

KNS Precision Inc.  
**DiSCARder**  
for  
**SCAR™ Family Firearms**  
Installation & Operation  
User Manual

**Patent Pending**

## Safety Notes

- Always obey the four laws of gun handling:
  - Treat every gun as if it were loaded
  - Do not point the muzzle at anything you are not willing to destroy
  - Always be sure of your target and what is beyond it
  - Keep your finger off the trigger until ready to fire
- Ensure the firearm is unloaded before installation
- Always wear eye protection while performing maintenance on the firearm
- Always use eye and ear protection during live fire
- Always perform gas system adjustment in accordance with the user manual procedure
- Do not make large gas system adjustments without prior incremental testing to verify safe operation

## Safety Disclaimer

The KNS adjustable gas regulator grants a much wider range of operating force to the gas system than was originally intended. As such, it is possible for inappropriate adjustment settings to drive the firing & extraction cycles beyond safe limits of operation.

**The consequences of unsafe operation can range from damage to the operating parts, to case failures capable of fatal injury.**

Always perform gas system adjustments incrementally through testing in accordance with the user manual procedure to minimize the risk of unsafe operation.

\*\*\* KNS Precision INC is NOT responsible for misuse or failure to follow user guidelines, resulting in damage to firearm \*\*\*

## Warranty Information

This product is covered by our Lifetime Warranty against manufacturer's defects and breakage during normal use of this product. For warranty issues please send an email with your contact information and product details to [info@knsprecisioninc.com](mailto:info@knsprecisioninc.com).

## About KNS Precision Inc.

KNS Precision, Inc. had its beginning in the summer of 1999, when two friends, one a master machinist, the other a firearms enthusiast, combined to produce and market new products for the AR15/M16 platform. With overwhelming success from the start, KNS Precision, Inc. has earned the firearm and shooting industry's acceptance through product innovation and customer service.

In 2006 the machinist sold his portion of the company to his nephew, who was also a master machinist and owned a local Swiss machine shop. KNS Precision, Inc. then moved four miles from its original location to the new machine shop. In 2008, the second partner retired and a portion of the company was sold to a military Veteran and local Police Sergeant who had been the company's Law Enforcement and Military representative since 2002.

The current owners have continued the strong traditions of the company while expanding company growth, customer service and product development.

KNS Precision Inc.  
112 Marschall Creek Rd.  
Fredericksburg, TX 78624  
[knsprecisioninc.com](http://knsprecisioninc.com) (830) 997-0000

# Introduction

## **Congratulations on purchasing the KNS DiSCARder!**

Upon installation, users will enjoy:

- The ability to safely use a much wider variety of ammunition
- The ability to reduce the rate of fire and bolt group velocity
- The ability to quickly adjust settings without tools
- Reduced venting of gas from the chamber area into the user's face
- Repeatable, precise adjustment positions for recording settings
- A fully-reversible, installation requiring only a bullet tip/multitool
- Corrosion-resistant, easily cleaned parts for minimal maintenance

The purpose of this manual is to walk the new user through installing the DiSCARder Adjustable Gas Regulator in their configuration of choice, safely tuning it for desired operation, and keeping it maintained.

Appendices with useful information for suggested gas system adjustments, and troubleshooting lie at the end of this manual.



# Installation Procedure

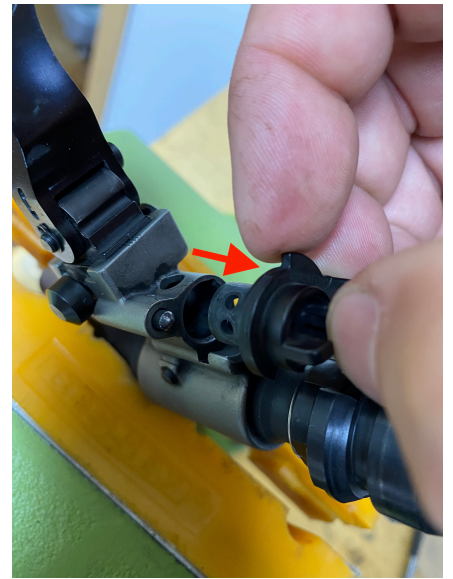
## ENSURE FIREARM IS UNLOADED BEFORE PROCEEDING

-Tools Required:

- Small Punch/tip of bullet

-Step One: Ensure firearm is unloaded before proceeding.

-Step Two: Facing the factory gas plug, rotate it clockwise until it reaches the travel stop. Then using the small punch, depress the detent located at about 10 o'clock, and continue rotating the gas plug in the clockwise direction until it stops, then remove it from the gas block.



