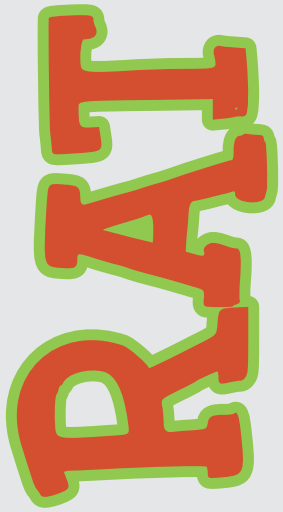
CAT/RAT/MANUAL



WARNING - MATERIAL SPECIFIC FACTS

C.A.T's RAT Titanium 300BLK suppressor comes in two configurations, each with their own separate functions. The COVERT configuration is intended for maximum signature reduction, whereas the FLOW configuration is designed to maximum gas mitigation. Both configurations ship with the same BASE module that is purpose built to mitigate blast propagation in both the near and far fields. RAT is a unique system in the C.A.T lineup that allows users to purposefully build out a solution for their use case and host firearm. Originally designed and intended for use on the Sig MCX Rattler system, the RAT is optimized for use on SIG's version of the AR-18. It is perfectly capable for use on any 300BLK platform outside of that specific use case and is an excellent suppressor for bolt actions and AR-15 style hosts as well.

Barrel Length Restrictions
C.A.T's RAT suppressor is **limited to barrel lengths of 5.5**" chambered in 300BLK (subsonic and supersonic). Note that barrel length restrictions are guidelines and users should ensure proper alignment of the suppressor as well as stability of the projectile exiting their barrel before use.

Alignment Verification
Alignment can be verified by using a properly manufactured bore alignment rod (STEP 8 below). If a field expedient alignment check is necessary, it is possible to "redneck" this step though the user accepts the risk of utilizing any imprecise method. Be removing the upper receiver and bolt carrier group, with the suppressor properly attached, the user can look down the barrel from the receiver end and visually inspect if the suppressor "shadow" is centered or if it biased toward a particular side.

Bullet Stability
The stability of the projectile you are firing through your host firearm can also be verified in the field through a "less than precise" (Read: "redneck") means. By setting up a paper/cardboard target at around 50m, fire rounds at the target. The goal here is to spread the rounds out so we can go inspect them in a minute – you're not trying to create a tight grouping. With a minimum of 10 rounds penetrating the target, inspect the holes left by the projectile. If they are round and you can poke a 300BLK projectile into the hole without any wiggle, then your projectile is fairly well stabilized. If the hole is significantly larger than the bullet (insert joke here) and you can wiggle it around, then the projectile is not maintaining a tight spiral and is yawing. Think of your sister (I know I am) trying to throw a football. If the holes left in the target are oblong or look like the bullet is going through sideways, man up, head to the gun store, and buy something that cost more. If anything other than a nice tight fit between bullet and hole in the target, your projectile is unstable and you are at risk of the bullet striking an interior surface of the suppressor... which will be embarrassing for you if it happens. The above wasn't hard to do to save you from that heartache, but no one reads owner's manuals so give us a call and we'll see what we can do to help you out.

Rate Of Fire
Full Auto or High Rates of Fire (HRF) (greater than 30 rounds per minute) are discouraged, unless in life threatening self-defense situations, as the RAT Titanium is a lightweight, high-performance suppressor dedicated to Low Rates of Fire (LRF). Ti6Al4V can maintain its mechanical properties up to approximately **752°F (400°C)**, and as high as **932°F (500°C)**, though with heavily reduced mechanical performance. Once the operating temperature threshold exceeds 800°F (427°C), C.A.T recommends a cooling down below operating temperature. Ti6Al4V has inherent material properties which give the material a lower heat conductivity rating, and the suppressor is susceptible to particle erosion and softening past operating temperature. If the user notices discoloration on the exterior discontinue use and allow it to cool down.
Do not dip the suppressor in water in an attempt to cool it down.
C.A.T recommends RAT Ti6Al4V users invest in an infrared thermometer and create their own platform specific firing schedule, based on ammunition and barrel length. It is recommended to create a firing schedule by shooting five round groups, with one second intervals between rounds, then testing the temperature of the suppressor up to the operating temperature. The user should record the cool down time until the suppressor returns to 150°F (65°C). This would become the baseline firing schedule based on the user's platform and ammunition type.

C.A.T RAT Titanium has a dedicated "waffle" style erosion interface at the end of the blast chamber. This is a sacrificial erosion wall, and users should not be concerned if they are seeing wear, this is designed to support the erosion caused by unburnt particulates (especially in short barrel platforms) and is designed to protect other internal areas inside of the suppressor.
Excessive white sparking may be noticed upon first use, this is due to microscopic Titanium dust from the Additive Manufacturing process. Over the course of use this white sparking will subside but will never fully disappear, particularly on short barrel platforms. Titanium white sparking is separate from flash and cannot be controlled by a flash hider or other methods, as it is a byproduct of Titanium being classed as a reactive metal.

