURE TESTING.

! NEVER USE A CARTRIDGE NOT SPECIFICALLY DESIGNATED FOR USE IN YOUR FIREARM.

THE WRONG TYPE OF AMMUNITION MAY EXCEED THE CAPABILITY OF YOUR FIREARM AND MAY DAMAGE OR EVEN RUPTURE YOUR FIREARM.

! NEVER MIX AMMUNITION. IN SOME CASES, A ROUND OF AMMUNITION NOT SPECIFIED ON YOUR FIREARM MAY FIT INTO THE CHAMBER. FIRING AMMUNITION NOT SPECIFIED ON YOUR FIREARM MAY CAUSE IT TO RUPTURE AND CAUSE SERIOUS INJURY OR DEATH TO YOU OR OTHERS.

USE HIGH QUALITY AMMUNITION

! USE ONLY HIGH QUALITY CANADIAN / AMERICAN AMMUNITION.

YOUR LOCKHART TACTICAL RIFLE IS A PRECISION FIREARM DESIGNED TO SHOOT A WIDE RANGE OF **HIGH-QUALITY CANADIAN / AMERICAN AMMUNITION.**

IT WILL ALSO SHOOT A WIDE RANGE OF FOREIGN MANUFACTURED AMMUNITION, BUT SUCH AMMUNITION CAN VARY WIDELY IN QUALITY AND CONSISTENCY. YOU CAN EXPECT THAT YOUR SHOOTING EXPERIENCES MAY LIKEWISE VARY WHEN USING SUCH AMMUNITION.

EVEN CANADIAN / AMERICAN AMMUNITION WILL VARY IN THE TOLERANCES TO WHICH IT IS MANUFACTURED, AND SOME BRANDS AND/OR TYPES OF AMMUNITION WILL WORK BETTER IN YOUR RIFLE THAN OTHERS. EXPERIMENT WITH DIFFERENT BRANDS OF AMMUNITION AVAILABLE TO YOU TO FIND THOSE THAT PERFORM BEST IN YOUR RIFLE. USING RELOADED OR COMMERCIALY REMANUFACTURED AMMUNITION WILL VOID THE WARRANTY OF THIS FIREARM.

! WARNING: NEVER USE NON-STANDARD, RELOADED OR HANDLOADED AMMUNITION THAT HAS NOT BEEN SUBJECTED TO INTERNAL BALLISTIC PRESSURE TESTING.

!WARNING: NEVER USE NON-STANDARD, RELOADED OR HANDLOADED AMMUNITION THAT HAS NOT BEEN SUBJECTED TO INTERNAL BALLISTIC PRESSURE TESTING. RELOADED OR HANDLOADED AMMUNITION MAY HAVE MANY MANUFACTURING AND QUALITY VARIABLES (SUCH AS THE TYPE AND AMOUNT OF GUN POWDER). ANY AMMUNITION THAT IS IMPROPERLY MANUFACTURED, EVEN IN THE SLIGHTEST DEGREE, MAY FAIL TO FIRE OR MAY GENERATE EXCESSIVE INTERNAL PRESSURES WHICH CAN DAMAGE OR EVEN RUPTURE THE FIREARM, CAUSING PERSONAL INJURY OR DEATH TO THE SHOOTER OR THOSE IN THE IMMEDIATE VICINITY.

! ALWAYS INSPECT YOUR AMMUNITION BEFORE USING IT. NEVER USE DIRTY, CORRODED OR DAMAGED AMMUNITION WHICH CAN LEAD TO A BURST CARTRIDGE WHICH MAY CAUSE DAMAGE TO THE FIREARM AND PERSONAL INJURY OR DEATH.

! CORROSIVE PRIMER CAUTION: USE OF AMMUNITION MANUFACTURED WITH CORROSIVE PRIMERS IN THIS FIREARM WILL CAUSE OXIDATION TO DEVELOP ON ANY EXPOSED METAL PARTS OF THE FIREARM. TO PREVENT SUCH OXIDATION, EVERY TIME AMMUNITION WITH CORROSIVE PRIMERS IS USED; THE RESIDUE FROM THE CORROSIVE PRIMERS MUST BE COMPLETELY REMOVED FROM ALL EXPOSED METAL PARTS. CONVENTIONAL OIL OR SOLVENTBASED FIREARM CLEANERS WILL NOT DISSOLVE THE RESIDUE FROM CORROSIVE PRIMERS.

RESIDUE FROM CORROSIVE PRIMERS MUST BE COMPLETELY DISSOLVED WITH A WATERBASED CLEANER. AFTER THE CORROSIVE RESIDUE HAS BEEN COMPLETELY DISSOLVED FROM ALL EXPOSED METAL PARTS, REMOVE ANY EXCESS WATER-BASED CLEANER FROM THE FIREARM.

CHECK WITH THE AMMUNITION MANUFACTURER OR A QUALIFIED GUNSMITH IF YOU ARE UNSURE WHETHER THE PARTICULAR AMMUNITION YOU PLAN TO USE IN THIS FIREARM HAS BEEN MANUFACTURED WITH CORROSIVE PRIMERS. IF IN DOUBT, FOLLOW ALL THE INSTRUCTIONS ABOVE TO PREVENT OXIDATION CAUSED BY AMMUNITION MANUFACTURED WITH CORROSIVE PRIMERS. SAAMI MEMBER AMMUNITION MANUFACTURERS DO NOT USE CORROSIVE PRIMERS.

ALUMINUM/STEEL AMMUNITION WARNING:

DO NOT USE ALUMINUM OR STEEL-CASED AMMUNITION IN YOUR RAVEN RIFLE

ALUMINUM AMMUNITION CASES MAY CRACK, SPLIT, OR COME APART WHEN FIRED IN A DIRECT BLOWBACK FIREARM LIKE THE RAVEN RIFLE. STEEL AMMUNITION CASES MAY DAMAGE YOUR FIREARM OR CAUSE EXCESSIVE WEAR.

! ALWAYS KEEP YOUR FIREARM POINTED IN A SAFE DIRECTION. NEVER POINT A FIREARM AT ANYTHING YOU DO NOT INTEND TO SHOOT WHETHER OR NOT IT IS LOADED. THIS IS PARTICULARLY IMPORTANT WHEN LOADING, UNLOADING, OR FIELD STRIPPING A FIREARM. ALWAYS CONTROL THE DIRECTION OF YOUR FIREAR

! NEVER PLACE YOUR FINGER INSIDE THE TRIGGER GUARD OR ON THE TRIGGER UNLESS YOU INTEND TO FIRE. ENSURE THAT NO OTHER OBJECTS TOUCH THE TRIGGER.

! BEWARE OF BARREL OBSTRUCTIONS. BE SURE THE BARREL IS CLEAR OF OBSTRUCTIONS BEFORE SHOOTING. MUD, WATER, SNOW OR OTHER OBJECTS MAY INADVERTENTLY LODGE IN THE BARREL BORE. A SMALL OBSTRUCTION CAN CAUSE A DANGEROUS INCREASE IN PRESSURE AND MAY DAMAGE YOUR FIREARM AND CAUSE INJURY TO YOURSELF AND OTHERS.

! ALWAYS WEAR EYE AND EAR PROTECTORS THAT ARE SPECIFIED FOR USE WITH FIREARMS.

EVERY TIME YOU DISCHARGE YOUR FIREARM. MAKE SURE OTHERS IN THE VICINITY OF WHERE YOU WILL BE SHOOTING DO SO AS WELL.

AMMUNITION FAILURES

IF YOUR FIREARM FAILS TO FIRE

WHEN THE HAMMER FALLS (MISFIRES), KEEP THE FIREARM POINTED IN A SAFE DIRECTION, REMOVE YOUR FINGER FROM THE TRIGGER, AND WAIT (60) SECONDS.

IF YOUR FIREARM STILL HAS NOT FIRED, REMOVE THE MAGAZINE AND REMOVE (EJECT) THE CARTRIDGE FROM THE CHAMBER AND DISPOSE OF PROPERLY.

IF YOU HEAR AN UNUSUAL SOUND OR FEEL AN UNUSUAL RECOIL

ON FIRING, STOP FIRING, WAIT (60) SECONDS, REMOVE THE MAGAZINE, EXTRACT ANY CARTRIDGE FROM THE CHAMBER, LOCK THE BOLT TO THE REAR, PUT THE SAFETY SELECTOR ON SAFE, EXAMINE THE CHAMBER TO ENSURE IT IS EMPTY, AND EXAMINE THE BORE FOR OBSTRUCTIONS.

IF YOU SEE AN OBSTRUCTION,

TAKE IT TO A QUALIFIED GUNSMITH. NEVER FIRE A FIREARM WITH AN OBSTRUCTED BARREL.

IF YOU ARE UNSURE OR HAVE ANY CONCERNS,

CONTACT YOUR RETAILER OR LOCKHART TACTICAL FOR ADVICE

7.2 SAFE USE - AMMUNITION ADVICE

9X19MM

! BEFORE FIRING ALWAYS ENSURE YOUR RIFLE IS SETUP PROPERLY !!
EACH RAVEN 9 COMES STANDARD WITH AN 8.0 OZ BUFFER WEIGHT.

THIS WEIGHT IS SUITABLE FOR ALL COMMON 9X19MM AMMUNITION.

NOTE: IF YOU PURCHASED AN ADJUSTABLE BUFFER WEIGHT SYSTEM AND HAVE ADJUSTED THE BUFFER WEIGHT TO BE LIGHTER THAN STOCK, ENSURE YOU DO NOT FIRE FULL STRENGTH AMMUNITION OR DAMAGE / HARM MAY OCCUR. YOU ARE RESPONSIBLE FOR ENSURING YOUR ADJUSTED BUFFER WEIGHT MATCHES THE AMMUNITION STRENGTH YOU ARE FIRING! IF YOU DO NOT KNOW WHAT YOU ARE DOING, CONSULT A GUNSMITH OR LOCKHART TACTICAL!



JUST LIKE WITH ALL SEMI-AUTOMATIC RIFLES, CERTAIN AMMUNITION WILL OPERATE BETTER THAN OTHERS.

BEFORE PURCHASING A BULK AMOUNT OF AMMUNITION WE RECOMMEND BUYING 100-200 ROUNDS TO TEST TO ENSURE IT FEEDS RELIABLY.

WE RECOMMEND USING BLAZER BRASS CASED AMMUNITION (115GR OR 124GR)



ROUND NOSE FULL METAL JACKET AMMUNITION WILL ALWAYS FEED THE MOST RELIABLY. OTHER TYPES MAY ALSO WORK, HOWEVER THE CHANCE OF FEED ISSUES INCREASES WITH ANY AMMUNITION DOES NOT HAVE A ROUND NOSE.



JUST LIKE EVERY GREAT RIFLE, THE MORE YOU USE IT, THE SMOOTHER IT WILL BECOME! SO BE SURE TO VISIT YOUR LOCAL SHOOTING RANGE AS OFTEN AS YOU CAN AND ENJOY YOUR BEAUTIFUL NEW TOOL.

7.3 SAFE USE - AMMUNITION ADVICE

556 NATO

◆ BEFORE FIRING ALWAYS ENSURE YOUR RIFLE IS SETUP PROPERLY !!
EACH RAVEN 556 COMES STANDARD WITH AN 3.8 OZ BUFFER WEIGHT.

THIS WEIGHT IS SUITABLE FOR COMMON 5.56 / .223 REM AMMUNITIONS.

NOTE: IF YOU PURCHASED AN ADJUSTABLE BUFFER WEIGHT SYSTEM AND HAVE ADJUSTED THE BUFFER WEIGHT TO BE LIGHTER THAN STOCK, ENSURE YOU DO NOT FIRE FULL STRENGTH AMMUNITION OR DAMAGE / HARM MAY OCCUR. YOU ARE RESPONSIBLE FOR ENSURING YOUR ADJUSTED BUFFER WEIGHT MATCHES THE AMMUNITION STRENGTH YOU ARE FIRING! IF YOU DO NOT KNOW WHAT YOU ARE DOING, CONSULT A GUNSMITH OR LOCKHART TACTICAL!

USING ALUMINUM OR STEEL-CASED AMMUNITION VOIDS THE MANUFACTURER'S WARRANTY.



JUST LIKE WITH ALL SEMI-AUTOMATIC RIFLES, CERTAIN AMMUNITION WILL OPERATE BETTER THAN OTHERS.

BEFORE PURCHASING A BULK AMOUNT OF AMMUNITION WE RECOMMEND BUYING 100-200 ROUNDS TO TEST TO ENSURE IT FEEDS RELIABLY.

FOR BEST ACCURACY WE RECOMMEND USING MID 70 GRAIN WEIGHT PROJECTILES.
THE HIGHER THE QUALITY THE AMMUNITION IS, THE MORE ACCURATE YOUR RIFLE WILL SHOOT.

JUST LIKE EVERY GREAT RIFLE, THE MORE YOU USE IT, THE SMOOTHER IT WILL BECOME! SO BE SURE TO VISIT YOUR LOCAL SHOOTING RANGE AS OFTEN AS YOU CAN AND ENJOY YOUR BEAUTIFUL NEW TOOL.

8. SAFE USE - PREVENTIVE MAINTENANCE / CLEANING

! NEVER DISASSEMBLE YOUR FIREARM BEYOND THE FIELD STRIPPING PROCEDURE OUTLINED IN THIS MANUAL.

IF YOU DO NOT UNDERSTAND THE INSTRUCTION IN THE MANUAL, STOP!
IMPROPER DISASSEMBLY OR REASSEMBLY OF YOUR FIREARM MAY BE DANGEROUS AND CAN LEAD TO SERIOUS INJURY OR DEATH.

CONTACT LOCKHART TACTICAL OR A QUALIFIED GUNSMITH FOR ADVICE BEFORE PROCEEDING WITH ANY ACTION.

! WARNING: BEFORE YOU BEGIN DISASSEMBLY OF YOUR RIFLE YOU MUST FIRST INSPECT IT TO MAKE SURE THERE IS NOT A MAGAZINE IN THE MAGAZINE WELL, THE CHAMBER IS EMPTY, AND THE SAFETY SELECTOR IS ON SAFE.

! NEVER PERFORM OR ALLOW ANY ALTERATION OR REPLACEMENT OF PARTS IN YOUR FIREARM UNLESS PERFORMED BY A QUALIFIED GUNSMITH USING GENUINE LOCKHART TACTICAL PARTS.

IF YOU DO OTHERWISE, YOUR FIREARM MAY FUNCTION IMPROPERLY AND MAY CAUSE SERIOUS INJURY OR DEATH AND DAMAGE TO PROPERTY AS A RESULT.

! NEVER MANIPULATE, ADJUST OR CHANGE ANY OF THE INTERNAL COMPONENTS OF YOUR FIREARM UNLESS SPECIFICALLY INSTRUCTED TO DO SO IN THIS MANUAL. IMPROPER MANIPULATION OF ANY COMPONENTS OF THIS FIREARM BEYOND THE INSTRUCTIONS IN THIS MANUAL MAY AFFECT THE SAFETY AND RELIABILITY OF YOUR FIREARM AND MAY CAUSE SERIOUS INJURY OR DEATH.

! BE SURE ALL ACCESSORIES, GRIPS, SLINGS, SCOPES AND OTHER ACCESSORIES ARE COMPATIBLE WITH YOUR FIREARM AND THAT THE ACCESSORIES DO NOT INTERFERE WITH SAFE OPERATION. YOU MUST UNDERSTAND AND FOLLOW ALL OF THE INSTRUCTIONS IN THIS MANUAL, AS WELL AS THOSE THAT MAY BE SUPPLIED WITH YOUR AMMUNITION AND ANY ACCESSORY.

OPERATION: SEMIAUTOMATIC BLOWBACK ON PISTOL CALIBERS / DIRECT IMPINGEMENT ON RIFLE CALIBERS
RIFLE FINISH: ANODIZED OR CERAKOTE ON ALUMINUM SURFACES, DLC OR BLACK OXIDE / BLACK NITRIDE ON STEEL

CLEANING INSTRUCTIONS AND LUBRICATION

1. IS FIREARM UNLOADED AND SAFE BEFORE CLEANING?
2. CLEANING SHOULD BE DONE BY BRUSHING THE BARREL BORE AND CHAMBER WITH EITHER SLIP 2000 EWL OR A GOOD POWDER REMOVING SOLVENT AND BORE BRUSH.
3. AFTER USING A BORE BRUSH AND SOLVENT, SWAB OUT THE BORE AND CHAMBER WITH A PROPER BORE ROD AND PATCHES UNTIL THE PATCHES COME OUT CLEAN.
ENTIRE BARREL EXTERIOR SHOULD BE COATED WITH A VERY LIGHT COAT OF GUN OIL TO PREVENT ANY CHANCE OF SURFACE RUST.

ALWAYS PUSH / PULL DIRT AND DEBRIS DOWN THE BORE TOWARDS THE MUZZLE. NEVER SCRAPE / PULL DIRT AND DEBRIS BACKWARDS AS THIS COULD LEAD TO DAMAGE OF YOUR RIFLE BARREL MUZZLE / CROWN.

AFTER CLEANING, PUSH A CLEAN PATCH SATURATED WITH EITHER SLIP 2000 EWL OR GUN OIL THROUGH THE BORE FOLLOWED BY A CLEAN DRY PATCH.

4. THE FIRING BOLT SHOULD BE DISASSEMBLED AND CLEANED IN A SIMILAR MANNER. LUBRICATE THE BOLT EXTERIOR WITH A LIGHT COAT OF SLIP 2000 AFTER REASSEMBLY.
DO NOT LUBRICATE THE FIRING PIN TIP AND FIRING BOLT FACE.
5. WIPE CLEAN AND LUBRICATE UPPER RECEIVER AND EJECTOR.
6. THE LOWER RECEIVER AND MAGWELL SHOULD BE WIPED CLEAN. APPLY A MINIMUM AMOUNT OF LUBRICANT ON THE TRIGGER GROUP SPRINGS

SPRAY ON DRY LUBRICANT MAY BE USED SPARINGLY. DO NOT OIL. [NOTE: YOU MAY APPLY A VERY LIGHT COAT OF GUN OIL BETWEEN USES TO PROTECT AGAINST MOISTURE. IF YOU DO, YOU MUST BE SURE TO CLEAN AND REMOVE ANY EXCESS OIL FROM INSIDE THE ACTION OF YOUR RIFLE PRIOR TO SHOOTING.

FAILURE TO DO SO CAN RESULT IN EXCESS OIL AND UNBURNED GUNPOWDER BEING BLOWN OUT OF THE CHARGING HANDLE SLOT ON THE SIDE OF THE RECEIVER POTENTIALLY CAUSING SEVERE INJURY TO THE SHOOTER'S FACE AND EYES. ENSURE EYE PROTECTION IS ALWAYS WORN WHEN SHOOTING ANY FIREARM!

TRIGGERTECH TRIGGER CLEANING (IF APPLICABLE)

DUE TO THE PATENDED ROLLER SYSTEM TECHNOLOGY OF THE TRIGGERTECH TRIGGER PACK THEY TYPICALLY DO NOT NEED TO CLEANED AS OFTEN AS STANDARD TRIGGERS, HOWEVER MUCH LIKE ANY OTHER COMPONENT OF A FIREARM, IT IS STRONGLY SUGGESTED TO CLEAN THE TRIGGER PERIODICALLY.

WE SUGGEST USING A LIGHT SOLVENT, SUCH AS A LIGHTER FLUID, OR A BRAKE CLEANER MIXED WITH COMPRESSED AIR TO CLEAN OUT THE ENGAGEMENT SURFACES OF THE TRIGGER.

SEPERATE THE UPPER AND LOWER RECEIVERS AND UNDER CONTORL, RELEASE THE TRIGGER INTO THE FULLY FORWARD POSITION.

PAY SPECIAL ATTENTION TO CLEANING THE SEAR ENGAGEMENT SURFACE AS SHOWN IN THE IMAGE BELOW.

IF ANY CONTAMINANTS GET INTO THE ENGAGEMENT SURFACE S, THE ROLLER WILL PUSH ANY DEBRIS OUT OF THE TRIGGER THROUGH THE CHANNELING IN THE HOUSING.

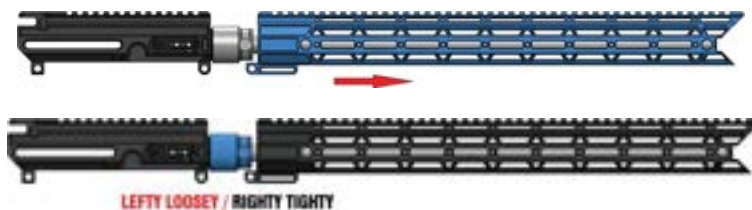
IN THE EVENT THAT THERE IS ALSO LUBE IN THE TRIGGER MIXED WITH THE CARBON, DIRT AND DUST, THEN USE A LIGHT SOLVENT (LIKE LIGHTER FLUID IE. ZIPPO OR RONSOL) AND COMPRESSED AIR, FOLLOWED BY 5-10 DRY FIRES OF THE TRIGGER.

