**Titanium Rifle & Overvaller (Ti) Suppressor — Cleaning & Care Instructions**

**Safety first:** always ensure the firearm is unloaded and follow normal range and workshop safety procedures before removing or handling a suppressor. Wear eye and glove protection when cleaning.

Titanium suppressors behave differently than Inconel ones: they’re very tough but can be more sensitive to excessive carbon fouling, high heat, and some harsh chemicals. The schedule and recommendations below will help preserve performance, thread life, and finish.

**General Guidelines**

* Visually inspect the suppressor every few range sessions for excessive carbon buildup, baffle fouling, or damage.
* Always remove the hub and end cap during cleaning and check thread faces and mating surfaces for residue or debris.
* Remove small internal parts (pistons, springs, sleeves) and clean them separately — these are typically stainless steel.
* Follow the cleaner manufacturer’s directions for soak times, rinsing, and drying.
* When reassembling, verify all parts are dry and apply a light film of suitable lubricant or anti-seize to threads where appropriate.

**Approved Cleaners (examples)**

* Breakthrough Suppressor Cleaner
* Otis Suppressor Cleaner
* Simple Green® Extreme / Crystal (use non-aggressive formulas; avoid household standard formulas that can harm metals)
* Mild solvent baths (non-ammonia based, manufacturer-recommended)

**Avoid** ammonia-based cleaners, strong acids/alkalis, and products that list aluminum corrosion on the label.

**Brushes & Tools**

* Use **nylon brushes** and non-metallic picks only; metal brushes can damage threads, coatings, and mating surfaces.
* Ultrasonic cleaners and dedicated suppressor baths are acceptable for titanium — follow recommended cycle times.
* Avoid harsh abrasives, steel wool, or aggressive scrubbing that can scratch or pit the finish.

**Cleaning Intervals & Procedures**

**After 150–200 rounds — Light cleaning**

* Perform a quick inspection.
* Wipe visible carbon from accessible surfaces and confirm coatings/finish show no unusual discoloration.
* Check threads, end cap, and baffle faces for early signs of fouling.

**After 400–500 rounds — Thorough cleaning**

* Remove the hub and end cap; soak parts in an approved cleaner per the manufacturer’s instructions.
* Scrub with a nylon brush and clean small internals (pistons, springs) separately.
* Inspect end cap for strikes and baffle surfaces for abnormal erosion or fouling.

**After 800–1,000 rounds — Deep clean / maintenance**

* Perform an extended soak following cleaner guidance.
* If using an ultrasonic cleaner, keep cycles moderate (recommended 10–20 minutes per run).
* Rinse, dry completely, and lightly lubricate or apply light anti-seize to external threads before reassembly.

**Additional Notes & Best Practices**

* Rifle use (longer barrels, mag dumps, sustained strings) generates more heat and fouling — shorten cleaning intervals by ~20–30% during heavy use.
* Do not leave parts submerged longer than the cleaner manufacturer recommends. Prolonged exposure can harm finishes or small components.
* Light anti-seize or a high-temp thread grease on external threads helps prevent carbon lock — avoid filling bore paths or gas ports with grease.
* Store the suppressor dry and ventilated after cleaning.
* If you notice heavy baffle erosion, cracks, thread damage, or unusual wear, discontinue use and contact the manufacturer or a qualified gunsmith.