CAT/RAT/5/8x24 QD

MODEL: CAT/RAT/A1
CALIBER: .300BLK
WEIGHT TITANIUM: 7.1 OZ
WITH COVERT EXT: 12.8 OZ
WITH FLOW EXT.: 13.5 OZ
OVERALL LENGTH: 4”
WITH COVERT EXT.: 7.3”
WITH FLOW EXT.: 7.5”
DIAMETER: 1.7”
MIN BARREL LENGTH: 5.5”
OPTIMIZED VELOCITY: 1000 – 2900FT/S
OPTIMIZED PLATFORM: 5.5” BARREL SIG RATTLER
TECHNOLOGY: ADAPTIVE
RECOMMENDATION: PRECISION RIFLE
FINISH: DLC
MOUNTING: 5/8×24 NANO (INCLUDED), 5/8x24 SIG TAPER NANO (INCLUDED)

INSTALLATION

STEP 1
Remove the magazine from the firearm, then visually and manually check and clear the action and chamber of the firearm. Ensure the host firearm is unloaded at all times.

STEP 2
Always ensure the barrel thread and shoulders are clean and free of debris. To install your 1x16LH QD muzzle device, clean and degrease barrel threads and make sure the barrel shoulder is also clean (PINK surfaces).

STEP 3
Ensure the 1x16LH QD muzzle device internal thread and shoulders are clean, degreased, and free of debris (GOLD surfaces). Optionally: Coat the barrel threads with a high temperature thread locker, such as Rocksett, according to that manufacturers instructions.

STEPS 4
Screw the 1x16LH QD muzzle device onto the barrel threads and torque it down with an 13/16" (.8125") wrench to 25-30ft/lb. If a thread locking compound was used, allow it to fully cure before using the suppressor on a firearm.

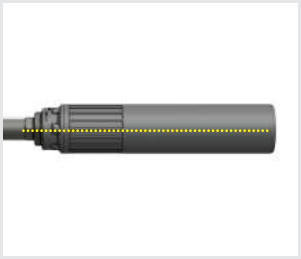
INSTALLATION

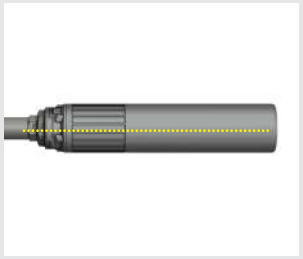
STEP 5
Inspect the muzzle device and ensure the critical surfaces are clean and free of debris (green surfaces, especially the taper shoulder).

STEPS 6
To install the C.A.T RAT onto the firearm, again ensure the firearm is completely unloaded and safe, then slide the assembly over the 1x16LH QD muzzle device and thread it on COUNTER-clockwise (left hand to tighten) and tighten the C.A.T RAT strongly by hand to the muzzle device like you don't want it to come off, tightening the C.A.T RAT fully against its taper shoulder interface. When RAT is properly installed this taper shoulder interface will prevent loosening during use.

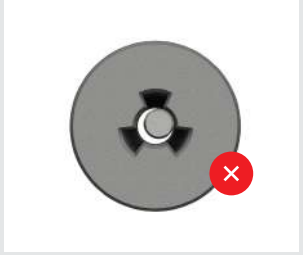
If you choose to use a thread locker between the C.A.T TSFX QD mount and the C.A.T RAT, degrease the threads and allow the thread locker to fully cure before using the firearm.

STEPS 7
Visually inspect that the C.A.T RAT with C.A.T TSFX QD mount assembly is properly installed on the muzzle device and that it's mounted straight to the centerline of the bore. Ensure the suppressor isn't canted in any way and that the C.A.T RAT is fully shouldered against the taper on the muzzle device.





STEPS 8
Use a properly made, purpose-built suppressor alignment rod to ensure the suppressor is properly mounted and concentric to the bore line.



*To remove the C.A.T RAT from the muzzle device, wait for the suppressor to cool after use, ensure the firearm is completely unloaded and safe, then unscrew the suppressor CLOCKWISE (right hand to loosen). Left hand threads are used on the 1x16LH QD muzzle devices so that when uninstalling the suppressor, the QD muzzle device will always stay on the host firearm rather than coming off and becoming stuck inside the suppressor. If you experience the TSFX mount coming loose from the RAT suppressor body, you may need to use additional torque between the two parts within spec, or you may use an optional thread locker. If you choose to use a thread locker, degrease the threads and allow the thread locker to fully cure before using the firearm.