NOTE: DO NOT ALLOW THE TRIGGER TO SLAM INTO THE LOWER RECEIVER AS OVER TIME THIS CAN CAUSE DAMAGE!

BEFORE FIRING CHECK LIST:

- 1) IS FIREARM UNLOADED AND SAFE BEFORE INSPECTING?
- 2) DO I HAVE ALL MY SAFETY EQUIPMENT?
- 3) IS ALL AMMUNITION VERIFIED TO BE CORRECT FOR MY FIREARM?
- 4) ARE ALL VISIBLE HEX HEAD SCREWS SNUG?
- 5) IS BARREL NUT UNDER HANDGUARD TIGHT?
- 6) IS FIREARM CLEANED, OILED AND BARREL FREE OF OBSTRUCTIONS?

NOTE: A LOOSE BARREL CAN CAUSE ISSUES AS DESCRIBED IN DETAIL HERE: PAGE NO 2



9. SAFE USE - SAFE CARRY, TRANSPORT AND STORAGE

SAFETY DISCLAIMER

SAFETY IS YOUR NUMBER ONE RESPONSIBILITY!!!!

YOUR FIRST CONCERN AS A FIREARM OWNER SHOULD BE SAFETY, REGARDLESS OF WHETHER YOU ARE IN THE FIELD, AT HOME, OR AT THE RANGE. APPLY THE SAFETY RULES LISTED BELOW AND THROUGHOUT THIS MANUAL IN EVERY SITUATION, WITH ANY KIND OF FIREARM. IF YOU ARE UNSURE ABOUT ANY OPERATIONAL ASPECTS OF YOUR FIREARM, PLEASE CONTACT LOCKHART TACTICAL AT 1(250) 715-7290 BEFORE PROCEEDING WITH ITS OPERATION.

!WARNING: YOU MUST FOLLOW ALL OF THESE SAFETY RULES TO ENSURE THE SAFE USE OF YOUR FIREARM. IF YOU FAIL TO FOLLOW THE INSTRUCTIONS AND WARNINGS IN THIS MANUAL YOU COULD CAUSE SERIOUS PERSONAL INJURY OR DEATH TO YOURSELF OR OTHERS, AS WELL AS DAMAGE TO PROPERTY.

! YOU ARE THE MOST IMPORTANT SAFETY DEVICE WHEN IT COMES TO THE USE OF YOUR FIREARM AND NEITHER LOCKHART TACTICAL NOR THE DISTRIBUTORS, WHOLESALERS, OR DEALERS OF THIS FIREARM WILL BE RESPONSIBLE FOR ANY PERSONAL INJURY, OR DEATH

PROPERTY DAMAGE THAT RESULTS FROM:

- (1) THE CRIMINAL OR NEGLIGENT USE OF THIS FIREARM;
- (2) A DISREGARD OF THESE SAFETY INSTRUCTIONS AND WARNINGS;
- (3) IMPROPER OR CARELESS HANDLING OF THIS FIREARM;
- (4) THE USE OF NON-STANDARD, DEFECTIVE, IMPROPER OR RELOADED AMMUNITION; OR (5) IMPROPER OR NEGLIGENT MODIFICATIONS OR REPAIRS TO THIS FIREARM.

! USE YOUR FIREARM ONLY FOR LEGAL PURPOSES. LEGAL PURPOSES INCLUDE TARGET SHOOTING AND HUNTING. YOU MUST ENSURE THAT YOU ARE IN COMPLIANCE WITH ALL APPLICABLE LAWS AND ORDINANCES REGARDING THE USE OF YOUR FIREARM.

! NEVER USE ALCOHOL OR DRUGS BEFORE OR WHILE SHOOTING. DO NOT USE YOUR FIREARM IF YOU ARE ON ANY MEDICATION THAT IMPAIRS, EVEN SLIGHTLY, YOUR MENTAL OR PHYSICAL ABILITY.

SAFE HANDLING

! BEFORE HANDLING ANY FIREARM, UNDERSTAND ITS OPERATION.

NOT ALL FIREARMS ARE THE SAME. FAMILIARIZE YOURSELF WITH THE MECHANICAL FEATURES OF ANY FIREARM YOU INTEND TO USE. IF YOU FEEL UNCERTAIN ABOUT ANY OPERATIONAL ASPECTS OF YOUR FIREARM, PLEASE CONTACT LOCKHART TACTICAL AT 1 (250) 715-7290 BEFORE PROCEEDING WITH ITS OPERATION.

! NEVER RELY ON MECHANICAL SAFETY FEATURES ALONE to ensure safety.

THE ONLY SURE WAY TO ENSURE THE SAFE USE OF YOUR FIREARM IS TO ALWAYS PRACTICE SAFE FIREARM-HANDLING HABITS. THIS IS YOUR RESPONSIBILITY.

! ALWAYS TREAT EVERY FIREARM AS IF IT IS LOADED AND WILL FIRE.

ALWAYS PERSONALLY CHECK FOR YOURSELF TO DETERMINE THAT THE FIREARM IS UNLOADED; DO NOT TAKE ANYONE'S WORD ON IT. ALWAYS LOCK THE BOLT OF YOUR FIREARM TO THE REAR AND LOOK THROUGH THE OPEN EJECTION PORT TO EXAMINE THE CHAMBER AND VISUALLY CHECK THAT IT IS UNLOADED BEFORE PASSING IT TO ANOTHER PERSON.

YOU MUST FOLLOW THIS PROCEDURE EVERY TIME A FIREARM LEAVES YOUR HAND, IS CLEANED, HANDED TO YOU OR ANOTHER PERSON, TRANSPORTED OR STORED.

! IF YOU VIOLATE THE RULES OF SAFE FIREARM HANDLING OR FAIL TO USE COMMON SENSE YOU WILL EVENTUALLY CAUSE AN ACCIDENT. FIREARM SAFETY TRAINING IS AVAILABLE. CONTACT LOCKHART TACTICAL OR LOCAL SPORTSMAN'S CLUB, ETC. FOR AVAILABILITY.

SAFE CARRY AND TRANSPORT

! WARNING: DO NOT CARRY THIS RIFLE WITH THE BOLT OPEN AND A LOADED MAGAZINE IN THE RIFLE.

AN ACCIDENTAL DISCHARGE MAY RESULT IF THE BOLT CLOSSES AND THE SAFETY LEVER IS NOT IN THE "SAFE" POSITION, LEADING TO DEATH OR INJURY TO THE SHOOTER OR BYSTANDERS AND DAMAGE TO PROPERTY.

! WARNING: NEVER STRIKE OR DROP THE FIREARM. DOING SO MAY CAUSE A ROUND TO CHAMBER.

! WARNING: THIS RIFLE WILL STILL FIRE WITH THE MAGAZINE REMOVED IF A ROUND REMAINS IN THE CHAMBER. WHEN REMOVING THE MAGAZINE YOU MUST ALSO PROPERLY CLEAR THE CHAMBER AND VISUALLY INSPECT IT TO ENSURE THAT IT IS CLEAR OF ANY ROUNDS.

! NEVER CROSS OBSTACLES SUCH AS FENCES OR STREAMS WITH A LOADED FIREARM.

ALWAYS MAKE CERTAIN YOUR FIREARM IS UNLOADED BEFORE CROSSING A FENCE, CLIMBING A TREE, JUMPING A DITCH OR NEGOTIATING OTHER OBSTACLES.

! NEVER TRANSPORT A LOADED FIREARM. WHEN TRANSPORTING YOUR FIREARM, BE SURE IT IS UNLOADED AND LOCKED. SAFE AND SECURE TRANSPORTATION OF YOUR FIREARM IS YOUR RESPONSIBILITY.

SAFE STORAGE

!! WARNING: FIREARMS ARE DANGEROUS WHEN USED AND STORED IMPROPERLY. THEY POSE A RISK OF SERIOUS OR FATAL INJURIES. FIREARMS CAN BE ESPECIALLY DANGEROUS TO CHILDREN WHEN THEY ARE STORED IN AN IRRESPONSIBLE AND UNSAFE MANNER

! ALWAYS SAFELY STORE AND SECURE YOUR FIREARM. YOU MUST KEEP YOUR FIREARM LOCKED AND UNLOADED IN A SECURE PLACE FOR YOUR SAFETY AND THE SAFETY OF OTHERS. YOU SHOULD STORE AMMUNITION IN A SEPARATE, SECURE LOCATION WHEN IT IS NOT IN USE. IF YOU FAIL TO DO SO, YOU OR OTHERS MAY SUFFER SERIOUS INJURY OR DEATH AS A RESULT.

! ALWAYS SECURE YOUR FIREARM IN A MANNER THAT WILL PREVENT UNAUTHORIZED ACCESS.

KEEP YOUR FIREARM UNLOADED AND LOCKED WHEN NOT IN USE. YOUR SAFETY AND THE SAFETY OF OTHERS REQUIRE THAT YOU ALWAYS SECURE AND STORE YOUR FIREARM IN A MANNER THAT WILL PREVENT UNAUTHORIZED ACCESS. NEVER LEAVE A FIREARM UNATTENDED UNLESS IT IS LOCKED, UNLOADED AND SECURED.

YOU MUST ALWAYS SECURE YOUR FIREARM AND AMMUNITION SEPARATELY SO THAT THEY ARE NOT ACCESSIBLE TO CHILDREN AND/OR OTHER UNAUTHORIZED PERSONS.

! NEVER ASSUME THAT A "HIDING" PLACE IS A SECURE STORAGE METHOD. OTHERS MAY BE AWARE OF YOUR STORAGE LOCATION OR COME UPON IT BY CHANCE. IT IS YOUR PERSONAL RESPONSIBILITY TO USE COMMON SENSE WHEN STORING YOUR FIREARM AND AMMUNITION AND TO ALWAYS MAKE SURE THEY ARE NOT ACCESSIBLE TO CHILDREN OR OTHER UNAUTHORIZED PERSONS.

! NEVER ASSUME THAT THE USE OF A LOCK IS SUFFICIENT TO SAFELY SECURE YOUR FIREARM.

YOU MUST ALWAYS EVALUATE YOUR PERSONAL SITUATION AND EMPLOY THE SECURITY SYSTEMS THAT MEET YOUR NEEDS AND PREVENT CHILDREN AND UNAUTHORIZED USERS FROM GAINING ACCESS TO YOUR FIREARM. **NEVER LEAVE THE KEY TO A FIREARM LOCK WITH THE STORED FIREARM.**

! ALWAYS FOLLOW THE LAW!

IT IS A CRIME TO KEEP A FIREARM UNLOCKED AND IN AN AREA ACCESSIBLE TO CHILDREN OR OTHERS. KEEPING A FIREARM LOCKED AND UNLOADED WHEN NOT IN USE IS NOT ONLY COMMON SENSE SAFETY PRACTICE...

YOU MUST BE FAMILIAR WITH ALL LAWS REGARDING THE SAFE STORAGE AND TRANSPORTATION OF YOUR FIREARM. THE RCMP FIREARMS PROGRAM (1-800-731-4000) CAN PROVIDE YOU WITH AVAILABLE INFORMATION ON STORING AND / OR TRANSPORTING A FIREARM SAFELY AND LEGALLY.

LOCKING YOUR FIREARM

!! WARNING: NEVER LOCK A LOADED FIREARM AND NEVER LOAD A LOCKED FIREARM!

! TRIGGER LOCK.

A TRIGGER LOCK, WHEN PROPERLY USED, CAN BE AN EFFECTIVE TOOL IN PREVENTING UNAUTHORIZED ACCESS TO YOUR FIREARM. THERE ARE EFFECTIVE TRIGGER LOCKS AND SAFE STORAGE CONTAINERS AVAILABLE IN THE MARKETPLACE, WHICH MAY ALSO BE APPROPRIATE FOR YOUR PARTICULAR NEEDS. CONSULT YOUR LOCAL FIREARM SHOP, HARDWARE STORE, OR CANADIAN FIREARMS PROGRAM (1-800-731-4000) FOR GUIDANCE ON THE VARIETY OF OTHER SAFE STORAGE DEVICES OR PRACTICES WHICH MAY BE APPROPRIATE FOR YOUR PARTICULAR NEEDS. NEVER ASSUME THAT THE USE OF A LOCK ALONE IS SUFFICIENT TO SAFELY SECURE YOUR FIREARM. IT IS YOUR PERSONAL RESPONSIBILITY TO SELECT AND USE WHATEVER MEASURES OR PRACTICES THAT WILL ENABLE YOU TO BE ABSOLUTELY CERTAIN THAT YOUR FIREARM IS SECURE AT ALL TIMES.

! NEVER KEEP AMMUNITION IN THE SAME LOCATION AS THE FIREARM.

STORE EACH IN A **SEPARATE AND SECURE PLACE.**

10. SAFE USE - FEATURES OF THE RAVEN

THE LOCKHART TACTICAL RAVEN IS A SHOULDER-FIRED, MAGAZINE-FED, CENTERFIRE PISTOL CARTRIDGE, BLOW-BACK OPERATED LONG GUN.

THROUGH OUR MODULAR CALIBER KITS, YOUR RAVEN MAY BE TRANSFORMED INTO A CENTERFIRE RIFLE CARTRIDGE DIRECT IMPINGEMENT GAS OPERATED LONG GUN, OR A RIMFIRE BLOW-BACK OPERATED LONG GUN.

IT IS INTENDED TO BE FIRED FROM A TWO HANDED POSITION WITH THE BUTTSTOCK BRACED TIGHTLY AGAINST THE SHOULDER, SUPPORTED BY THE NON-TRIGGER HAND UNDER THE HANDGUARD, AND HELD BY THE PISTOL GRIP WITH THE TRIGGER HAND. (SEE FIG 1.)



FIG 1. 

THE LOCKHART TACTICAL RAVEN IS MADE UP OF THE FOLLOWING SUB-ASSEMBLIES (SEE FIG 2.)

- THE BUTTSTOCK ASSEMBLY,
 - THE LOWER RECEIVER ASSEMBLY,
 - THE MAGWELL ASSEMBLY,
 - THE UPPER RECEIVER ASSEMBLY,
 - THE FIRING BOLT ASSEMBLY
- AND THE BARREL / HANDGUARD ASSEMBLY



FIG 2. 

!! WARNING: PRIOR TO HANDLING YOUR LOCKHART TACTICAL RAVEN ENSURE THAT THE SAFETY SELECTOR IS PLACED ON THE "SAFE" POSITION ON THE FIRING ASSEMBLY.

THE RAVEN CAN BE MANUALLY CYCLED BY THE USE OF THE SIDE CHARGING HANDLE OR TOP STYLE CHARGING HANDLE IF INSTALLED.

THE FIRING BOLT MAY BE LOCKED TO THE REAR BY PULLING THE CHARGING HANDLE REARWARD AND SIMULTANEOUSLY ENGAGING THE BOLT CATCH BUTTON.

TIP: THE BOLT CATCH / BOLT RELEASE IS THE SAME BUTTON HOWEVER THERE ARE TWO POSITIONS. THE BOTTOM SIDE IS THE CATCH, WHILE THE UPPER SIDE IS THE RELEASE. KEEP CONTINUOUS PRESSURE ON THE BOLT CATCH BUTTON (BOTTOM SIDE) WHILE YOU RELEASE YOU HAND FROM THE CHARGING HANDLE. IF THE BOLT SLAMS FORWARD, IT MEANS YOU DID NOT PRESS AND HOLD THE BOLT CATCH, OR YOU DID NOT PULL THE CHARGING HANDLEREARWAR ENOUGH FOR THE BOLT CATCH TO ENGAGE. (SEE FIG 3.)

-THE RAVEN FEATURES AMBIDEXTROUS BOLT CATCH / RELEASE BUTTONS. WHEN ENGAGED, BOTH THE LEFT AND RIGHT HAND SIDE OF THE FIREARM WILL DISPLAY THE CURRENT POSITION OF THE BOLT CATCH / RELEASE (SEE FIG. 4)



THE RAVEN FEATURES AMBIDEXTROUS SAFETY SELECTOR SWITCHES. THE SELECTOR CAN ONLY BE PLACED IN THE "SAFE" POSITION WHEN THE HAMMER IS FULLY COCKED OR THE BOLT IS LOCKED TO THE REAR.

THE RAVEN FEATURES AMBIDEXTROUS MAGAZINE RELEASE BUTTONS. PUSH EITHER SIDE AND THE MAGAZINE WILL RELEASE.

TIP: IF USING AFTERMARKET MAGAZINES, THEY MAY HAVE A TIGHTER FIT IN THE MAGWELL. IF YOUR MAGAZINE DOES NOT DROP FREELY FROM MAGWELL ONCE YOU RELEASE IT, YOU MAY NEED TO SLIGHTLY PULL THE MAGAZINE DOWNWARDS. IF YOUR AFTERMARKET MAG DOES NOT INSERT EASILY, DO NOT SMASH IT IN! USE A DIFFERENT MAG.

11. SAFE USE - LOADING AND UNLOADING

UNLOADING IN STEPS

- 1) POINT THE FIREARM IN THE SAFEST AVAILABLE DIRECTION
- 2) SWITCH THE SAFETY SELECTOR FROM FIRE TO SAFE. **AS MENTIONED ABOVE, IF THE SELECTOR DOES NOT MOVE TO THE SAFE POSITION, IT COULD MEAN THAT THE HAMMER IS NOT COCKED.**
- 3) REMOVE THE AMMUNITION MAGAZINE
- 4) PULL THE CHARGING HANDLE REARWARD AND ENGAGE THE BOLT CATCH.
!! VERIFY THAT THE CHAMBER IS EMPTY.
!! VERIFY THAT THE FEEDING PATH IS CLEAR
- 5) EXAMINE THE BORE

LOADING IN STEPS

!! WARNING: NEVER ATTEMPT TO LOAD ANY FIREARM WITHOUT FIRST CHECKING THE CHAMBER.

!! WARNING: ALWAYS LOAD A ROUND INTO THE CHAMBER BY FEEDING IT FROM THE MAGAZINE. NEVER ATTEMPT TO LOAD THE FIREARM BY INSERTING A ROUND INTO THE OPEN EJECTION PORT. FAILURE TO FOLLOW THIS WARNING CAN RESULT IN SEVERE INJURY OR DEATH TO YOU OR OTHERS.

WHEN INSERTING A MAGAZINE, ENSURE YOU INSERT IT IN THE CORRECT ORIENTATION SO THAT THE AMMUNITION IS V-FACING THE CORRECT DIRECTION. YOU SHOULD HEAR THE MAGAZINE "CLICK" INTO POSITION. NEXT, PULL DOWNWARDS ON THE MAGAZINE TO VERIFY THAT IS IT PROPERLY SECURED INTO PLACE.

YOU MAY LOAD A MAGAZINE INTO THE RAVEN WITH THE FIRING BOLT FULLY FORWARD AND CLOSED, OR WITH IT LOCKED TO THE REAR AND OPEN.

IF LOADING WITH THE BOLT LOCKED OPEN (**PREFERRED**).

- 1) FIRST ENSURE THAT THE SAFETY SELECTOR IS IN THE SAFE POSITION.
- 2) INSERT A LOADED MAGAZINE INTO THE MAGAZINE AS DESCRIBED ABOVE.
- 3) THE RIFLE MAY NOW BE PLACED INTO BATTERY BY PRESSING THE BOLT RELEASE BUTTON.
- 4) VERIFY THAT THE BOLT IS FULLY CLOSED!
- 5) YOUR RIFLE IS NOW LOADED AND READY FOR USE.

IF LOADING YOUR RIFLE WITH THE BOLT CLOSED

- 1) FIRST ENSURE THAT THE SAFETY SELECTOR IS IN THE SAFE POSITION.
- 2) INSERT A LOADED MAGAZINE INTO THE MAGAZINE AS DESCRIBED ABOVE.
- 3) PULL THE CHARGING HANDLE COMPLETELY TO THE REAR AND THEN LET GO OF THE CHARGING HANDLE.
- 4) VERIFY THAT THE BOLT IS FULLY CLOSED!
- 5) YOUR RIFLE IS NOW LOADED AND READY FOR USE.
- 6) ENGAGE THE SAFETY IF IT IS NOT ALREADY ON.