-Step Three: Insert the KNS DiSCARder into the gas block, orient it so that the regulator drops into the gas block and then rotate counter-clockwise while depressing the detent with the small punch until the detent notch aligns with the detent. Release the detent and rotate the regulator body until the detent snaps forward into the matching notch on the regulator body.



At this point, typical installation is complete, all that is left is to test fire the weapon in all configurations to determine best setting(s).|

Included in the kit are a set of three additional gas port jets and an installation/removal tool. During testing, we noticed that our factory setup FN SCAR 16S™ would not reliably lock the bolt back on empty mag with steel-cased “range quality” ammunition.



One of the many great features of the FN SCAR™ platform is the removable gas jet component installed in the gas block between the barrel and the piston journal. These allow the hard aperture size to be changed by the user to accommodate different configurations/ammunition types.

By replacing this jet, the amount of gas supplied to the piston/regulator can be increased or decreased as needed. In order to achieve reliability with lower peak pressure, or an unusually different pressure curve - changing this jet may be required.

If the gas jet does need to be removed for any reason, start by carefully cleaning carbon off of the jet and surrounding area using an appropriate carbon cleaning product - AC Delco PN 10-3007 has worked well for us. Once the area is clean, insert the tool into the top of the gas block as shown and carefully engage the drive blade into the matching slots in the gas jet. Once fully engaged, apply torque in the counter-clockwise direction to loosen and remove the gas jet, label and bag this part for potential future use. Installation is the reverse of disassembly, tighten to 25 inch-lbs.

\*\*\* Take care so as not to strip out the gas jet's slotted head \*\*\*



If more energy is desired, install the gas jet with the next size larger port, if less energy is desired, install a smaller than factory jet. Think of this like the transfer case on a manual transmission - you are modulating the total volume of gas available for the regulator to...regulate.

So far, the only situation where this was needed was to be able to run steel case, range quality ammunition in an FN SCAR 16S™ - and have the last round bolt hold open function correctly 100% of the time. A lower peak pressure and significantly different pressure curve is likely to blame.

## Adjustment Procedure

### OBSERVE ALL RULES FOR THE SAFE OPERATION OF LOADED FIREARMS

The most important point to remember when adjusting the gas system of your firearm, is to begin from a safe starting point, and work incrementally toward the desired adjustment. The KNS DiSCARder functions by venting excess gas volume out of the regulator to reduce operating force, so the 'full closed' position most closely resembles the factory gas setting, and is a safe default setting for unsuppressed firearms shooting standard ammunition. For suppressed firearms or when shooting non-standard ammunition, excessive back pressure can result in dangerously violent operation capable of damaging the firearm or injuring the shooter. **Therefore, it is recommended that initial adjustment for any gun be done in unsuppressed semi-automatic condition, with standard ammunition.**

The laser engraved scale on the face of the DiSCARder indicates the level of energy being delivered to the piston to cycle the firearm. The detent/notch points to the position it is currently in, "0" being the lowest amount of energy delivered, "13" being the highest amount delivered.

-Step One: Begin with the firearm in the unsuppressed condition, shooting standard ammunition, and the adjustment collar turned to the full-closed position. The goal is to start as close to the 'known good' operating state the gun was in before the regulator was replaced.

-Step Two: Verify the firearm can cycle appropriately in the fully closed position. It is best to start with a full magazine to make sure the carrier momentum can overcome the friction of rounds pressed against its underside, with the selector in the semi-automatic position so the disconnecter is struck.

-Step Three: Turn the adjustment collar one (1) click toward the open position. Repeat until the weapon begins to malfunction, adjust the regulator collar one or two clicks back towards the closed setting. Load magazine with a single round and test fire to ensure bolt locks back on empty magazine. If the bolt does not lock back, close the regulator one click and repeat the test until it does lock open.

Most weapons have a setting that bridges the gap between suppressed and unsuppressed, best way to find this setting is to test the various ammunition types and accessories you intend to use.

Most weapons/suppressors also have a “perfect” setting for suppressed, and then a completely different setting to achieve “perfect” for unsuppressed. It is very helpful to test all configurations and make notes. The markings on the unit make it very easy to repeat known “good” configurations.

\*\*\*Do not be tempted to run any weapon you rely on - at the very lowest gas setting. Ammunition/weather/carbon fouling can potentially combine to rob just enough energy to cause a malfunction if the gas setting is set too close to failure point.\*\*\*