TIP: DUE TO VARIATIONS IN AFTERMARKET MAGAZINES YOU MAY FIND IT DIFFICULT TO INSERT SOME FULLY LOADED MAGAZINES WITH THE BOLT CLOSED. THIS IS A PARTICULAR ISSUE WITH NEW MAGAZINES THAT HAVE NOT YET BEEN "BROKEN IN". IF THIS OCCURS, LOAD YOUR RAVEN FROM THE OPEN-BOLT POSITION.

12. SAFE USE - CALIBER CHANGES

9X19MM TO 5.56 NATO

GENERAL OVERVIEW:

CALIBERS CAN BE CHANGED IN THE FIELD WITHOUT TOOLS.

THE STANDARD RAVEN ACCOMODATES PISTOL CALIBERS
[9X19MM] [.40 S&W] [10MM] [.45 AUTO]

THE MID LENGTH RAVEN ACCOMODATES RIFLE CALIBERS

[5.56 NATO] [.22LR] [.410GA] [7.62X39] [.224 VALKYRIE] [.25-45 SHARPS] [350 LEGEND] [6.5 GRENDDEL] [6.8 SPC]
[.300 BLACKOUT] [.338 SPECTRE] [.450 BUSHMASTER] [.458SOCOM] [.50 BEOWULF] AND MORE.

SAFETY MEASURES BEFORE HANDLING:

BEFORE DOING ANY CALIBER CHANGES, ENSURE YOUR FIREARM IS FULLY UNLOADED AND SAFE! WE RECOMMEND KEEPING ALL LIVE AMMUNTION SEPARATE FROM YOUR RAVEN WHILE MAKING CHANGES.

TIP: ONCE A CALIBER CHANGE HAS BEEN COMPLETED, WE RECOMMEND YOU LOAD AND CYCLE (5) "DUMMY" AMMUNTION THROUGH THE RIFLE TO CONFIRM THE CALIBER CHANGE HAS BEEN DONE SUCCESSFULLY. ALWAYS DO A FUNCTION TEST OF LOADING, UNLOADING, AND PLACING THE FIREARM ON SAFE WITH "DUMMY" AMMUNTION BEFORE DOING ANY LIVE FIRE.

TAKE DOWN PINS WILL BE REFERRED TO AS **TDP**.

UPPER RECEIVER AND LOWER RECEIVER WILL BE REFERRED TO AS UPPER AND LOWER.

!! IF **TDP** DOES NOT EASILY REMOVE OR INSTALL, DO NOT FORCE IT! INSPECT FOR DIRT AND DEBRIS WHICH COULD BE HOLDING IT IN. GIVE IT A QUICK CLEAN AND THE PINS SHOULD FREELY REMOVE OR INSTALL. WE RECOMMEND EACH TIME YOU REMOVE THE TDP'S THAT YOU GIVE THEM A QUICK WIPE DOWN TO ENSURE THEY ARE CLEAN BEFORE REINSTALLING.



TO REMOVE THE FIRING BOLT:

- 1) REMOVE REAR **TDP** AND PIVOT UPPER ON THE FRONT **TDP**.
 - 2) UNTHREAD SIDE CHARGING HANDLE IF INSTALLED AND REMOVE BOLT.
- REMOVAL COMPLETE!

TO REINSTALL THE FIRING BOLT COMPLETE THE STEPS IN REVERSE.



FIG 6.

13. SAFE USE - MALFUNCTIONS, STOPPAGES AND WEAR PARTS

FIREARMS LIKE ANY MECHANICAL TOOL ARE CAPABLE OF MALFUNCTIONING. OFTEN REFERRED TO AS STOPPAGES, THESE SAME STOPPAGES CAN TYPICALLY HAPPEN ON ANY TYPE OF FIREARM.

THERE ARE A FEW COMMON REASONS FOR STOPPAGES.

USER ERROR, MAGAZINE MALFUNCTION, FIREARM MALFUNCTION OR AMMUNITION MALFUNCTION.

TO CHANGE THE MAGWELL SUB ASSEMBLY WITH UPPER ALREADY REMOVED:

- 1) REMOVE REMAINING (2) **TDP** AND SEPARATE LOWER FROM MAGWELL.
 - 2) SELET NEW MAGWELL AND REINSTALL (2) **TDP**.
- MAGWELL CHANGE COMPLETE!

!! WHEN CHANGING CALIBERS BETWEEN 9X19MM AND 5.56NATO ENSURE YOU HAVE THE CORRECT BUFFER WEIGHT INSTALLED! FAILURE TO DO SO WILL RESULT IN FAILING TO WORK PROPERLY, FIREARM DAMAGE, AND OR INJURY OR DEATH

STANDARD BUFFER WEIGHTS:

9X19MM REQUIRES 8OZ BUFFER WEIGHT

5.56 NATO REQUIRES 3.8OZ BUFFER WEIGHT

!! WHEN CHANGING CALIBERS, YOU MUST ENSURE TO MATCH THE BARREL TO THE CORRECT CALIBER SIZE. FAILURE TO DO SO WILL RESULT IN FIREARM FAILING TO WORK PROPERLY AND CAN RESULT IN INJURY OR DEATH.
!! WHEN CHANGING CALIBERS, YOU MUST ENSURE TO MATCH THE BOLT TO THE CORRECT CALIBER SIZE. FAILURE TO DO SO WILL RESULT IN FIREARM FAILING TO WORK PROPERLY AND CAN RESULT IN INJURY OR DEATH.
!! WHEN CHANGING CALIBERS, YOU MUST ENSURE TO MATCH THE BUFFER WEIGHT TO THE CORRECT CALIBER SIZE. FAILURE TO DO SO WILL RESULT IN FIREARM FAILING TO WORK PROPERLY AND CAN RESULT IN INJURY OR DEATH.

STOPPAGE: HANGFIRE (DELAYED FIRING)

A LIVE ROUND IS IN THE CHAMBER, YOU AIM AT THE TARGET AND PULL THE TRIGGER. ALL YOU HEAR IS THE HAMMER STRIKE THE FIRING PIN BUT NOTHING HAPPENS YET. THIS IS CAUSED BY A FAULTY AMMUNITION PRIMER OR FAULTY GUN POWDER IN THE CASING. AFTER A SHORT PERIOD OF TIME, THE ROUND FIRES.

THE FIX: ENSURE YOU CONTINUE POINTING AT YOUR TARGET UNTIL THE ROUND FIRES. IT SHOULD BE WELL UNDER (60 SECONDS). UNLOAD THE FIREARM AND RELOAD WITH NEW AMMUNITION.

STOPPAGE: MISFIRE (ROUND DOES NOT FIRE)

A LIVE ROUND IS IN THE CHAMBER, YOU AIM AT THE TARGET AND PULL THE TRIGGER. ALL YOU HEAR IS THE HAMMER STRIKE THE FIRING PIN BUT NOTHING HAPPENS. YOU COUNT TO (60 SECONDS) AND STILL NOTHING HAPPENS. THIS IS A FAULTY PRIMER.

THE FIX: ENSURE AS SOON AS THIS STOPPAGE OCCURS, ENSURE YOU COUNT TO (60) SECONDS, AS THIS MAY BE A HANGFIRE! ONLY AFTER (60) SECONDS DOES THIS BECOME A MISFIRE. ONCE THE WAITING PERIOD IS OVER, UNLOAD THE FIREARM AND RELOAD WITH NEW AMMUNITION.

STOPPAGE: "THE CLICK"

A LIVE ROUND IS IN THE CHAMBER, YOU AIM AT THE TARGET AND PULL THE TRIGGER. ALL YOU HEAR IS THE HAMMER STRIKE THE FIRING PIN BUT NOTHING HAPPENS. THIS COULD POTENTIALLY BE A HANGFIRE OR MISFIRE. YOU WON'T KNOW UNTIL AFTER (60) SECONDS. IF YOU RELOAD FRESH AMMUNITION AND IT HAPPENS AGAIN, IT MOST LIKELY IS A DAMAGED OR WORN OUT FIRING PIN.

THE FIX: REPLACE THE FIRING PIN

STOPPAGE: BOLT NOT FULLY IN BATTERY

A COMMON USER ERROR WOULD BE WHILE LOADING A FIREARM, THE USER PULLS THE CHARGING HANDLE REARWARD AND INSTEAD OF FULLY RELEASING THE FIRING BOLT, THEY KEEP THEIR HAND ON THE CHARGING HANDLE AND "RIDE THE HANDLE FORWARD" THIS CAN CAUSE A FAILURE TO FEED. MEANING THE ROUND DID NOT FEED PROPERLY INTO THE CHAMBER.

THIS HAPPENS TYPICALLY BECAUSE WHILE THE USER IS "RIDING THE HANDLE FORWARD" THEY ARE SLOWING DOWN THE FOWARD MOVEMENT OF THE FIRING BOLT, THUS DECREASING THE AMOUNT OF SPRING FORCE THE BUFFER SPRING HAS TO ENSURE THE BOLT IS IN BATTERY AND READY TO FIRE.

THE FIX: STOP RIDING THE CHARGING HANDLE AND INSTEAD SIMPLY PULL THE CHARGING HANDLE FULLY REARWARDS AND RELEASE IT!

STOPPAGE: DOUBLE FEED

TWO THINGS CAN'T OCCUPY THE EXACT SAME SPACE AT THE SAME TIME, BUT OCCASIONALLY CARTRIDGES TRY TO IN THE CHAMBER, RESULTING IN A DOUBLE- FEED STOPPAGE



THIS MALFUNCTION OCCURS WHEN ONE ROUND FROM THE MAGAZINE IS PROPERLY FED INTO THE CHAMBER, BUT THE FOLLOWING ROUND IN THE MAGAZINE JUMPS OUT FROM BEHIND AND TRIES TO JOIN IT. THE RESULT IS A CHAMBERED ROUND WITH A SECOND ROUND JAMMED UP AGAINST ITS BASE, STOPPING THE SLIDE FROM GOING INTO BATTERY.

THIS CAN ALSO BE CAUSED BY USER ERROR IF THE CHAMBER IS ALREADY LOADED AND THE USER TRIES TO LOAD ANOTHER ROUND.

IT COULD ALSO BE CAUSED IF A ROUND IS LOADED IN THE CHAMBER AND THE EXTRACTOR CLAW ON THE BOLT FAILS. IF THE EXTRACTOR FAILS, THEN EACH TIME THE FIRING BOLT IS CYCLED REARWARD THE CARTRIDGE IN THE CHAMBER WILL REMAIN IN PLACE WITHOUT BEING EXTRACTED AND EJECTED OUT OF THE FIREARM.

THE FIX: REMOVE THE MAGAZINE, PULL THE CHARGING HANDLE REARWARD AND THE STUCK CARTRIDGE SHOULD FALL FREE. RELEASE THE CHARGING HANDLE AND THE BOLT SHOULD CLOSE PROPERLY INTO BATTERY. REINSERT THE MAGAZINE AND THE FIREARM IS NOW READY TO USE AGAIN.

STOPPAGE: FAILURE TO FEED

THIS CAN COMMONLY OCCUR WITH HOLLOW POINT (HP) AND TRUNCATED CONE (TC) SHAPED PROJECTILES DUE TO THEIR DIFFERENT GEOMETRY WHICH MAKES IT HARDER TO FEED INTO THE CHAMBER. CERTAIN BRANDS OF AMMUNITION ALSO FEED BETTER THAN OTHERS IN SOME CASES. WE RECOMMEND USING BLAZER 115 GR OR 124GR BRASS CASSED AMMUNITION IT CAN ALSO BE CAUSED BY DAMAGED MAGAZINE FEED LIPS, FAULTY MAGAZINE SPRINGS OR FAULTY MAGAZINE FOLLOWERS.

THE FIX: USE FULL METAL JACKET ROUND NOSE PROJECTILES. IF THE PROBLEM IS NOW GONE, IT IS CONFIRMED TO BE NON-SUITABLE AMMUNITION. IF THE PROBLEM PERSISTS, ENSURE YOU ARE USING THE MAGAZINES SUPPLIED BY LOCKHART TACTICAL.



STOPPAGE: FAILURE TO EXTRACT

THE CARTRIDGE WON'T EXTRACT FROM THE CHAMBER EVEN AFTER YOU CYCLE THE FIRING BOLT NUMEROUS TIMES. THE EXTRACTOR CLAW IS MOST LIKELY BROKEN. THIS IS A WEAR PART THAT WILL EVENTUALLY FAIL AND WILL NEED REPLACING.

THE FIX: SIMPLY REPLACE THE EXTRACTOR CLAW.





STOPPAGE: FAILURE TO EJECT

THE CARTRIDGE WON'T EJECT FROM THE FIREARM AFTER BEING EXTRACTED FROM THE CHAMBER. OVER TIME THE EJECTOR COULD BECOME DAMAGED.

THE FIX: SIMPLY REPLACE THE EJECTOR.

IF YOU DO NOT PLAN ON UTILIZING YOUR RAVEN'S TOOL LESS BARREL REMOVAL FEATURE AND INSTEAD PLAN ON KEEPING IT AS A DEDICATED CALIBER, YOU MAY CHOOSE TO INSTALL BLUE LOCTITE ON THE BARREL THREADS THEN TORQUE DOWN THE BARREL NUT.

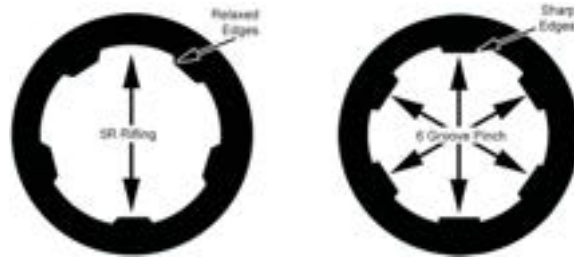
WARNING: RED LOCTITE IS EXTREMELY DIFFICULT TO REMOVE IN THE FUTURE. WE DO NOT RECOMMEND IT!

TORQUE SPEC MUST BE BETWEEN 30 AND 80 FOOT POUNDS!

14. SAFE USE - BREAK IN PROCEDURE [9X19MM]

NOW THAT YOU'VE BECOME FAMILIARIED WITH YOUR NEW RAVEN IT'S TIME TO TAKE IT TO THE RANGE!

YOUR RIFLE CAME WITH A 416R STAINLESS STEEL BARREL WITH 5R BUTTON RIFLING (UNLESS STATED OTHERWISE DURING YOUR PURCHASE).

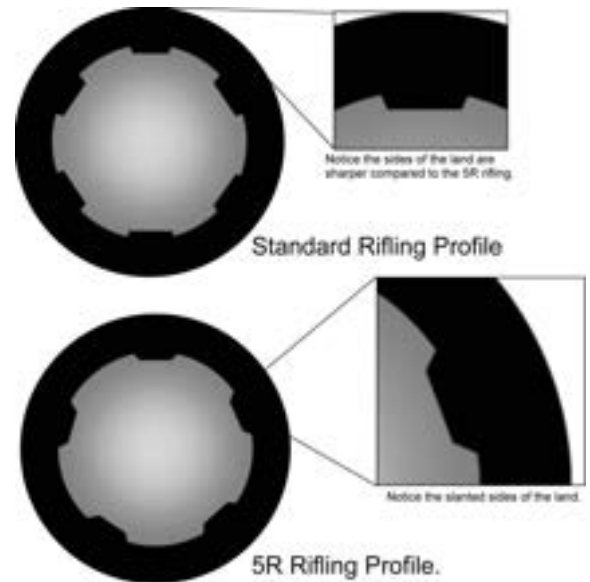


5R BUTTON RIFLING HAS BEEN PRAISED SINCE ITS INVENTION FOR THE INCREDIBLE ACCURACY AND PROJECTILE STABILITY IT ADDS.

BEFORE DIVING INTO THE SPECIFICS OF WHAT 5R IS, LETS COVER THE BASICS OF RIFLING. RIFLING CONSISTS OF LANDS (THE PLATEAUS THAT INTERFACE WITH BULLETS) AND GROOVES (THE CUTS INTO A BORE) WHICH ARE MANUFACTURED TO HELP STABILIZE A BULLET BY IMPARTING GYROSCOPIC TWIST ONTO IT IN THE BARREL OF A FIREARM.

AS A BULLET PASSES THROUGH A BARREL THE LANDS OF A BARREL DIRECTLY CUT/SQUEEZE INTO THE PROJECTIVE FORCING IT TO FOLLOW THE PATH OF THE RIFLING. THIS IS WHY BULLETS HAVE UNIQUE GROOVING ON THEM IF THEY ARE RECOVERED INTACT.

“CONVENTIONAL” RIFLING USES EITHER 6 OR 4 SYMMETRICAL LAND AND GROOVES ON THE BULLET. EACH OF THE LANDS (THE RAISED PORTION OF THE RIFLING) ARE DIRECTLY OPPOSITE ONE ANOTHER LIKEWISE THE GROOVES ARE OPPOSITE OF ONE ANOTHER. THE VAST MAJORITY OF BARRELS OTHER COMPANIES USE IS CONVENTIONALLY RIFLED.



5R IS AN IMPROVEMENT OVER CONVENTIONAL RIFLING BY CHANGING THE SHAPE AND CONFIGURATION OF THE LANDS AND GROOVES. CONVENTIONAL RIFLING, WHILE EFFECTIVE, CAN BE IMPROVED UPON IN TWO WAYS.

1. CONVENTIONAL RIFLING HAS SHARP 90-DEGREE CORNERS FROM THE TOP OF THE LAND TO THE BOTTOM OF THE GROOVE.
2. CONVENTIONAL RIFLING HAS LANDS AND GROOVES OPPOSING ONE ANOTHER.

5.R RIFLING IMPROVES UPON THIS BY USING 5 LANDS AND GROOVES OVER THE EVEN NUMBERS WHICH PUTS LANDS OPPOSITE OF GROOVES. FURTHER, THE TRANSITION FROM THE TOP OF THE LAND TO THE GROOVE IS SLOPED.

5R REDUCES PROJECTILE DEFORMATION AS IT PASSES THROUGH THE BORE DURING THE FIRING SEQUENCE. BY PLACING THE LANDS OPPOSITE OF THE GROOVES, THE BULLETS ARE NO LONGER SQUEEZED ON OPPOSITE SIDES ENSURING THE PROJECTILE STAYS UNIFORM INSTEAD OF SQUEEZING MATERIAL INTO THE GROOVES. MORE UNIFORM PROJECTILE MEANS BETTER ACCURACY.

SECONDLY, BY SLOPING THE TRANSITION TO THE GROOVE, THE BARRELS BECOME MUCH EASIER TO CLEAN. IN A CONVENTIONALLY RIFLED PLATFORM, THESE CORNERS BECOME DEPOSITORIES FOR LEAD AND SUPERHEATED MATERIALS LEFT AFTER SHOOTING. CLEANING SUPPLIES HAVE A HARD TIME REACHING THESE CORNERS AS THEY ARE INCREDIBLY SMALL. BY SLOPING IT, CLEANING SUPPLIES ARE EASILY ABLE TO GET TO THE DEPOSITS.

AMMUNITION SELECTION

ALTHOUGH EACH RAVEN RIFLES IS MANUFACTURED TO THE SAME TOLERANCES, REMEMBER THAT NOT ALL AMMUNITION IS CREATED EQUAL.

VARIATIONS BETWEEN DIFFERENT AMMUNITION MANUFACTURERS IN BULLET PROFILE, CASE DIAMETER, AND BULLET COMPOSITION CAN SIGNIFICANTLY IMPACT AMMUNITION FEEDING. IT'S POSSIBLE THAT EVEN DIFFERENT LOTS OF AMMUNITION FROM THE SAME MANUFACTURER COULD DIFFER.

IF YOU ARE EXPERIENCING FEEDING DIFFICULTIES UNRELATED TO THE MAGAZINE, CONSIDER TRYING DIFFERENT TYPES AND BRANDS OF AMMUNITION TO DETERMINE WHICH PERFORMS BEST IN YOUR RAVEN.

NOTE: CAST LEAD BULLETS ARE NOT RECOMMENDED!

BARREL NITRIDE COATING

YOUR BARREL HAS BEEN NITRIDE COATED TO MINIMIZE REFLECTIONS, INCREASE SURFACE HARDNESS AND ADDED CORROSION RESISTANCE.

DURING THE PROCESS OF ADDING THE BLACK NITRIDE, A TWO-PART SURFACE LAYER IS FORMED. AN OUTER IRON NITRIDE LAYER WITH A NITROGEN DIFFUSION LAYER BELOW IT.

DUE TO THESE NITRIDE LAYERS IN THE CHAMBER, ON SOME BARRELS IT CAN BE EXTRA TIGHT CAUSING POTENTIAL TEMPORARY FEED ISSUES WHILE THE BARREL IS STILL BRAND NEW. TYPICALLY AFTER AROUND 75-100 ROUNDS, THE CHAMBER BREAK IN WILL BE COMPLETE AND FEELING PERFECTLY.

ONCE AGAIN! IF YOUR BARREL IS HAVING SOME FEEDING ISSUES WHILE IT'S NEW OUT OF THE BOX! DO NOT WORRY. THIS IS VERY TEMPORARY WHILE YOU BREAK THE CHAMBER IN.

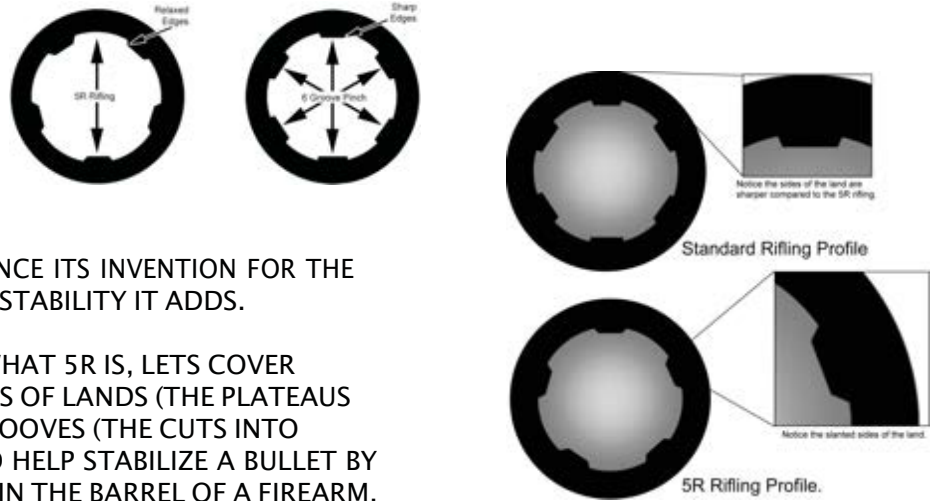
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IT'S IMPORTANT TO START LOOSE AND DON'T USE ANYTHING THAT WILL SCRATCH OR CHANGE THE CHAMBER GEOMETRY.

14. SAFE USE - BREAK IN PROCEDURE [RIFLE CALIBERS]

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IT'S IMPORTANT TO START LOOSE AND DON'T USE ANYTHING THAT WILL SCRATCH OR CHANGE THE CHAMBER GEOMETRY.

15. SAFE USE - WARRANTY

YOUR RAVEN IS ELIGIBLE FOR A FULL ONE (1) YEAR WARRANTY ON THE FIREARM.

LOCKHART TACTICAL FULLY WARRANTS, TO THE FIRST RETAIL PURCHASER OF THIS FIREARM FROM A RECOGNIZED DEALER IN CANADA, THIS FIREARM TO BE FREE FROM ANY DEFECTS IN THE MATERIALS AND WORKMANSHIP, UNDER NORMAL USE.

LOCKHART TACTICAL WILL REPAIR OR REPLACE, AT ITS OPTION, ANY DEFECTS DUE TO FAULTY MATERIAL OR WORKMANSHIP THROUGHOUT THE FIRST PURCHASER'S OWNERSHIP OF THIS FIREARM.

IF ANY ISSUE IS EXPERIENCED, THE OWNER MUST FIRST NOTIFY LOCKHART TACTICAL AND STATE THE ISSUE, ALONG WITH THE DATE AND PLACE OF ORIGINAL PURCHASE, MODEL NUMBER, AND SERIAL NUMBER OF THE FIREARM.

LOCKHART TACTICAL WILL NOT BE RESPONSIBLE FOR ANYTHING RESULTING FROM CARELESS HANDLING, UNAUTHORIZED ADJUSTMENTS OR MODIFICATIONS, DEFECTIVE OR IMPROPER AMMUNITION AND/OR PROPELLANT, CORROSION, NEGLIGENCE, ABUSE, ORDINARY WEAR AND TEAR, OR UNREASONABLE USE, COMMERCIAL USE, CRIMINAL MISUSE, NEGLIGENCE, OR USE UNDER THE INFLUENCE OF DRUGS OR ALCOHOL.

IF THE FIREARM IS TO BE RETURNED TO LOCKHART TACTICAL FOR ADJUSTMENT OR REPAIR, YOU MUST FIRST CONTACT LOCKHART TACTICAL IN ORDER TO OBTAIN A RETURN AUTHORIZATION NUMBER ("RA"), AND THE RA NUMBER MUST BE WRITTEN ON THE OUTSIDE OF THE SHIPPING BOX. DETAILED INSTRUCTIONS WILL BE PROVIDED AT THAT TIME.

ALL REPAIRED AND/OR REPLACED FIREARMS WILL ONLY BE RETURNED TO THE SPECIFIC PERSON AND/OR DEALER FROM WHOM THE FIREARM WAS RECEIVED
- NO EXCEPTIONS.

ANY FIREARMS RECEIVED WITHOUT A PRE AUTHORIZED RA NUMBER WILL NOT BE ACCEPTED BY LOCKHART TACTICAL.

LOCKHART TACTICAL WILL PROVIDE THE WARRANTY SHIPPING ADDRESS ONCE YOUR APPROVED RA NUMBER IS ISSUED.

YOU MUST PROPERLY AND SECURELY PACK THE UNLOADED GUN.

ALL ATTACHMENTS, ACCESSORIES, OR SPECIAL GRIPS MUST BE REMOVED.

THE FIREARM SHOULD BE CLEANED AS MUCH AS POSSIBLE. WHEN RETURNING YOUR RAVEN TO LOCKHART TACTICAL, YOU MAY SHIP WITH ANY LEGAL CARRIER OF YOUR CHOICE. WE RECOMMEND INSURING YOUR SHIPMENT AS ANY DAMAGE THAT MAY RESULT IN TRANSIT IS THE SHIPPERS RESPONSIBILITY.

ALL SHIPPING CHARGES MUST BE PREPAID.

IF A RETURN IS SHIPPED WITH A COLLECT LABEL, IT WILL BE REJECTED.

LOCKHART TACTICAL WILL PROMPTLY ACKNOWLEDGE THE RECEIPT OF ALL FIREARMS RETURNED FOR REPAIR. IF AN ACKNOWLEDGMENT IS NOT RECEIVED WITHIN 5 BUSINESS DAYS, PLEASE CONTACT OUR WARRANTY DEPARTMENT.

LOCKHART TACTICAL WILL REPAIR AND RETURN FIREARMS AS PROMPTLY AS POSSIBLE. AFTER REPAIR, LOCKHART TACTICAL WILL COVER THE SHIPMENT COSTS BACK TO THE ORIGINAL OWNER.

EXCLUDED FROM THIS WARRANTY ARE THE FOLLOWING: MALFUNCTIONS/DAMAGE CAUSED BY IMPROPER USE; UNAUTHORIZED MODIFICATIONS, ADJUSTMENTS, OR REPAIRS; SHIPPING DAMAGE; PHYSICAL ABUSE, CARELESS HANDLING; DEFECTIVE OR IMPROPERLY LOADED AMMUNITION; RELOADED AMMUNITION; CORROSION; FAILURE TO FOLLOW THE LOCKHART TACTICAL INSTRUCTIONS AND WARNINGS; AND ORDINARY WEAR AND TEAR.

IF FOR ANY REASON IT IS DETERMINED BY LOCKHART TACTICAL THAT THE FIREARMS REQUIRES PARTS AND/OR SERVICE THAT IS NOT COVERED BY THIS WARRANTY, LOCKHART TACTICAL WILL CONTACT THE OWNER FOR AUTHORIZATION AND WITH A FULL QUOTE TO PROCEED BEFORE DOING ANY WORK.

LOCKHART TACTICAL'S RESPONSIBILITY UNDER THIS WARRANTY IS LIMITED TO THE REPAIR OR REPLACEMENT OF THE FIREARM. RESPONSIBILITY OR LIABILITY FOR DAMAGE TO PROPERTY OTHER THAN THE FIREARM, PERSONAL INJURY OR DEATH, OR OTHER CONSEQUENTIAL DAMAGES IS SPECIFICALLY EXCLUDED.

THIS ITEM IS CLASSIFIED AS A FIREARM AND IS RELEASED BY LOCKHART TACTICAL WITH THE EXPLICIT UNDERSTANDING THAT WE ARE NOT RESPONSIBLE FOR PERSONAL INJURY OR PROPERTY DAMAGE CAUSED BY IMPROPER USE OR ACCIDENTAL DISCHARGE DUE TO CONDITIONS BEYOND OUR CONTROL, INCLUDING THE FAILURE TO FOLLOW COMMON SAFE PRACTICES AND LOCKHART TACTICALS INSTRUCTIONS AND WARNINGS.

LOCKHART TACTICAL IS NOT RESPONSIBLE FOR THE LEGALITY OF RESALE OF THE FIREARM BY ANY PERSON OR RETAILER. ENSURE IF YOU SELL YOUR RIFLE THAT YOU FOLLOW ALL LAWS!

WARRANTY CONTACT INFORMATION:

WARRANTY@LOCKHARTTACTICAL.COM

**FIRING PIN
AND SPRING
INSTALLATION**

FIRING PIN AND SPRING INSTALLATION -PISTOL CALIBERS

STOP!!

YOU **MUST** ENSURE YOUR FIREARM IS FULLY UNLOADED AND **PROVED** SAFE BEFORE USING!!

PROVE

POINT THE FIREARM IN THE SAFEST AVAILABLE DIRECTION.

REMOVE ALL AMMUNITION.

OBSERVE THE CHAMBER.

VERIFY THE FEEDING PATH.

EXAMINE THE BORE.

ONCE SAFE, YOU MAY PROCEED TO THE NEXT STEP.

***** NOTE! NO TOOLS ARE REQUIRED TO DO THIS *****
DO NOT UNSCREW ANYTHING!!

STEP 1: REMOVE FIRING BOLT FROM THE UPPER.

DETAILED INSTRUCTIONS MAY BE FOUND IN SECTION 12. RAVEN SAFE USE – CALIBER CHANGES

STEP 2: REMOVE THE FIRING BOLT CROSS PIN SEPARATING THE FIRING BOLT FACE FROM FIRING BOLT REAR



STEP 3: REMOVE THE FIRING PIN RETAINING PIN FROM THE FIRING BOLT REAR.



STEP 4: INSERT THE FIRING PIN INTO THE FIRING BOLT REAR, THEN REINSTALL THE **FIRING PIN RETAINING PIN** TO HOLD THE FIRING PIN IN PLACE.



STEP 4:
INSERT FIRING PIN THEN
INSERT FIRING PIN RETAINING PIN

STEP 6: ALIGN THE FIRING BOLT FRONT AND FIRING BOLT REAR AND CONNECT THEM. **REINSTALL THE FIRING BOLT CROSS PIN.**



STEP 6:
RECONNECT FRONT AND BACK OF BOLT AND
REINSTALL THE FIRING BOLT CROSS PIN

**YOU HAVE SUCCESSFULLY INSTALLED YOUR FIRING PIN AND SPRING!
NEXT IT'S TIME TO DO A FIRING PIN FUNCTION TEST.**

STEP 7: WITH THE RIFLE OPENED UP, INSERT THE FIRING BOLT ASSEMBLY. DO NOT CLOSE THE RIFLE AND ENSURE YOU KEEP IT UNLOADED!



STEP 8: THIS TEST WILL CONFIRM THE FIRING PIN AND FIRING PIN RETURN SPRING ARE FUNCTIONING CORRECTLY.

USING A LONG ALLEN KEY OR SIMILAR TOOL, GENTLY APPLY PRESSURE TO THE REAR OF THE FIRING PIN. THE PIN SHOULD EASILY MOVE FORWARD TO SIMULATE THE HAMMER STRIKING IT.

NEXT, RELEASE THE PRESSURE AND THE FIRING PIN SHOULD INSTANTLY RETURN TO ITS "READY" POSITION AWAITING TO BE HIT AGAIN.

NOTE: IF FOR ANY REASON THE FIRING PIN DOES NOT TRAVEL FORWARD EASILY, DO NOT FORCE IT! TAKE THE BOLT APART AGAIN AND ENSURE EVERYTHING IS FREE AND CLEAN. IF YOU HAVE ANY QUESTIONS, CONTACT OUR SUPPORT TEAM.



ONCE YOUR BOLT HAS PASSED THIS TEST, BE SURE TO READ AND FOLLOW THE REST OF OUR MANUAL TO TAKE CARE AND ENJOY YOUR RAVEN!

FIRING PIN INSTALLATION - RIFLE CALIBERS

STOP!!

YOU **MUST** ENSURE YOUR FIREARM IS FULLY UNLOADED AND **PROVED** SAFE BEFORE USING!!

PROVE

POINT THE FIREARM IN THE SAFEST AVAILABLE DIRECTION.

REMOVE ALL AMMUNITION.

OBSERVE THE CHAMBER.

VERIFY THE FEEDING PATH.

EXAMINE THE BORE.

ONCE SAFE, YOU MAY PROCEED TO THE NEXT STEP.

STEP 1: REMOVE FIRING BOLT FROM THE UPPER.

DETAILED INSTRUCTIONS MAY BE FOUND IN SECTION 12. RAVEN SAFE USE – CALIBER CHANGES

STEP 2: REMOVE THE FIRING PIN RETAINING PIN FROM BOLT CARRIER.



STEP 3: INSERT THE FIRING PIN INTO BOLT CARRIER THEN REINSTALL FIRING PIN RETAINING PIN TO HOLD FIRING PIN IN PLACE.



YOU HAVE SUCCESSFULLY INSTALLED YOUR FIRING PIN!

IF YOU WISH TO REMOVE THE BOLT AND CAM PIN FOLLOW STEPS 4-5

STEP 5: COLLAPSE BOLT TOWARDS CARRIER TO ALLOW CAM PIN TO MOVE AWAY FROM GAS KEY TO ALLOW REMOVAL.



STEP 6: REMOVE CAM PIN BY PULLING UPWARDS



TO INSTALL ALL PARTS, FOLLOW IN REVERSE.

BE SURE TO READ AND FOLLOW THE REST OF OUR MANUAL TO TAKE CARE AND ENJOY YOUR RAVEN!

**PURCHASED
RAVEN
UPGRADES**

TALON CHARGING HANDLE INSTALLATION

STOP!!

YOU **MUST** ENSURE YOUR FIREARM IS FULLY UNLOADED AND **PROVED** SAFE BEFORE USING!!

PROVE

PPOINT THE FIREARM IN THE SAFEST AVAILABLE DIRECTION.

RREMOVE ALL AMMUNITION.

OBSERVE THE CHAMBER.

VERIFY THE FEEDING PATH.

EXAMINE THE BORE.

ONCE SAFE, YOU MAY PROCEED TO THE NEXT STEP.

OUR REVOLUTIONARY CHARGING HANDLE IS UNLIKE ANY YOU'VE EVER SEEN.

THERE ARE TWO (2) MAIN STYLES OF CHARGING HANDLES ON THE MARKET, AND BOTH COME WITH THEIR OWN POTENTIAL PROBLEMS. NON-AMBIDEXTROUS CHARGING HANDLES AND AMBIDEXTROUS CHARGING HANDLES.

NON-AMBIDEXTROUS CHARGING HANDLES CAN CAUSE PROBLEMS FOR LEFT HANDED USERS, AND THEY STILL HAVE MOVING PARTS WHICH RELY ON COIL-SPRINGS AND A CLEAN, DEBRIS FREE ENVIROMENT TO OPERATE PROPERLY. IT IS POSSIBLE THAT SAND, DIRT AND OTHER DEBRIS OVERTIME COULD BUILD UP INSIDE THE MOVING MECHANISM OF THE CHARGING HANDLE TO CAUSE IT TO FAIL.

IF THE HANDLE FAILED IT IS POSSIBLE THAT EITHER IT WON'T REMAIN LATCHED, OR IT COULD BE STUCK IN THE LATCHED POSITION. IF THE HANDLE IS FIXED IN THE LATCHED POSITION, IT WILL NOT ALLOW YOU TO RECHARGE YOUR FIREARM.

AMBIDEXTROUS CHARGING HANDLES FIX THE PROBLEM OF BEING ABLE TO CHARGE THE FIREARM WITH EITHER RIGHT OR LEFT HANDS, HOWEVER THEY INTRODUCE MORE POTENTIAL PROBLEMS BY INTRODUCING MORE THAN DOUBLE THE AMOUNT OF MOVING PARTS, AND DOUBLE THE AMOUNT OF SPRINGS FOR DIRT OR DEBRIS TO GET CAUGHT IN.

OUR CHARGING BASE AND MODULAR CHARGING HANDLES ARE BOTH MACHINED FROM BILLET 7075-T6 ALUMINUM AND BLACK ANODIZED. OUR AMBIDEXTROUS DESIGN FEATURES A SINGLE EXTERIOR MOUNTED, EXTREMELY STRONG UNIQUE SPRING HOOK MADE FROM STAINLESS STEEL. ANOTHER THING THAT MAKES OUR HANDLE UNIQUE IS THE ABILITY FOR YOU TO CHANGE THE STRENGTH OF THE LATCH BY ADDING A 2ND SPRING HOOK TO THE OTHER SIDE OF THE HANDLE FOR TWICE THE STRENGTH.

THE SPRING DESIGN PUTS YOU IN CONTROL, ALLOWING YOU TO FURTHER ADJUST THE STRENGTH OF THE SINGLE OR DOUBLE HOOK BY COMPRESSING OR EXPANDING THE HOOKS TO CONTACT MORE OR LESS OF THE UPPER RECEIVER.

NO MATTER WHAT YOU PUT YOUR HANDLE THROUGH, DIRT AND DEBRIS CAN NEVER STOP THE LATCHING HOOK FOR OPERATING.

DO YOU HAVE HUGE HANDS? SMALL HANDS? IS THE HANDLE HARD TO GRAB WITH YOUR FAVORITE GLOVES? THE MODULAR CHARGING HANDLE TOP WILL ALSO ALLOW YOU TO CHANGE OUT THE "GRIPPER HANDLE" WITH ANY OF OUR CURRENT AND FUTURE HANDLES YOU LIKE ON THE FLY.

HANDLE INSTALLATION MODIFICATION: THE CHARGING HANDLE MUST BE REMOVED FROM THE FIREARM TO MODIFY

STEP 1: REMOVE THE (2) SOCKET CAP SCREWS CONNECTING THE CHARGING HANDLE FROM THE CHARGING HANDLE BASE.

STEP 2: REPLACE, REMOVE OR ADD 2ND SPRING HOOK. THE HOOKS WILL ONLY INSERT INTO THE HANDLE BASE FROM THE SIDES.

TIP: THE CHARGING HANDLE BASE IS PRECISION MACHINED TO HAVE A VERY TIGHT FIT WITH THE SPRING HOOKS HOWEVER THEY WILL FIT! DO NOT TRY AND FORCE ANYTHING TOGETHER. ALL PARTS SHOULD EASILY MATE.

STEP 3: ONCE THE SPRING HOOKS ARE SEATED PROPERLY, INSTALL THE CHARGING HANDLE ON TOP OF THE BASE.

STEP 4: ENSURE THE CHARGING HANDLE AND THE BASE MATING SURFACES HAVE NO AIR GAPS. HOLD THE TWO PARTS TOGETHER AND INSTALL THE (2) SOCKET CAP SCREWS AGAIN. **(RIGHTY TIGHTY)** THE SCREWS SHOULD BE INSTALLED TIGHT ENOUGH THEY CANNOT COME OUT ACCIDENTLY, HOWEVER DO NOT TRY TO DESTROY IT. IF YOU ARE WANTING A MORE PERMANENT CONNECTION, WE RECOMMEND USING SOME BLUE COLORED LOCTITE.

TIP: RED LOCTITE CAN ONLY BE REMOVED IF YOU HEAT THE PARTS TO 500 DEGREES F. WE DO NOT RECOMMEND USING THIS!

HANDLE INSTALLATION: YOU MUST ENSURE YOUR FIREARM IS FULLY UNLOADED AND PROVED SAFE FIRST!

STEP 1: REMOVE THE FIRING BOLT FROM YOUR RAVEN. MAKE SURE YOUR UPPER IS NICE AND CLEAN.

TIP: IF A SIDE CHARGING HANDLE IS INSTALLED, YOU MUST REMOVE IT FIRST. IT WILL UNSCREW AS PER NORMAL (LEFTY LOOSEY, RIGHTY TIGHTY)

STEP 2: IF YOUR RAVEN HAS A TOP CHARGING HANDLE COVER BLOCK INSTALLED, YOU MUST REMOVE THE SOCKET CAP SCREW, AND THEN SLIDE OUT THE COVER BLOCK DIRECTLY REARWARD, THE SAME WAY THE FIRING BOLT CYCLES. IF YOUR FIREARM DOES NOT HAVE A CHARGING HANDLE COVER BLOCK INSTALLED, SKIP THIS STEP.

TIP: DO NOT TRY TO REMOVE THE CHARGING HANDLE COVER BLOCK FROM EITHER SIDE OF THE FIREARM AS IT IS KEYED AND WILL NOT COME OUT. IT MUST BE REMOVED ONLY IN A REARWARD MOTION.

STEP 3: INSERT THE CHARGING HANDLE INTO THE UPPER RECEIVER AND ALIGN THE CHARGING HANDLE KEY WITH THE MATCHING SLOT IN THE UPPER.

STEP 4: PRESS THE CHARGING HANDLE INTO THE UPPER AND SLIDE IT FORWARDS UNTIL THE HANDLE IS FULLY SEATED TO ENSURE IT CLOSES PROPERLY. IT SHOULD SLIDE FORWARDS AND BACKWARDS EASILY.

TIP: IF THE HANDLE DOES NOT CLOSE EASILY, DO NOT FORCE IT! INSPECT TO SEE WHAT COULD BE CAUSING ANY ISSUES. ARE THE (2) SCREWS HOLDING THE CHARGING HANDLE TO THE CHARGING BASE TIGHT?

STEP 5: PULL THE CHARGING HANDLE REARWARD ENOUGH SO THAT THE FIRING BOLT CAN BE INSERTED AGAIN. ONCE THE BOLT IS IN THE UPPER. ENSURE THE BOLT AND CHARGING HANDLE ARE FULLY FORWARD SO THAT THE UPPER AND LOWER RECEIVER CAN BE LOCKED TOGETHER AGAIN.

STEP 6: WITH THE FIREARM FULLY ASSEMBLED AGAIN, PULL REARWARD ON THE NEWLY INSTALLED CHARGING HANDLE. ONCE THE HANDLE IS FULLY REARWARD, RELEASE THE HANDLE. THE HANDLE AND BOLT SHOULD FLY FORWARD UNDER THE RECOIL SPRING PRESSURE.

STEP 7: INSPECT THE CHARGING HANDLE ONCE AGAIN AND ENSURE IT IS FULLY SEATED FORWARD. INSPECT THE FIRING BOLT AND ENSURE IT IS FULLY FORWARD. ONCE PASSED INSPECTION, THE FIREARM IS READY FOR USE.

ANTI-WALK PINS INSTALLATION

STOP!!

YOU **MUST** ENSURE YOUR FIREARM IS FULLY UNLOADED AND **PROVED** SAFE BEFORE USING!!

PROVE

POINT THE FIREARM IN THE SAFEST AVAILABLE DIRECTION.

REMOVE ALL AMMUNITION.

OBSERVE THE CHAMBER.

VERIFY THE FEEDING PATH.

EXAMINE THE BORE.

STEP 1: REMOVE ONE OF SCREWS FROM THE ANTI-WALK PIN.

STEP 2: INSERT ANTI-WALK PIN THROUGH LOWER RECEIVER PASSING THROUGH THE TRIGGER GROUP.

STEP 3: SCREW IN REMAINING SIDE SCREW FROM STEP 1.

USING (2X) ALLEN KEYS, TIGHTEN BOTH SIDES SIMULTANEOUSLY.

NOTE: FOR SEMI-PERMANENT INSTALLATIONS, A SMALL AMOUNT OF BLUE OR PURPLE LOCTITE CAN BE USED. NEVER USE RED LOCTITE!

TALON MUZZLE BRAKE INSTALLATION



STOP!!

YOU **MUST** ENSURE YOUR FIREARM IS FULLY UNLOADED AND **PROVED** SAFE BEFORE USING!!
PROVE

POINT THE FIREARM IN THE SAFEST AVAILABLE DIRECTION.

REMOVE ALL AMMUNITION.

OBSERVE THE CHAMBER.

VERIFY THE FEEDING PATH.

EXAMINE THE BORE.

ONCE SAFE, YOU MAY PROCEED TO THE NEXT STEP.

DO NOT APPLY MORE THAN 3 INCH POUNDS OF TORQUE ON THE 5.56 OR 9MM MUZZLE BRAKE

INSTALLATION

STEP 1: ENSURE YOUR BARREL THREADS ARE FREE FROM DIRT OR DEBRIS.

TIP: WE RECOMMEND ADDING A TINY AMOUNT OF ANTI-SEIZE PASTE TO THE BARREL THREADS.

STEP 2: THREAD THE MUZZLE BREAK ONTO THE BARREL UNTIL IT IS FULLY SEATED. (RIGHTY TIGHTY)

STEP 3: SLOWLY UNTHREAD THE BRAKE (LEFTY LOOSEY) UNTIL THE TOP (3) GAS PORTS ARE FACING UPWARDS. THE LOCKHART LOGO AND TORQUE INSTRUCTIONS SHOULD BE FACING DOWNWARDS.

STEP 4: CAREFULLY TIGHTEN THE (2) SCREWS FURTHEST AWAY FROM THE MUZZLE END SLIGHTLY MORE THAN SNUG.

STEP 5: NEXT TIGHTEN THE (2) SCREWS CLOSEST TO THE FRONT OF THE BRAKE

TYPICALLY THESE BRAKES DO NOT NEED TO BE TIGHTENED MORE THAN "SNUG"

DO NOT APPLY MORE THAN 3 INCH POUNDS OF TORQUE ON THE 5.56 OR 9MM MUZZLE BRAKE

EXTENDED LENGTH TAKE DOWN PINS INSTALLATION

STOP!!

YOU **MUST** ENSURE YOUR FIREARM IS FULLY UNLOADED AND **PROVED** SAFE BEFORE USING!!

PROVE

PPOINT THE FIREARM IN THE SAFEST AVAILABLE DIRECTION.

RREMOVE ALL AMMUNITION.

OOBSERVE THE CHAMBER.

VVERIFY THE FEEDING PATH.

EEXAMINE THE BORE.

ONCE SAFE, YOU MAY PROCEED TO THE NEXT STEP.

REMOVAL

THE RAVEN COMES STANDARD WITH THE "STANDARD LENGTH PINS"

STANDARD LENGTH REPLACEMENT PINS

TO REMOVE THE PINS FROM YOUR RAVEN, SIMPLY PUSH ON THE END WITH THE SPRING.

FOR USERS WHO WISH TO MAKE REMOVAL OF PINS FASTER AND EASIER, WE'VE DESIGNED OUR "EXTENDED LENGTH PIN" SETS.

EXTENDED LENGTH REPLACEMENT PINS

THESE LONGER PINS ALSO FEATURE A CROSS HOLE WHICH PARACORD OR A KEYCHAIN RING MAY BE ATTACHED TO, MAKING IT PERFECT FOR ANY USERS WITH LIMITED DEXTERITY OR WHILE WEARING WINTER GLOVES.

REINSTALLATION

LOCATE THE RECEIVER HOLES AND ENSURE THEY ARE PROPERLY ALIGNED. PUSH THE PIN IN UNTIL YOU HEAR AND FEEL IT "CLICK".

WE RECOMMEND ALSO VISUALLY VERIFYING THAT THE PIN HAS LOCKED INTO POSITION.

THE SPRING FORCE IS SUFFICIENT ENOUGH THAT THE PINS SHOULD NEVER BE ABLE TO ACCIDENTALLY FALL OUT, WHILE STILL BEING EASY TO REMOVE IN THE FIELD FOR CLEANING, CALIBER CHANGES OR PACKING YOUR RAVEN DOWN TO ITS TRAVEL SIZE IN THE "CORVUS PACK".

CORVUS - TAKE DOWN SLING PACK

TUNABLE ADJUSTABLE BUFFER WEIGHT INSTALLATION

STOP!!

YOU **MUST** ENSURE YOUR FIREARM IS FULLY UNLOADED AND **PROVED** SAFE BEFORE USING!!

PROVE

POINT THE FIREARM IN THE SAFEST AVAILABLE DIRECTION.

REMOVE ALL AMMUNITION.

OBSERVE THE CHAMBER.

VERIFY THE FEEDING PATH.

EXAMINE THE BORE.

ONCE SAFE, YOU MAY PROCEED TO THE NEXT STEP.

WEIGHT CODES AND THEIR WEIGHTS:

W (TUNGSTEN) 1.5 OZ

SS (STAINLESS) 0.7 OZ

AL (ALUMINUM) 0.2 OZ

USE WITH PISTOL CALIBERS - BLOW-BACK SYSTEM

COMES WITH 2 ALUMINUM, 2 STAINLESS STEEL AND 4 TUNGSTEN WEIGHTS

ADJUSTABLE FROM (4.6OZ - 11OZ)

TIP: BLOW-BACK FIREARMS RELY ON HEAVY BUFFER WEIGHTS TO KEEP THE FIRING BOLT IN BATTERY LONG ENOUGH TO SAFELY FIRE THE CARTRIDGE. HAVING TOO LIGHT OF WEIGHT CAN CAUSE SERIOUS SAFETY CONCERNS WHICH CAN CAUSE DAMAGE TO YOUR FIREARM OR SERIOUS BODILY HARM! IF YOU DO NOT KNOW WHAT YOU DO ARE DOING, STOP!

WE DO NOT RECOMMEND GOING BELOW 7.0 OZ UNLESS YOU KNOW WHAT YOU ARE DOING. BY CHANGING THE WEIGHTS, YOU ARE ADJUSTING HOW YOUR FIREARM CYCLES. MORE WEIGHT, MEANS THE BOLT REMAINS IN BATTERY FOR LONGER. INCREASING THE WEIGHT CAN ALSO PROVIDE NOTICEABLE BENEFITS, INCLUDING REDUCING FELT RECOIL, MUZZLE MOVEMENT, AND PROVIDING ADDITIONAL MASS TO AID FEEDING.

DEPENDING ON THE EXACT GRAINS AND CALIBER THAT YOU ARE SHOOTING, YOU CAN TUNE YOUR RIFLE BUFFER TO FUNCTION OPTIMALLY.

HOWEVER IF THE BUFFER WEIGHT IS TOO LOW FOR THE GRAINS AND CALIBER YOU ARE FIRING, THE FIRING BOLT MAY START TO CYCLE REARWARD TOO EARLY IN THE FIRING SEQUENCE, CAUSING THE CARTRIDGE TO POTENTIALLY FIRE PARTIALLY OUT OF BATTERY CAUSING SERIOUS INJURY OR DEATH.

TOO LIGHT OF A WEIGHT ALSO MEANS THE BOLT WILL BE TRAVELING REARWARD AT A HIGHER VELOCITY, AND THE CYCLE WILL BE MUCH FASTER. IF THE CYCLING TIME IS TOO FAST, THE LAST ROUND BOLT HOLD OPEN FEATURE MAY NOT HAVE TO ENGAGE. TO CORRECT THIS, SIMPLY ADD MORE MASS, WHICH WILL SLOW DOWN THE CYCLING RATE AND GIVE THE BOLT CATCH TIME TO ENGAGE. IF THE FIRING BOLT IS CYCLING TOO FAST IT CAN CAUSE ADDED STRAIN AND DAMAGE TO THE BUFFER WEIGHT AND THE BUFFER TUBE.

RELOADING YOUR OWN AMMUNITION CAN BE DANGEROUS. SIMILARILY, ADJUSTING YOUR BUFFER WEIGHTS CAN ALSO BE DANGEROUS AND CAUSE NEGITIVE EFFECTS. ENSURE YOU KNOW WHAT YOU ARE DOING AND VERIFY YOUR CHANGES PRIOR TO LIVE FIRING! DO NOT HAVE TOO LIGHT OF A BUFFER WEIGHT FOR THE CALIBERS YOU ARE SHOOTING!

USE WITH RIFLE CALIBERS - DIRECT IMPINGEMENT

COMES WITH 2 ALUMINUM, 2 STAINLESS STEEL AND 2 TUNGSTEN WEIGHTS

ADJUSTABLE FROM (2.5OZ - 6.2OZ)

OPPOSITE TO A BLOW-BACK SYSTEM, DIRECT INPINGEMENT SYSTEMS RELY ON GAS PRESSURE COMING THROUGH THE BARREL, THROUGH THE GAS BLOCK, CARRYING ON THROUGH THE GAS TUBE AND PUSHING ON THE FIRING BOLT CARRIER TO UNLOCK THE BOLT FROM IT'S IN BATTERY POSITION. ONCE THE BOLT IS UNLOCKED IT TRAVELS REARWARD UNDER MUCH LOWER PRESSURES THAN IN A BLOW-BACK.

DURING THE REARWARD CYCLING, IT EXTRACTS AND EJECTS THE SPENT CASING, THE SAME WAY AS A BLOW-BACK SYSTEM WOULD.

THE BIGGEST DIFFERENCE TO BUFFER WEIGHTS IN A DIRECT IMPINGEMENT SYSTEM IS THAT THE BOLT IS LOCKED INTO THE CHAMBER DURING THE INTENSE FIRING SEQUENCE. DUE TO THIS "LOCKED IN" NATURE, ONCE THE GAS PRESSURE COMES THROUGH THE GAS TUBE AND PUSHES ON THE BOLT CARRIER TO RELEASE IT, MUCH OF THE FIRING FORCE HAS ALREADY DISSIPATED. BECAUSE OF THIS, THE BUFFER WEIGHT CAN BE SIGNIFICANTLY LIGHTER THAN THAT OF A BLOW-BACK.

DEPENDING ON THE WEIGHT OF THE BUFFER, IT CAN HELP ABSORB SOME OF THE RECOIL. THIS PROVIDES A SMOOTHER CYCLE OF THE BOLT GOING BACK AND FORTH, AND CREATES A BETTER SHOOTING EXPERIENCE WITH FASTER FOLLOW-UP SHOTS. HEAVIER BUFFERS ALSO HELP REDUCE WEAR AND TEAR ON YOUR FIREARM.

**TYPICALLY A 5.56 RIFLE WOULD HAVE A BUFFER WEIGHT OF AROUND 3.0 OZ
ADJUSTING THE WEIGHT TO A HEAVIER BUFFER OF 3.8 OZ IS 25% HEAVIER AND REDUCES PERCEIVED FELT RECOIL AND REDUCES WEAR ON YOUR FIREARM.**

WHEN ADJUSTING YOUR BUFFER WEIGHTS, IF THE BOLT CARRIER STILL FEELS LIKE IT'S CYCLING TOO HARD, WE RECOMMEND ADDING MORE BUFFER WEIGHT TO GET THE RIFLE SHOOTING SOFTER.

HAVING AN ADJUSTABLE GAS BLOCK ON A DIRECT IMPINGEMENT FIRING STYLE ALLOWS YOU TO ALLOW TUNE THE AMOUNT OF GAS PRESSURE PUSHING ON THE FIRING BOLT. YOU SHOULD AJUST THE GAS PRESSURE TO BE AS LOW AS POSSIBLE, WHILE STILL ENSURING THE FIREARM CYCLES PROPERLY BETWEEN SHOTS.

A SIMPLE WAY TO TEST IF THE FIREARM IS CYCLING PROPERLY, IS TO LOAD MULTIPLE MAGAZINES WITH 2 ROUNDS EACH. CHAMBER AND FIRE THE FIRST ROUND.

IF THE BOLT DOES NOT CYCLE REARWARD ENOUGH TO PICK UP AND LOAD THE SECOND ROUND IN THE CHAMBER, THEN THE GAS PRESSURE IS TOO LOW. SIMPLY ADJUST THE PRESSURE TO BE SLIGHTLY HIGHER. CONTINUE TO ADJUST IN SMALL INCREMENTS UNTIL THE RIFLE RELIABLY PICKS UP THE SECOND ROUND.

AFTER THE SECOND ROUND IS FIRED, THE BOLT CATCH SHOULD AUTOMATIALLY ENGAGE. IF THE BOLT CATCH IS NOT ENGAGING, EITHER THE BOLT IS STILL NOT CYCLING REARWARD ENOUGH (IN WHICH CASE, MORE GAS PRESSURE IS NEEDED), OR YOU ALLOWED TOO MUCH GAS PRESSURE TO PUSH ON THE BOLT WHICH IS CAUSING IT TO CYCLE TOO QUICKLY FOR THE BOLT CATCH TO ENGAGE. IF THAT IS THE CASE, ADJUST THE GAS PRESSURE TO BE LOWER UNTIL THE BOLT CATCH WORKS. IT'S BEST TO START WITH THE GAS BLOCK FULLY TURNED OFF, THEN ADJUST WITH VERY SMALL INCREMENTS UNTIL YOU ARE HAPPY WITH IT'S OPERATION.

!! WARNING: PISTOL AND RIFLE BUFFERS ARE NOT INTERCHANGEABLE

ENHANCED TRIPLE QD SLING MOUNT END PLATE INSTALLATION

STOP!!

YOU **MUST** ENSURE YOUR FIREARM IS FULLY UNLOADED AND **PROVED** SAFE BEFORE USING!!

PROVE

POINT THE FIREARM IN THE SAFEST AVAILABLE DIRECTION.

REMOVE ALL AMMUNITION.

OBSERVE THE CHAMBER.

VERIFY THE FEEDING PATH.

EXAMINE THE BORE.

ONCE SAFE, YOU MAY PROCEED TO THE NEXT STEP.

TOOLS REQUIRED:

9/64 INCH HEX ALLEN KEY

BLUE LOCTITE (OPTIONAL)

INSTRUCTIONS WORK FOR ALL UPPER RECEIVER CHARGING BLOCK

LTAC RAVEN MID LENGTH UPPER DUST COVER DOOR [5.56 NATO]

NOTE: WHILE NOT NEEDED IN MOST CASES, YOU MAY ADD A SMALL AMOUNT OF BLUE LOCTITE TO THE SCREW THREADS BEFORE INSTALLING FOR MORE PERMANENT INSTALLS.

DO NOT USE RED LOCTITE!

STEP 1: THREAD CASTLE NUT ONTO BUFFER TUBE UNTIL ALMOST BOTTOMED OUT. THEN SLIDE ON END PLATE.



STEP 2: CAREFULLY THREAD BUFFER TUBE INTO LOWER RECEIVER. YOU WILL NEED TO DEPRESS THE BUFFER RETAINING PIN SO THAT THE BUFFER TUBE CAN PASS OVER IT TO KEEP IT IN PLACE.



STEP 3: ONCE BUFFER TUBE IS FULLY THREADED IN, SLIDE END PLATE FORWARD. ENSURE THE ENDPLATE IS SITTING FLUSH WITH THE LOWER RECEIVER AS SHOWN.



STEP 4: CAREFULLY TIGHTEN CASTLE NUT UNTIL SNUG. SPEC CALLS FOR ~40 FT-LBS (THIS IS NOT VERY MUCH! DO NOT TRY TO KILL IT.)



STEP 5: REASSEMBLY FIREARM AND FUNCTION TEST THE FIREARM WITHOUT USING ANY AMMUNITION. ENSURE THE BOLT CARRIER TRAVELS EASILY BEFORE LIVE FIRING.

ONCE TESTING IS COMPLETE, YOUR PARTS ARE READY FOR USE!

UPGRADE GOLD TO PLATINUM KIT

STOP!!

YOU **MUST** ENSURE YOUR FIREARM IS FULLY UNLOADED AND **PROVED** SAFE BEFORE USING!!

PROVE

POINT THE FIREARM IN THE SAFEST AVAILABLE DIRECTION.

REMOVE ALL AMMUNITION.

OBSERVE THE CHAMBER.

VERIFY THE FEEDING PATH.

EXAMINE THE BORE.

ONCE SAFE, YOU MAY PROCEED TO THE NEXT STEP.

ONCE SAFE, YOU MAY PROCEED TO THE NEXT STEP.

!! SAFETY WEAR: THIS INSTALLATION INVOLVES SPRINGS THAT CAN SHOOT OUT IF INSTALLED IMPROPERLY. YOU MUST WEAR EYEWEAR TO PROTECT YOURSELF WHILE INSTALLING.

!! AMMUNITION WARNING: WE RECOMMEND REMOVING ALL LIVE AMMUNITION FROM YOUR WORKING AREA WHILE PERFORMING ANY MODIFICATIONS TO YOUR FIREARM.

FIRST, ENSURE YOU HAVE THE COMPLETE UPGRADE KIT.

LTAC - RAVEN GOLD TO PLATINUM UPGRADE KIT - GLOCK 9MM

THE REQUIRED TOOLS TO COMPLETE THIS UPGRADE ARE ALL INCLUDED:

ALL PARTS MUST BE INSTALLED IN THE CORRECT ORDER!

MAKE SURE TO HAVE (1) OR (2) EMPTY MAGAZINES ON HAND TO PROPERLY FUNCTION TEST THE PARTS AFTER THE INSTALLATION IS COMPLETE.

STEP 1: FULLY CLEAN YOUR RAVEN. NEXT, DETACH THE MAGWELL FROM YOUR RAVEN SO THAT THESE PARTS CAN BE INSTALLED WITH EASE.

STEP 2: INSTALL THE BOLT CATCH SPRING AND PLUNGER.

NOTE: THE ROUNDED PART OF THE PLUNGER MUST FACE OUTWARDS.

STEP 3: INSTALL THE LEFT HAND BOLT CATCH SYSTEM INTO PLACE AS SHOWN

NOTE: ALL PARTS SHOULD DROP IN EASILY! DO NOT FORCE ANY PARTS INTO POSITION!

STEP 4: INSTALL THE MAGWELL COVER / BOLT STOP BLOCK AND SECURE IT WITH THE INCLUDED HARDWARE. INSTALL THE HARDWARE UNTIL SNUG, THEN ADD A 1/4 TURN.

NOTE: THE HARDWARE SHOULD BE TIGHT. DO NOT OVER TIGHTEN TO STRIP THE THREADS IN THE MAGWELL.

STEP 5: FUNCTION TEST THE LEFT HAND BOLT CATCH SYSTEM BY PRESSING ON THE BOLT CATCH STUD AND RELEASE IT. IT SHOULD MOVE EASILY AND IMMEDIATELY SPRING BACK TO ITS RESTING POSITION.

STEP 6: INSERT AND HOLD THE RIGHT HAND BOLT CATCH IN POSITON. SIMULTANEOUSLY INSERT THE BUTTON RETAINING PIN. TIGHTEN UNTIL SNUG. YOU MAY WANT TO ADD A TINY BIT OF BLUE LOCTITE TO THE THREADS TO ENSURE THEY NEVER WALK OUT.

STEP 7: FUNCTION TEST THE RIGHT HAND BOLT CATCH SYSTEM BY PRESSING ON THE BOLT CATCH STUD AND RELEASE IT. IT SHOULD MOVE EASILY AND IMMEDIATELY SPRING BACK TO ITS RESTING POSITION. IT SHOULD CAUSE BOTH THE LEFT AND RIGHT SIDE BOLT CATCH TO ACTIVATE AND DEACTIVATE.

STEP 8: REMOVE THE BUTTON RETAINING PIN SECURING THE RIGHT SIDE MAGAZINE RELEASE. NOTE! THE MAGAZINE RELEASE SPRING IS INSIDE AND WILL SHOOT OUT. **NOTE: BE CAREFUL NOT TO LOSE THE SPRING AND OR HAVE IT HIT YOU IN THE FACE. ONCE THE RETAINING PIN IS UNTHREADED AS MUCH AS POSSIBLE IT MAY STILL STAY RETAINED IN THE MAGWELL. YOU CAN USE YOUR FINGERS OR A TOOL SUCH AS PLIERS GENTLY TO FINISH PULLING IT OUT.**

STEP 9: INSERT THE LEFT SIDE MAGAZINE RELEASE BUTTON AND HOLD IT IN POSITION WHILE SIMULTANEOUSLY INSTALLING THE MAGAZINE RELEASE RETAINING PIN. TIGHTEN UNTIL SNUG AND THEN GIVE IT ANOTHER 1/4 TURN.

NOTE: BE CAREFUL TO INSTALL THE CROSSPIN STRAIGHT AS TO ENSURE IT DOES NOT GET CROSS THREADED AND DAMAGED!

STEP 10: REPLACE THE MAGAZINE CATCH SPRING AND REINSTALL THE RIGHT HAND MAGAZINE CATCH. TIGHTEN THE RETAINING PIN UNTIL SNUG

STEP 11: INSERT AN EMPTY MAGAZINE AND FUNCTION TEST THE LEFT SIDE MAGAZINE RELEASE BUTTON. ENSURE THE MAGAZINE RELEASES. NEXT, REINSERT THE EMPTY MAGAZINE AND FUNCTION TEST THE RIGHT MAGAZINE RELEASE BUTTON. ENSURE THE MAGAZINE RELEASES

STEP 12: FINAL FUNCTION TEST. REINSTALL THE COMPLETED MAGWELL BACK ONTO YOUR RAVEN, INSERT AN EMPTY MAGAZINE AND PULL FULLY REARWARD ON THE CHARGING HANDLE. THE BOLT CATCH FUNCTION SHOULD OPERATE. NEXT PRESS THE LEFT HAND MAGAZINE RELEASE AND THE MAGAZINE SHOULD RELEASE. PRESS THE BOLT CATCH RELEASE BUTTON AND THE BOLT SHOULD FULLY CLOSE INTO BATTERY AGAIN.

THE INSTALLATION IS NOW FULLY COMPLETE.

TOP CHARGING HANDLE COVER BLOCK INSTALLATION

STOP!!

YOU **MUST** ENSURE YOUR FIREARM IS FULLY UNLOADED AND **PROVED** SAFE BEFORE USING!!

PROVE

POINT THE FIREARM IN THE SAFEST AVAILABLE DIRECTION.

REMOVE ALL AMMUNITION.

OBSERVE THE CHAMBER.

VERIFY THE FEEDING PATH.

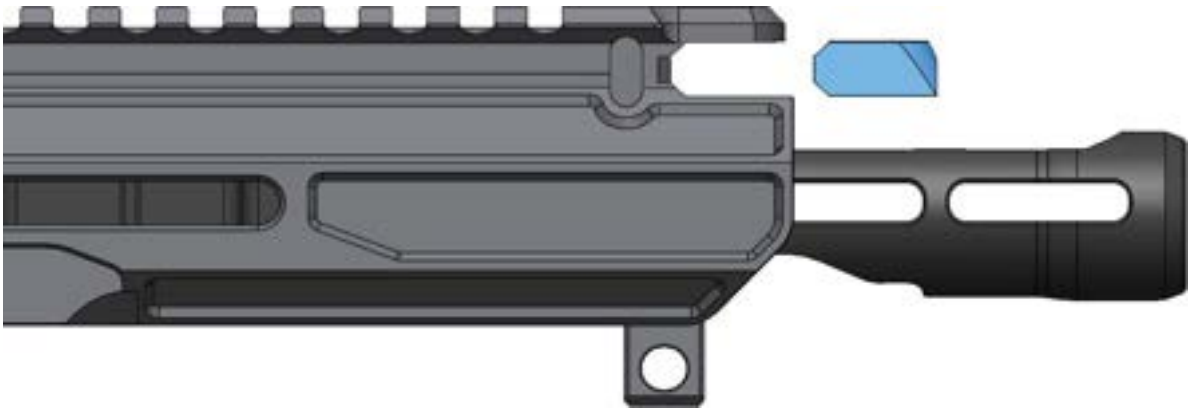
EXAMINE THE BORE.

ONCE SAFE, YOU MAY PROCEED TO THE NEXT STEP.

INSTALLATION

STEP 1: SEPARATE THE UPPER FROM THE REST OF THE FIREARM TO MAKE INSTALLATION EASIER.

STEP 2: ALIGN THE TOP CHARGING HANDLE COVER BLOCK WITH THE UPPER RECEIVER.



STEP 3: PRESS THE BLOCK IN FROM THE REAR SIDE UNTIL ITS FULLY SEATED.
DO NOT HAMMER IT IN!

STEP 4: TURN THE UPPER RECEIVER OVER SO THAT THE SCREW HOLE WHICH HOLDS THE CHARGING BLOCK IN PLACE IS VISIBLE. INSERT THE INCLUDED 8-32 SOCKET CAP SCREW.

CAREFULLY TIGHTEN THE (1) SCREW UNTIL SNUG. IF YOU PLAN ON KEEPING THE COVER BLOCK INSTALLED ON YOUR FIREARM, WE RECOMMEND ADDING A TINY DROP OF BLUE COLORED LOCTITE.

WARNING: NEVER USE RED LOCTITE ON YOUR RAVEN!

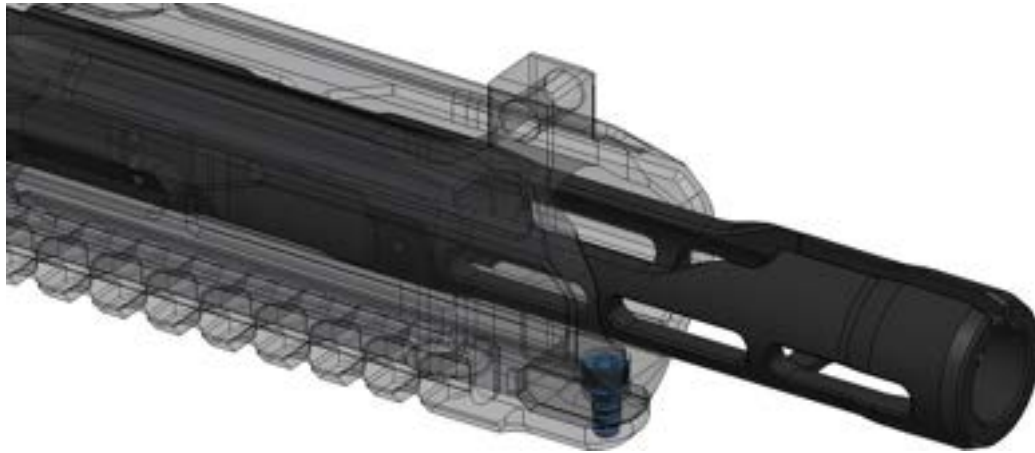
WARNING: NEVER USE RED LOCTITE ON YOUR RAVEN!



IF YOU HAVE THE RAVEN 9X19MM, YOU DO NOT NEED TO INSTALL / REMOVE THE COVER BLOCK WHEN INSERTING OR REMOVING YOUR FIRING BOLT

IF YOU HAVE THE RAVEN MID LENGTH [5.56] [7.62X39] [300 AAC BLACKOUT], YOU WILL NEED TO INSTALL / REMOVE THE COVER BLOCK AFTER INSERTING OR REMOVING YOUR BOLT CARRIER GROUP AS THE GAS KEY CANNOT PASS THROUGH THE COVER BLOCK.

ENSURE YOUR MID LENGTH BOLT CARRIER IS IN THE SAME POSITION AS SHOWN BELOW TO ENSURE YOU CAN EASILY ACCESS THE COVER BLOCK SCREW.



STEP 6: REASSEMBLY YOUR RAVEN. YOUR COVER BLOCK IS INSTALLED.

TIP: CONTINUOUSLY CHECK ALL SCREWS ARE TIGHT WHEN EVER CONDUCTING ROUTINE CLEANING AND OR INSPECTIONS.

WEAR PARTS / SPARE PARTS INSTALLATION

STOP!!

YOU **MUST** ENSURE YOUR FIREARM IS FULLY UNLOADED AND **PROVED** SAFE BEFORE USING!!

PROVE

POINT THE FIREARM IN THE SAFEST AVAILABLE DIRECTION.

REMOVE ALL AMMUNITION.

OBSERVE THE CHAMBER.

VERIFY THE FEEDING PATH.

EXAMINE THE BORE.

ONCE SAFE, YOU MAY PROCEED TO THE NEXT STEP.

9X19MM SPARE PARTS KIT CONTENTS:

1X LTAC RAVEN EJECTOR [9MM] [10MM] [.40S&W] [.45AUTO]

STEP 1: REMOVE COMPLETE FIRING BOLT FROM UPPER RECEIVER. (LEFTY LOOSEY)

STEP 2: REMOVE (2) 8-32 SOCKET CAP SCREWS HOLDING EJECTOR TO UPPER RECEIVER.

STEP 3: REPLACE EJECTOR AND SECURE WITH THE (2) 8-32 SOCKET CAP SCREWS. (RIGHTY TIGHTY)

NOTE: TORQUE TO A MAXIMUM OF 50 INCH POUNDS. WE ALSO RECOMMEND ADDING A SMALL AMOUNT OF BLUE LOCTITE TO THE SCREWS BEFORE INSTALLING.

1X LTAC RAVEN BOLT EXTRACTOR [9MM] [10MM] [.40S&W] [.45AUTO] [.223] [5.56] [7.62X39]

1X LTAC RAVEN EXTRACTOR SPRING

1X LTAC RAVEN EXTRACTOR SPRING INSERT

1X LTAC RAVEN EXTRACTOR RETAINING PIN [9MM] [10MM] [.40S&W] [.45AUTO]

STEP 1: REMOVE EXTRACTOR RETAINING PIN FROM FIRING BOLT FRONT. (LEFTY LOOSEY)

STEP 2: REMOVE EXTRACTOR, EXTRACTOR SPRING AND EXTRACTOR SPRING INSERT.

STEP 3: REINSTALL NEW EXTRACTOR SPRING AND EXTRACTOR SPRING INSERT INTO EXTRACTOR.

NOTE: AFTER INSERTING THE EXTRACTOR SPRING INTO THE EXTRACTOR, INSERT THE NARROWER END OF THE INSERT INTO THE SPRING, SO THAT THE FLARED END WILL BE TOUCHING THE BOLT AFTER IT'S INSTALLED.

STEP 4: REINSTALL NEW ASSEMBLY INTO FIRING BOLT FRONT. THE ORIGINAL SCREW CAN BE REUSED. THE NEW

EXTRACTOR RETAINING PIN IS A SPARE IN CASE THE ORIGINAL IS LOST. (RIGHTY TIGHTY)

NOTE: TORQUE TO A MAXIMUM OF 30 INCH POUNDS. WE ALSO RECOMMEND ADDING A SMALL AMOUNT OF BLUE LOCTITE TO THE SCREW BEFORE INSTALLING.

1X LTAC RAVEN FIRING PIN AND SPRING [9MM] [10MM] [.40S&W] [.45AUTO]

1X LTAC RAVEN FIRING PIN RETAINING PIN

STEP 1: GENTLY COMPRESS THE FIRING BOLT FRONT AND THE FIRING BOLT REAR. THIS WILL MAKE REMOVAL OF THE BOLT CONNECTING PIN EASIEST.

STEP 2: REMOVE FIRING PIN SPRING.

STEP 3: REMOVE FIRING PIN RETAINING PIN FROM FIRING BOLT REAR.

STEP 3: REINSTALL NEW FIRING PIN INTO FIRING BOLT REAR AND INSERT THE ORIGINAL FIRING PIN RETAINING PIN.

STEP 4: REINSTALL NEW FIRING PIN SPRING INTO FIRING BOLT REAR

STEP 5: CAREFULLY REINSTALL FIRING BOLT FRONT ONTO FIRING BOLT REAR.

STEP 6: GENTLY COMPRESS THE FIRING BOLT FRONT AND THE FIRING BOLT REAR. THIS WILL MAKE INSTALL OF THE BOLT CONNECTING PIN EASIEST.

THE ORIGINAL FIRING PIN RETAINING PIN CAN BE REUSED. THE NEW FIRING PIN RETAINING PIN IS A SPARE IN CASE THE ORIGINAL IS LOST

2X LTAC STANDARD LENGTH TAKE DOWN PINS

THE TAKE DOWN PINS (TDP) ARE SPARES IN CASE THE ORIGINALS ARE LOST

1X LTAC RAVEN BUFFER RETAINER

1X LTAC RAVEN BUFFER RETAINER SPRING

NOTE: THIS IS A MORE ADVANCED CHANGE!

!! CAUTION: WEAR SAFETY EYE WEAR.

STEP 1: REMOVE UPPER RECEIVER FROM LOWER.
STEP 2: USING BUTTSTOCK CASTLE NUT WRENCH, LOOSEN THE CASTLE NUT (LEFTY LOOSEY) UNTIL IT IS ALMOST COMPLETELY REARWARD ON THE BUFFER TUBE.
STEP 3: SLIDE THE END PLATE REARWARD UNTIL IT UNLOCKS FROM THE LOWER RECEIVER.
STEP 4: UNTHREAD THE BUFFER TUBE SLOWLY UNTIL THE BUFFER RETAINER RELEASES.
!! CAUTION: THE BUFFER RETAINER IS UNDER SPRING PRESSURE! ENSURE IT DOES NOT HIT YOU!
NOTE: WE RECOMMEND FLIPPING YOUR LOWER RECEIVER OVER SO THAT THE BUFFER RETAINER IS FACING THE GROUND. IF YOU HAVE A SMALL BLANKET, YOU CAN PLACE IT BETWEEN THE FLOOR AND THE BUFFER RETAINER SO THAT IS IT CAUGHT BY THE BLANKET WHEN IT RELEASES!
STEP 5: REINSTALL NEW BUFFER RETAINER SPRING IN BUFFER RETAINING AND INSTALL INTO LOWER RECEIVER.
STEP 6: WITH ONE HAND APPLYING CONSTANT PRESSURE COMPRESSING THE BUFFER RETAINER, SLOWLY TIGHTEN BUFFER TUBE (RIGHTY TIGHTY). THE BUFFER TUBE END SHOULD COVER THE BUFFER RETAINER HOLDING IT INTO PLACE. TIGHTEN THE BUFFER TUBE UNTIL IT IS IN IT'S CORRECT ORIENTATION.
NOTE: DO NOT OVER TIGHTEN THE BUFFER TUBE UNTIL IT'S HITTING THE BUFFER RETAINER!
STEP 7: ONCE BUFFER TUBE IS IN CORRECT ORIENTATION AND SECURING THE BUFFER RETAINER, REINSTALL END PLATE INTO POSITION AND TIGHTEN CASTLE NUT UNTIL IT IS SNUG AGAINST THE END PLATE.
STEP 8: CAREFULLY TORQUE CASTLE NUT TO A MAXIMUM OF 42 FOOT POUNDS.

1X LTAC RAVEN BOLT ASSEMBLY 5.56 - NICKLE TEFLON COATED

STEP 1: REMOVE SIDE CHARGING HANDLE IF INSTALLED.
STEP 2: SEPARATE UPPER RECEIVER FROM LOWER. PULL REARWARD ON TOP CHARGING IF INSTALLED.
STEP 3: REMOVE BOLT CARRIER FROM UPPER RECEIVER.
STEP 4: REMOVE FIRING PIN RETAINING PIN FROM BOLT CARRIER
STEP 5: REMOVE FIRING PIN FROM BOLT CARRIER
STEP 6: COMPRESS BOLT ASSEMBLY AND BOLT CARRIER TOGETHER
STEP 7: ROTATE CAM PIN 90 DEGREES AND REMOVE FROM BOLT CARRIER
STEP 8: REMOVE BOLT ASSEMBLY FROM BOLT CARRIER
STEP 9: REINSTALL NEW BOLT ASSEMBLY INTO BOLT CARRIER.
NOTE: THE EXTRACTOR MUST BE ON THE RIGHT HAND SIDE OF THE BOLT CARRIER.
STEP 10: ALIGN CAM PIN WITH BOLT ASSEMBLY AND INSTALL INTO BOLT CARRIER. ROTATE CAM PIN 90 DEGREES.
STEP 11: REINSTALL FIRING PIN AND FIRING PIN RETAINING PIN.
STEP 12: FUNCTION TEST THE BOLT ASSEMBLY BY HOLDING THE BOLT CARRIER SECURELY WITH ONE HAND AND SIMULTANEOUSLY PULLING ON THE BOLT ASSEMBLY WITH YOUR OTHER HAND UNTIL IT MOVES INTO THE LOCKED POSITION. NEXT, HOLD THE BOLT CARRIER SECURELY AND PRESS ON THE BOLT ASSEMBLY UNTIL IT MOVES INTO THE UNLOCKED POSITION. IF THE BOLT ASSEMBLY IS MOVING FREELY TO THE CAM PIN LIMITS OF TRAVEL, THEN THE BOLT IS INSTALLED AND WORKING CORRECTLY.
STEP 13: REINSTALL BOLT CARRIER ASSEMBLY AND TOP CHARGING HANDLE INTO RIFLE IF APPLICABLE.
STEP 14: CLOSE FIREARM, REINSTALL TAKE DOWN PINS AND FUNCTION TEST AGAIN.
NOTE: ENSURE TO FUNCTION TEST YOUR BOLT CARRIER WITH DUMMY AMMUNITION BEFORE USING LIVE AMMUNITION! IF ANYTHING IS NOT WORKING PERFECTLY, DO NOT TEST WITH LIVE AMMUNITION! CONSULT A GUN SMITH OR CALL LOCKHART TACTICAL.

M-LOK ACCESSORY INSTALLATION

STOP!!

YOU **MUST** ENSURE YOUR FIREARM IS FULLY UNLOADED AND **PROVED** SAFE BEFORE USING!!

PROVE

POINT THE FIREARM IN THE SAFEST AVAILABLE DIRECTION.

REMOVE ALL AMMUNITION.

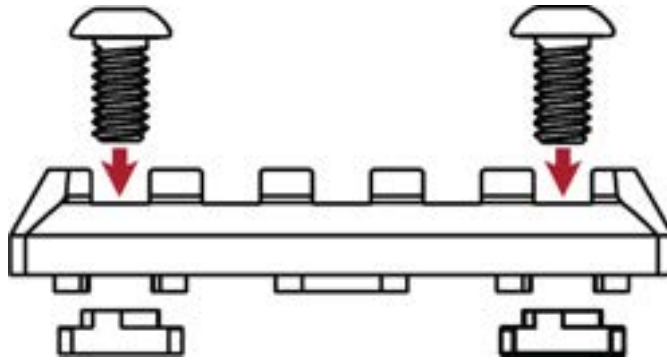
OBSERVE THE CHAMBER.

VERIFY THE FEEDING PATH.

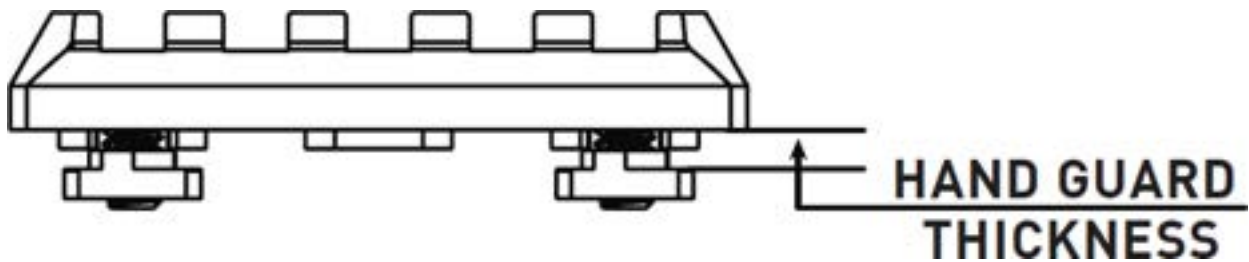
EXAMINE THE BORE.

ONCE SAFE, YOU MAY PROCEED TO THE NEXT STEP.

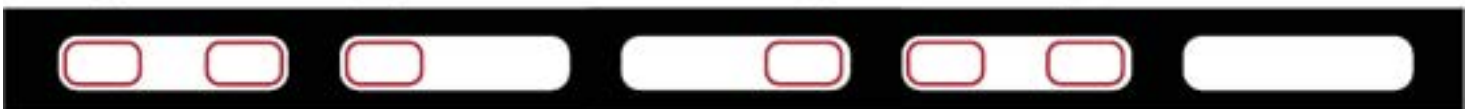
STEP 1:
INSTALL T-NUTS AND SCREWS TO THE RAIL SEGMENT OR ACCESSORY. INSERT THE SCREWS THROUGH THE TOP OF THE ACCESSORY AND THREAD ON THE T-NUTS WITH THE "STEM" OF THE NUT FACING UP.



STEP 2:
ADJUST THE T-NUTS FOR MOUNTING SURFACE THICKNESS. THE DISTANCE BETWEEN THE BOTTOM OF THE ACCESSORY (NOT THE LUG) AND THE TOP "FLAT" OF THE T-NUT SHOULD BE JUST WIDER THAN MOUNTING SURFACE THICKNESS.P.



STEP 3:
CHOOSE A MOUNTING LOCATION. YOUR M-LOK ACCESSORY CAN BE ADJUSTED IN 20MM INCREMENTS (1/2 SLOT LENGTH)



STEP 4:
ALIGN THE T-NUTS AND INSERT THE ACCESSORY. ROTATE T-NUTS INLINE WITH THE SLOT AND INSERT THE LUGS/
T-NUTS INTO THE SLOT IN THE DESIRED LOCATION.

STEP 5:
TIGHTEN SCREWS. USING A HEX WRENCH IN THE SCREW HEAD, PUSH DOWN
TO FULLY SEAT THE SCREW IN THE ACCESSORY, THEN TURN CLOCKWISE TO TIGHTEN.

THE T-NUT SHOULD ROTATE 90 DEGREES ACROSS THE SLOT AND STOP ROTATING,
TIGHTENING DOWN AS YOU CONTINUE TO TURN. VISUALLY CONFIRM THAT THE NUTS
ARE ROTATED, IF POSSIBLE.

CONTINUE TIGHTENING UNTIL ACCESSORY IS SECURE,
BUT DO NOT EXCEED MAXIMUM TORQUE VALUES. EXCEEDING TORQUE VALUES
MAY DAMAGE MOUNTING SURFACE.

MAXIMUM INSTALLATION TORQUE:
METAL ACCESSORIES TO METAL HAND GUARDS: 35 IN/LBS
POLYMER OR METAL ACCESSORIES TO POLYMER HAND GUARDS: 15 IN/LBS
POLYMER ACCESSORIES TO METAL HAND GUARDS: 15 IN/LBS



5.56 - GOLD UPGRADE KIT (ADD LEFT BOLT CATCH ONLY)

STOP!!

YOU **MUST** ENSURE YOUR FIREARM IS FULLY UNLOADED AND **PROVED** SAFE BEFORE USING!!

PROVE

POINT THE FIREARM IN THE SAFEST AVAILABLE DIRECTION.

REMOVE ALL AMMUNITION.

OBSERVE THE CHAMBER.

VERIFY THE FEEDING PATH.

EXAMINE THE BORE.

ONCE SAFE, YOU MAY PROCEED TO THE NEXT STEP.

TOOLS REQUIRED:

STANDARD BUTTON RETAINING PIN REQUIRES 5/64 INCH HEX ALLEN KEY

BLUE LOCTITE (OPTIONAL)

LTAC - RAVEN 5.56 - GOLD UPGRADE KIT (ADD LEFT BOLT CATCH ONLY) CONTENTS:

1X BOLT CATCH PLUNGER

1X BOLT CATCH PLUNGER SPRING

1X LEFT BOLT CATCH REAR - MID LENGTH

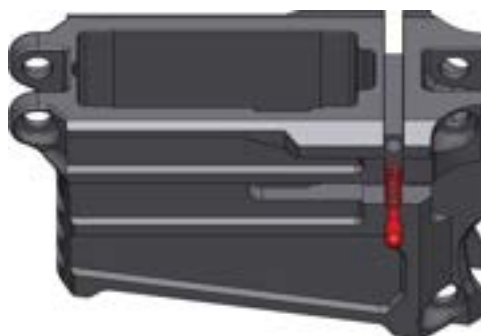
1X RAVEN STANDARD BUTTON RETAINING PIN

NOTE: WE RECOMMEND ADDING A SMALL AMOUNT OF BLUE LOCTITE TO THE RETAINING PIN THREADS BEFORE INSTALLING.

DO NOT USE RED LOCTITE!

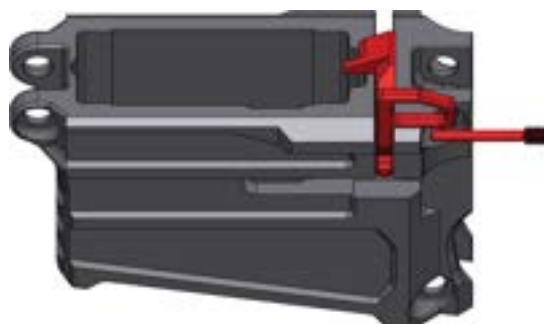
STEP 1: INSTALL BOLT CATCH PLUNGER SPRING ONTO THE BOLT CATCH PLUNGER

STEP 2: PLACE THE BOLT CATCH PLUNGER ASSEMBLY INTO THE BOLT CATCH PLUNGER HOLE ON THE LEFT SIDE OF THE MAGAZINE WELL. THE ROUNDED END OF THE BOLT CATCH PLUNGER SHOULD BE FACING OUTWARDS WITH THE SPRING INSIDE THE MAGWELL.



STEP 3: PLACE THE LEFT BOLT CATCH REAR INTO THE BOLT CATCH SLOT AND INSTALL THE THREADED RETAINING PIN.

NOTE: ENSURE RETAINING PIN THREADS ARE IN MAGWELL ENOUGH TO ALLOW TAKE DOWN PIN TO BE INSTALLED AND REMOVED PROPERLY.



STEP 4: CONFIRM THE BOLT CATCH IS WORKING PROPERLY BY PRESSING THE BOTTOM SIDE OF THE BOLT CATCH. YOU SHOULD FEEL THE RESISTANCE AS THE TOP OF THE BOLT CATCH LIFTS UP. ONCE YOU LET GO, THE BOLT CATCH SHOULD QUICKLY RETURN TO IT'S RESTING POSITION AGAIN.



ONCE TESTING IS COMPLETE, YOUR PARTS ARE READY FOR USE!

BRASS DEFLECTOR AND SIDE CHARGING COVER INSTALLATION

STOP!!

YOU **MUST** ENSURE YOUR FIREARM IS FULLY UNLOADED AND **PROVED** SAFE BEFORE USING!!

PROVE

POINT THE FIREARM IN THE SAFEST AVAILABLE DIRECTION.

REMOVE ALL AMMUNITION.

OBSERVE THE CHAMBER.

VERIFY THE FEEDING PATH.

EXAMINE THE BORE.

ONCE SAFE, YOU MAY PROCEED TO THE NEXT STEP.

TOOLS REQUIRED:

1/16 0.062 INCH HEX ALLEN KEY

BLUE LOCTITE (OPTIONAL)

INSTRUCTIONS WORK FOR ALL BRASS DEFLECTORS AND SIDE CHARGING COVERS

LTAC RAVEN SIDE CHARGING COVER - STANDARD LENGTH [9X19MM]

LTAC RAVEN SIDE CHARGING COVER - MID LENGTH [5.56 NATO]

LTAC RAVEN SIDE CHARGING COVER - LONG LENGTH [7.62 NATO]

LTAC RAVEN MID LENGTH UPPER BRASS DEFLECTOR [5.56 NATO]

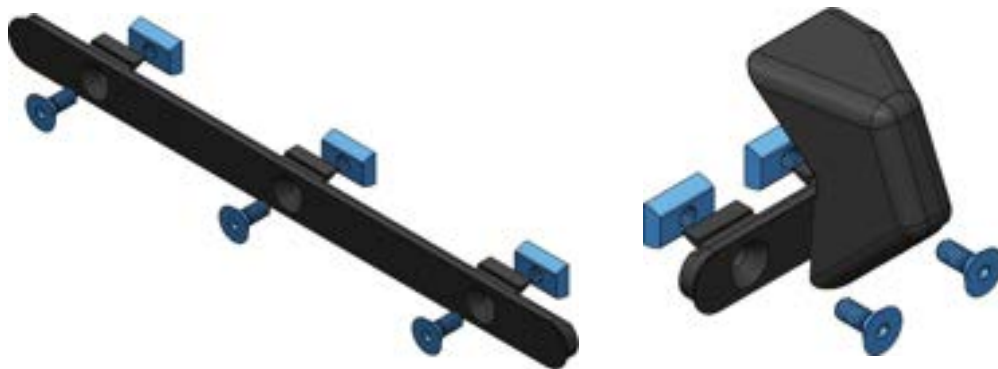
LTAC RAVEN LONG LENGTH UPPER BRASS DEFLECTOR [7.62 NATO]

NOTE: WHILE NOT NEEDED IN MOST CASES, YOU MAY ADD A SMALL AMOUNT OF BLUE LOCTITE TO THE SCREW THREADS BEFORE INSTALLING FOR MORE PERMANENT INSTALLS.

DO NOT USE RED LOCTITE!

STEP 1: INSTALL SUPPLIED SCREW INTO WEDGE LOCK AS SHOWN. DO NOT TIGHTEN!

STEP 2: INSERT SIDE COVER ASSEMBLY INTO UPPER RECEIVER. TIGHTEN SCREWS UNTIL SNUG. DO NOT OVER TIGHTEN OR YOU CAN DAMAGE THE THREADS.



STEP 3: CONFIRM THE INSTALLATION IS SECURE BY USING YOUR HAND TO ENSURE THE WEDGES ARE HOLDING THE COVER / BRASS DEFLECTOR IN PLACE PROPERLY.

IF THE PARTS ARE MOVING WHILE PULLING / PUSHING GENTLY WITH YOUR HAND, LOOSEN SCREWS, MOVE PARTS INTO PLACE AND RETIGHTEN SLIGHTLY TIGHTER THAN BEFORE. ONCE AGAIN, DO NOT OVER TIGHTEN AS YOU CAN DAMAGE THE THREADS.

NOTE: THESE ARE DESIGNED TO HAVE SUFFICIENT HOLDING FORCE TO REMAIN IN PLACE DURING REGULAR SHOOTING. DO NOT APPLY LARGE FORCE AND TRY TO RIP THEM OFF.

IF THE BRASS DEFLECTOR IS INSTALLED, YOU CANNOT USE THE SIDE CHARGING HANDLE ON THE RIGHT HAND SIDE!

ONCE TESTING IS COMPLETE, YOUR PARTS ARE READY FOR USE!

COMPETITION MAGWELL FLARE INSTALLATION

STOP!!

YOU **MUST** ENSURE YOUR FIREARM IS FULLY UNLOADED AND **PROVED** SAFE BEFORE USING!!

PROVE

POINT THE FIREARM IN THE SAFEST AVAILABLE DIRECTION.

REMOVE ALL AMMUNITION.

OBSERVE THE CHAMBER.

VERIFY THE FEEDING PATH.

EXAMINE THE BORE.

ONCE SAFE, YOU MAY PROCEED TO THE NEXT STEP.

TOOLS REQUIRED:

STANDARD BUTTON RETAINING PIN REQUIRES 1/16 0.062 INCH HEX ALLEN KEY

BLUE LOCTITE (OPTIONAL)

INSTRUCTIONS WORK FOR ALL BRASS DEFLECTORS AND SIDE CHARGING COVERS

LTAC RAVEN COMPETITION MAGWELL FLARE [9MM]

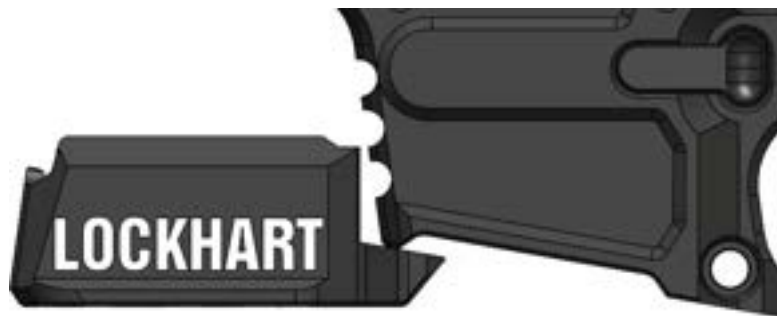
LTAC RAVEN COMPETITION MAGWELL FLARE [5.56 NATO]

NOTE: DIFFERENT COLORS OF CERAKOTE HAVE A DIFFERENT THICKNESS. THESE FLARES ARE MADE TO HAVE A VERY TIGHT FITTING TOLERANCE TO ENSURE PERFECT PERFORMANCE. WHILE INSTALLING A TINY AMOUNT OF CERAKOTE MAY BECOME SCUFFED OR SCRATCHED. IT WILL BE COMPLETELY HIDDEN WHILE THE FLARE IS INSTALLED.

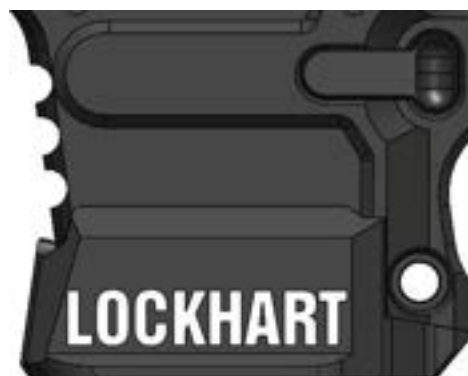
NOTE: WHILE NOT NEEDED IN MOST CASES, YOU MAY ADD A SMALL AMOUNT OF BLUE LOCTITE TO THE SCREW THREADS BEFORE INSTALLING FOR MORE PERMANENT INSTALLS.

DO NOT USE RED LOCTITE!

STEP 1: INSTALL SUPPLIED SCREWS INTO MAGWELL FLARE. DO NOT TIGHTEN!



STEP 2: SLIDE COMPETITION MAGWELL FLARE INTO POSITION STARTING AT THE FRONT OF THE MAGWELL AND SLIDING IT INTO PLACE.



STEP 3: ONCE FULLY SEATED, TIGHT THE TWO SET SCREWS AT THE BOTTOM. DO NOT OVER TIGHTEN AS YOU CAN DAMAGE THE THREADS.



AFTER THE FIRST 50-100 ROUNDS ARE FIRED, WE RECOMMEND RECHECKING TIGHTNESS ON ALL SCREWS.

DUST COVER DOOR INSTALLATION

STOP!!

YOU **MUST** ENSURE YOUR FIREARM IS FULLY UNLOADED AND **PROVED** SAFE BEFORE USING!!

PROVE

POINT THE FIREARM IN THE SAFEST AVAILABLE DIRECTION.

REMOVE ALL AMMUNITION.

OBSERVE THE CHAMBER.

VERIFY THE FEEDING PATH.

EXAMINE THE BORE.

ONCE SAFE, YOU MAY PROCEED TO THE NEXT STEP.

TOOLS REQUIRED:

3/32 INCH HEX ALLEN KEY

BLUE LOCTITE (OPTIONAL)

INSTRUCTIONS WORK FOR ALL TOP MOUNTED DUST COVER DOORS

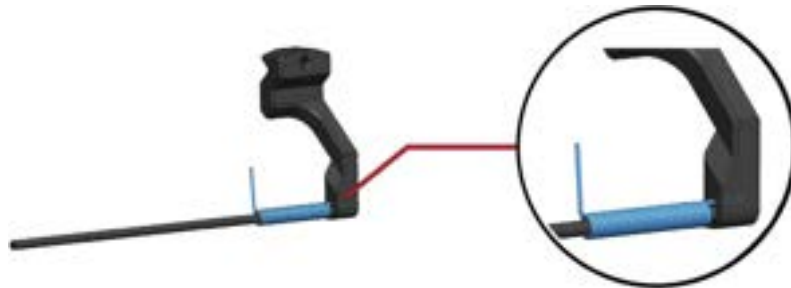
LTAC RAVEN MID LENGTH UPPER DUST COVER DOOR [5.56 NATO]

LTAC RAVEN LONG LENGTH UPPER DUST COVER DOOR [7.62 NATO]

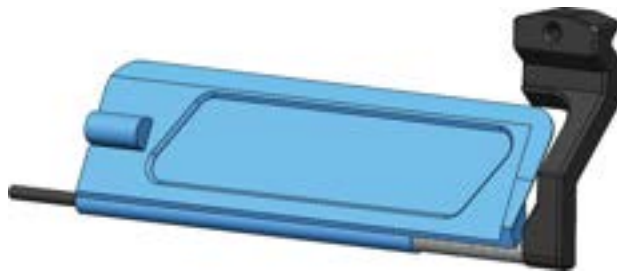
NOTE: WHILE NOT NEEDED IN MOST CASES, YOU MAY ADD A SMALL AMOUNT OF BLUE LOCTITE TO THE SCREW THREADS BEFORE INSTALLING FOR MORE PERMANENT INSTALLS.

DO NOT USE RED LOCTITE!

STEP 1: INSTALL DOOR SPRING ONTO SUPPORT ROD AND INSERT SPRINT END INTO FRONT SUPPORT ARM AS SHOWN.



STEP 2: SLIDE DUST COVER DOOR INTO POSITION



STEP 3: PRELOAD THE DUST COVER DOOR SPRING.

IN ONE HAND, HOLD THE DUST COVER DOOR FIRMLY. USE YOUR OTHER HAND AND COMPLETE ONE FULL COUNTER CLOCKWISE ROTATION OF THE THE FRONT SUPPORT ARM.

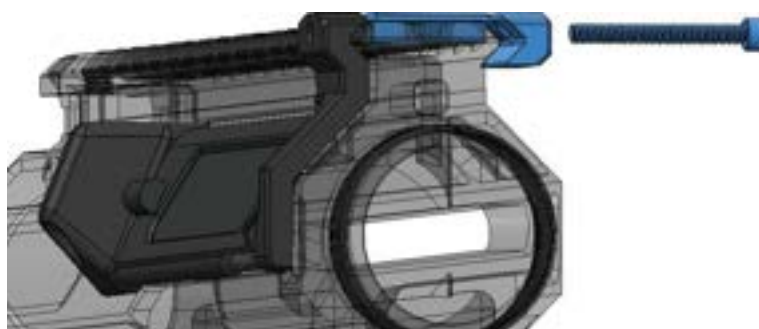
NOTE: MORE THAN 1 ROTATION CAN DAMAGE THE SPRING!



STEP 4: INSERT PRELOADED DOOR ASSEMBLY INTO BRASS DEFLECTOR.



STEP 5: INSERT SCREW CENTER SUPPORT WITH THE TEXT "FRONT" FACING THE FRONT OF THE RECEIVER. INSERT SCREW INTO SUPPORT CLAMP AND TIGHTEN WITH A 3/32 INCH HEX ALLEN KEY.



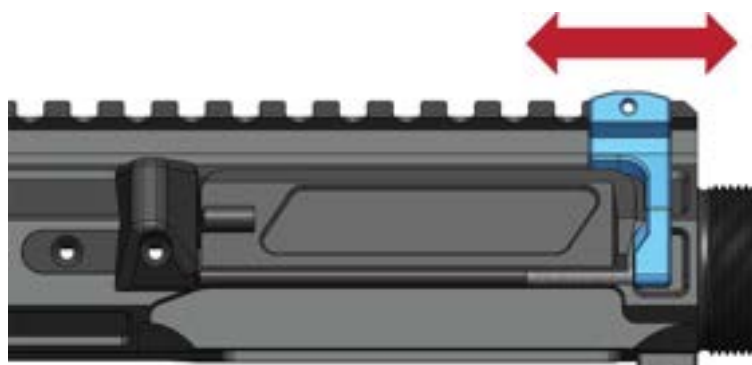
STEP 6: TEST AND ADJUST FOR PERFECT OPERATION WITH BOLT CARRIER INSTALLED IN UPPER AND FULLY IN BATTERY, CLOSE THE DUST COVER DOOR. IT SHOULD SNAP SHUT INTO THE FULLY CLOSED POSITION.

SHAKE THE FIREARM VIGOROUSLY TO ENSURE THE DOOR IS STAYING CLOSED PROPERLY.

IF DOOR OPENS WHILE SHAKING IT, SIMPLY LOOSEN THE SCREW AND SLIGHTLY ADJUST THE FRONT SUPPORT ARM TO BE CLOSE TO THE BRASS DEFLECTOR. A TINY CHANGE MAY BE ALL THAT IS REQUIRED.

IF DOOR DOES NOT OPEN EASILY WHEN CYCLING BOLT, SIMPLY LOOSEN THE SCREW AND SLIGHTLY ADJUST THE FRONT SUPPORT ARM TO BE CLOSE TO THE BRASS DEFLECTOR. A TINY CHANGE MAY BE ALL THAT IS REQUIRED.

TEST AND ADJUST.



ONCE TESTING IS COMPLETE, YOUR PARTS ARE READY FOR USE!

ADJUSTMENT

ADJUSTABLE GAS BLOCK ADJUSTMENT

STOP!!

YOU **MUST** ENSURE YOUR FIREARM IS FULLY UNLOADED AND **PROVED** SAFE BEFORE USING!!

PROVE

POINT THE FIREARM IN THE SAFEST AVAILABLE DIRECTION.

REMOVE ALL AMMUNITION.

OBSERVE THE CHAMBER.

VERIFY THE FEEDING PATH.

EXAMINE THE BORE.

ONCE SAFE, YOU MAY PROCEED TO THE NEXT STEP.

WHAT DOES AN ADJUSTABLE GAS BLOCK DO?

A NON-ADJUSTABLE GAS BLOCK SIMPLY DIRECTS GAS FROM THE BARREL, UP THROUGH THE GAS BLOCK AND BACK TO THE BOLT CARRIER GAS KEY THROUGH THE GAS TUBE. THIS GAS PRESSURE UNLOCKS THE CHAMBER AFTER THE ROUND IS FIRED AND CYCLES THE BOLT AGAIN. WITHOUT THIS SYSTEM, YOUR GAS OPERATED RIFLE WOULD NOT CYCLE IN A SEMI-AUTOMATIC FASHION. NON-ADJUSTABLE GAS BLOCKS HAVE A FIXED GAS PORT SIZE, AND CANNOT BE ADJUSTED TO COMPENSATE THE AMOUNT OF GAS VOLUME

ADJUST THE GAS BLOCK TO PERFORM OPTIMALLY WITH YOUR SPECIFIC AMMUNITION LOAD.

YOU CAN TURN YOUR SEMI-AUTOMATIC RIFLE INTO A STRAIGHT PULL (NON-SEMI-AUTOMATIC) BY ADJUSTING GAS BLOCK TO FULLY CLOSED POSITION!

HOW DO I KNOW IF MY FIREARM IS CYCLING PROPERLY OR NOT?

TO FIX SHORT STROKING ISSUES, YOU SHOULD ADD MORE GAS VOLUME.

TUNING A RIFLE ISN'T JUST ABOUT GAS VOLUME! THE BUFFER WEIGHT IS VERY IMPORTANT TOO.

TOO LIGHT OF A WEIGHT ALSO MEANS THE BOLT WILL BE TRAVELING REARWARD AT A HIGHER VELOCITY, AND THE CYCLE WILL BE MUCH FASTER. IF THE CYCLING TIME IS TOO FAST, THE LAST ROUND BOLT HOLD OPEN FEATURE MAY NOT HAVE TO ENGAGE. TO CORRECT THIS, SIMPLY ADD MORE MASS, WHICH WILL SLOW DOWN THE CYCLING RATE AND GIVE THE BOLT CATCH TIME TO ENGAGE. IF THE FIRING BOLT IS CYCLING TOO FAST IT CAN CAUSE ADDED STRAIN AND DAMAGE TO THE BUFFER WEIGHT AND THE BUFFER TUBE.

RELOADING YOUR OWN AMMUNITION CAN BE DANGEROUS. SIMILARLY, ADJUSTING YOUR BUFFER WEIGHTS CAN ALSO BE DANGEROUS AND CAUSE NEGATIVE EFFECTS. ENSURE YOU KNOW WHAT YOU ARE DOING AND VERIFY YOUR CHANGES PRIOR TO LIVE FIRING! IF BUFFER WEIGHT IS TOO LOW FOR THE CALIBER YOU ARE SHOOTING DEATH, DAMAGE OR INJURY MAY OCCUR!

DURING THE REARWARD CYCLING, IT EXTRACTS AND EJECTS THE SPENT CASING, THE SAME WAY AS A BLOW-BACK SYSTEM WOULD.

THE BIGGEST DIFFERENCE TO BUFFER WEIGHTS IN A DIRECT IMPINGEMENT SYSTEM IS THAT THE BOLT IS LOCKED INTO THE CHAMBER DURING THE INTENSE FIRING SEQUENCE. DUE TO THIS "LOCKED IN" NATURE, ONCE THE GAS PRESSURE COMES THROUGH THE GAS TUBE AND PUSHES ON THE BOLT CARRIER TO RELEASE IT, MUCH OF THE FIRING FORCE HAS ALREADY DISSIPATED. BECAUSE OF THIS, THE BUFFER WEIGHT CAN BE SIGNIFICANTLY LIGHTER THAN THAT OF A BLOW-BACK.

THE BUFFER WEIGHT CAN HELP ABSORB SOME OF THE FELT RECOIL. THIS PROVIDES A SMOOTHER CYCLE OF THE BOLT GOING BACK AND FORTH, AND CREATES A BETTER SHOOTING EXPERIENCE WITH FASTER FOLLOW-UP SHOTS. HEAVIER BUFFERS ALSO HELP REDUCE WEAR AND TEAR ON YOUR FIREARM.

TYPICALLY A 5.56 RIFLE WOULD HAVE A BUFFER WEIGHT OF AROUND 3.0 OZ

ADJUSTING THE WEIGHT TO A HEAVIER BUFFER OF 3.8 OZ IS 25% HEAVIER AND REDUCES PERCEIVED FELT RECOIL AND REDUCES WEAR ON YOUR FIREARM.

THE HEAVIER THE BUFFER WEIGHT IS, THE SLOWER THE BOLT CARRIER TRAVELS REARWARD REDUCING THE PERCEIVED RECOIL, HOWEVER THE HEAVIER WEIGHT RETURNS THE BOLT INTO BATTERY FASTER WHICH CAN POTENTIALLY CAUSE THE BOLT CATCH TO ENGAGE IN THE WRONG PLACE OR CAUSE FAILURE TO FEEDS AND STOVE PIPING. FIND THE HAPPY MEDIUM BETWEEN BUFFER WEIGHT AND GAS VOLUME BY USING BOTH ADJUSTABLE SYSTEMS.

HAVING AN ADJUSTABLE GAS BLOCK ON A DIRECT IMPINGEMENT FIRING STYLE ALLOWS YOU TO ALLOW TUNE THE AMOUNT OF GAS PRESSURE PUSHING ON THE FIRING BOLT. YOU SHOULD AJUST THE GAS PRESSURE TO BE AS LOW AS POSSIBLE, WHILE STILL ENSURING THE FIREARM CYCLES PROPERLY BETWEEN SHOTS.

!! WARNING: PISTOL AND RIFLE BUFFERS ARE NOT INTERCHANGEABLE

STANDARD BUFFER WEIGHTS:

9X19MM REQUIRES 8OZ BUFFER WEIGHT

5.56 NATO REQUIRES 3.8OZ BUFFER WEIGHT

TOOLS REQUIRED:

#4-40 SET SCREWS (SIDE AND TOP) 1/20 INCH HEX ALLEN KEY [0.050 INCH]

ADJUSTABLE GAS SCREW 5/64 INCH HEX ALLEN KEY [0.078 INCH]

THE ADJUSTABLE GAS BLOCK HAS (2) TWO SET SCREWS.

THE SET SCREW LOCATED ON THE RIGHT HAND SIDE IS THE LOCKING SET SCREW WHILE THE TOP ONE ADJUSTS THE SPRING PRESSURE WHICH PUSHES THE BALL BEARING INTO THE ADJUSTMENT SCREW DETENTS



NOTE: IF YOU ARE NOT HEARING OR FEELING TACTILE CLICKS:

LOOSEN THE SIDE LOCKING SETSCREW (COUNTER CLOCKWISE) THEN TIGHTEN THE TOP SETSCREW A LITTLE (CLOCKWISE).

TEST AND REPEAT UNTIL AUDIBLE AND TACTILE FEEL OCCURS WHEN ADJUSTING THE MAIN ADJUSTMENT SCREW. TIGHTEN SIDE LOCKING SET SCREW.

IF SEMI-PERMANENT GAS BLOCK POSITION IS REQUIRED, LOOSEN SIDE LOCKING SET SCREW AND TIGHTEN TOP SCREW UNTIL NO MOMENT IS POSSIBLE WITH ADJUSTMENT SCREW. TIGHTEN SIDE LOCKNG SCREW.

FOR EVEN FURTHER REDUNDANCY, BLUE OR PURPLE LOCTITE MAY BE ADDED.

!! NEVER USE RED LOCTITE

TEST IF FIREARM IS CYCLING PROPERLY

LOAD 1 MAGAZINE WITH (2) RDS. CHAMBER AND FIRE FIRST ROUND.

IF BOLT DOES NOT CYCLE REARWARD ENOUGH TO PICK UP AND LOAD THE SECOND ROUND IN THE CHAMBER, THEN GAS PRESSURE IS TOO LOW. ADJUST THE GAS BLOCK (2) CLICKS HIGHER. **TURNING THE GAS ADJUSTMENT SCREW COUNTER CLOCKWISE ALLOWS MORE GAS TO FLOW TO THE BOLT CARRIER.** TEST AND CONTINUE TO ADJUST IN SMALL INCREMENTS UNTIL THE RIFLE RELIABLY PICKS UP AND FIRES THE SECOND ROUND. BOLT CATCH SHOULD ENGAGE WHEN MAGAZINE IS EMPTY.



IF BOLT CATCH IS NOT ENGAGING AFTER MAGAZINE IS EMPTY

MOST COMMON ERROR IS BOLT IS CYCLING TOO FAST. DIAL GAS BLOCK DOWN SLIGHTLY TO DECREASE BOLT SPEED BY **TURNING THE GAS ADJUSTMENT SCREW CLOCKWISE.**

ENLARGE BARREL GAS PORT PROCEDURE

STOP!!

YOU **MUST** ENSURE YOUR FIREARM IS FULLY UNLOADED AND **PROVED** SAFE BEFORE USING!!

PROVE

POINT THE FIREARM IN THE SAFEST AVAILABLE DIRECTION.

REMOVE ALL AMMUNITION.

OBSERVE THE CHAMBER.

VERIFY THE FEEDING PATH.

EXAMINE THE BORE.

ONCE SAFE, YOU MAY PROCEED TO THE NEXT STEP.

THIS GAS PORT ENLARGING IS ONLY REQUIRED ON SELECT 5.56 / 223 CALIBER BARRELS WITH RIFLE LENGTH GAS SYSTEMS

THIS IS NOT REQUIRED IF YOUR RAVEN IS CYCLING YOUR AMMUNITION OF CHOICE PERFECTLY.

TIME REQUIRED: THIS SHOULD TAKE NO MORE THAN 3-5 MINUTES

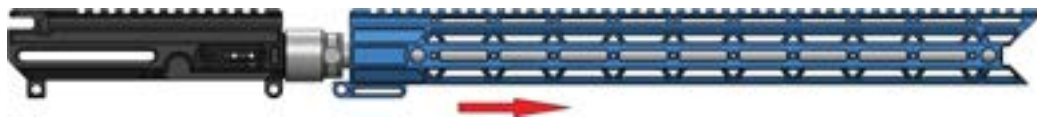
TOOLS REQUIRED:

#4-40 SET SCREWS (SIDE AND TOP) 1/20 INCH HEX ALLEN KEY [0.050 INCH]

GAS BLOCK SCREW 5/64 INCH HEX ALLEN KEY [0.078 INCH]

COBALT STEEL DRILL BIT 7/64 INCH [0.1094 INCH] AND POWER DRILL

WOODEN DOWEL ROD OR CLEANING ROD (RECOMMENDED)



STEP 2: USING THE 5/64" ALLEN KEY, LOOSEN THE TWO (2) SET SCREWS ON THE BOTTOM SIDE OF THE ADJUSTABLE GAS BLOCK AND SLIDE IT OFF THE BARREL. LEAVE THE GAS TUBE ATTACHED TO THE GAS BLOCK. IT WILL SLIDE OUT AS ONE UNIT.



STEP 2: **[OPTIONAL] INSERT A CLEANING ROD OR WOODEN DOWEL INTO THE BARREL FROM THE MUZZLE END. THIS WILL ENSURE YOU DO NOT ACCIDENTLY DRILL THROUGH YOUR GAS PORT AND HIT THE INSIDE WALL OF THE BARREL WHICH MAY DAMAGE IT.**

USING THE 7/64 DIAMETER DRILL BIT, CAREFULLY ENLARGE THE GAS PORT HOLE ON YOUR BARREL. DOING THIS WILL ALLOW MORE GAS TO TRAVEL THROUGH YOUR GAS TUBE TO CYCLE THE BOLT CARRIER. BLOW OUT ANY SMALL METAL SHAVINGS.



NOTE: BE CAREFUL AND DRILL SLOWLY TO ENSURE YOU DO NOT DRILL INTO THE OTHER SIDE OF THE INSIDE OF THE BARREL!

STEP 3: WHILE THE GAS BLOCK IS REMOVED, UNTHREAD THE GAS ADJUSTMENT SCREW IN THE FRONT OF THE GAS BLOCK UNTIL YOU CAN SEE EXPOSED THREADS ON THE SCREW. THIS WILL ENSURE THAT YOU DON'T DAMAGE THE ADJUSTMENT SCREW IN THE NEXT STEP.



STEP 4: USING THE SAME 7/64 INCH DRILL AS IN STEP 2, CAREFULLY ENLARGE THE GAS BLOCK HOLE TO MATCH THE NEW BARREL PORT DIAMETER. BLOW OUT ANY SMALL METAL SHAVINGS.



STEP 5: RETIGHTEN THE GAS ADJUSTMENT SCREW UNTIL YOU FEEL AND HEAR (7) CLICKS.

NOTE: IF YOU ARE NOT HEARING OR FEELING TACTILE CLICKS:

LOOSEN THE SIDE LOCKING SETSCREW (COUNTER CLOCKWISE) THEN TIGHTEN THE TOP SETSCREW A LITTLE (CLOCKWISE). TEST AND REPEAT UNTIL AUDIBLE AND TACTILE FEEL OCCURS WHEN ADJUSTING THE MAIN ADJUSTMENT SCREW. TIGHTEN SIDE LOCKING SET SCREW WHEN HAPPY.

STEP 6: REINSTALL GAS BLOCK ASSEMBLY ONTO BARREL AND TIGHTEN BOTTOM SETSCREWS. ENSURE THE GAS BLOCK IS ORIENTATED PROPERLY.

STEP 7: GENTLY CYCLE BOLT CARRIER FIVE TIMES (5X) TO ENSURE CARRIER IS MATING WITH THE REINSTALLED GAS TUBE WITHOUT ISSUE.

YOUR INSTALLATION IS NOW COMPLETE AND READY FOR RANGE TESTING. MINOR ADJUSTMENT OF GAS BLOCK ADJUSTMENT SCREW MAY BE NEEDED TO ENSURE OPTIMAL CYCLING. FOLLOW PROCEDURE BELOW.

TEST IF FIREARM IS CYCLING PROPERLY

LOAD 1 MAGAZINE WITH (2) RDS. CHAMBER AND FIRE FIRST ROUND.

IF BOLT DOES NOT CYCLE REARWARD ENOUGH TO PICK UP AND LOAD THE SECOND ROUND IN THE CHAMBER, THEN GAS PRESSURE IS TOO LOW. ADJUST THE GAS BLOCK (2) CLICKS HIGHER. **TURNING THE GAS ADJUSTMENT SCREW COUNTER CLOCKWISE ALLOWS MORE GAS TO FLOW TO THE BOLT CARRIER.** TEST AND CONTINUE TO ADJUST IN SMALL INCREMENTS UNTIL THE RIFLE RELIABLY PICKS UP AND FIRES THE SECOND ROUND. BOLT CATCH SHOULD ENGAGE WHEN MAGAZINE IS EMPTY.

IF BOLT CATCH IS NOT ENGAGING AFTER MAGAZINE IS EMPTY

MOST COMMON ERROR IS BOLT IS CYCLING TOO FAST. DIAL GAS BLOCK DOWN SLIGHTLY TO DECREASE BOLT SPEED BY **TURNING THE GAS ADJUSTMENT SCREW CLOCKWISE.**

INSTALL GAS KEY ON BOLT CARRIER

STOP!!

YOU **MUST** ENSURE YOUR FIREARM IS FULLY UNLOADED AND **PROVED** SAFE BEFORE USING!!
PROVE

POINT THE FIREARM IN THE SAFEST AVAILABLE DIRECTION.

REMOVE ALL AMMUNITION.

OBSERVE THE CHAMBER.

VERIFY THE FEEDING PATH.

EXAMINE THE BORE.

ONCE SAFE, YOU MAY PROCEED TO THE NEXT STEP.

TOOLS REQUIRED:

9/64 INCH HEX DRIVE [0.1406 INCH]

ADJUSTABLE TORQUE WRENCH SET TO **40-45 INCH POUNDS**

STEP 1: REMOVE COMPLETE BOLT CARRIER FROM YOUR RIFLE.

STEP 2: PLACE THE CARRIER IN VISE WITH PADDED JAWS TO PREVENT DAMAGE TO YOUR CARRIER.

STEP 3: ORIENTATE AND PLACE GAS KEY ON TOP OF CARRIER AND LIGHTLY HAND TIGHTEN BOTH #8-32 SOCKET CAP SCREWS.

STEP 4: USING A 9/64 INCH HEX DRIVE ON AN ADJUSTABLE TORQUE WRENCH SET TO 40-45 INCH POUNDS. WE RECOMMEND TIGHTENING UNTIL THE WRENCH CLICKS, THEN LOOSEN AGAIN. THEN RE-TORQUE



INSTALLATION IS NOW COMPLETE

IF BOLT CATCH IS NOT ENGAGING AFTER MAGAZINE IS EMPTY

MOST COMMON ERROR IS BOLT IS CYCLING TOO FAST. DIAL GAS BLOCK DOWN SLIGHTLY TO DECREASE BOLT SPEED BY **TURNING THE GAS ADJUSTMENT SCREW CLOCKWISE.**