

LPM Master Installation Manual (Rev 2)

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info@libertyprecisionmachine.com

Part I: General Installation Reference

Covers LPM silencers in 17-4 PH stainless steel, Grade 5 titanium (Ti-6Al-4V), and Inconel 718, plus LPM muzzle devices, adapters, and accessories.

Section 1: Safety Requirements

WARNING: Always ensure the firearm is unloaded, the action is clear, and the safety is engaged before any installation procedure. Never install or remove components on a loaded firearm.

- Confirm the firearm is unloaded: remove the magazine, lock the bolt or slide open, and visually inspect the chamber.
- Engage the safety selector before beginning any work.
- Secure the firearm in a vise block before applying torque. Do not torque components while holding the firearm by hand.
- Use a calibrated torque wrench, sized for the value, for every torque spec in this manual. Do not estimate by feel unless the procedure says so.
- Confirm bore alignment with an alignment rod once the silencer is fully mounted, before firing.
- Never cool a hot silencer in water. Thermal quenching can crack components and welds. Cool in open air only.
- Use only cartridges within your silencer's caliber rating. Out-of-spec ammunition can cause damage, serious injury, or death.
- Use good quality, factory-new ammunition. Defective ammunition can cause pressure spikes and bullet failures.
- Do not fire if any component is loose, improperly installed, or misaligned.
- **Never use any LPM silencer on a rimfire firearm, except the Spark .22.** Rimfire lead fouling cannot be properly cleaned from a sealed, welded silencer.
- Silencers reduce noise but do not make a firearm hearing safe. Always wear hearing and eye protection.

- A silencer can exceed 800°F in use and stays hot long after firing. Do not touch it or set it on or near anything flammable. Let it cool before handling, or use heat-resistant gloves.

Section 2: Tools and Materials

Tools

- Calibrated ft-lb torque wrench, about 10-60 ft-lb range (muzzle devices and adapters)
- Calibrated in-lb torque wrench, about 20-200 in-lb range (front end caps at 60 in-lb).
- Vise block for your firearm platform
- Gunsmithing vise with non-marring jaws
- Silencer tube clamp for 1.75" bodies. Required to hold the silencer when installing or removing adapters or end caps. Never clamp the bare tube in vise jaws.
- 11/16" socket: all LPM muzzle devices (1/2-28 and 5/8-24)
- 13/16" socket: LPM 1/2-28 to 5/8-24 barrel thread adapter
- 3/4" socket: LPM front end caps (not used on the Torch 7.62, which has a fixed end cap)
- Socket or wrench sized for your HUB adapter's flats
- Bore alignment rod sized for your caliber
- Infrared (IR) thermometer: recommended for titanium silencers and any high-volume shooting
- Isopropyl alcohol (90%+) and lint-free cloths
- Thread pick or soft brush for cleaning threads

Thread compounds

- **Nickel anti-seize**, Loctite LB 771 or equivalent (LB 771 is rated -65°F to 2,400°F). Used on uncoated barrel threads, all 1.375-24 silencer-side adapters, front end caps, and direct-thread silencer mounting.
- **Rocksett** (Flexbar), a water-soluble ceramic adhesive. Used only on coated barrel threads (Section 3). Apply only to clean, degreased, dry threads.

NOTE: Each compound has a specific job. Do not substitute one for the other, and never mix them on one interface. See Section 5. Follow each product's Safety Data Sheet (SDS).

Section 3: Muzzle Device Installation

Applies to all LPM muzzle brakes, flash hidere, and mount-ready devices. Thread compound follows one rule: **uncoated barrel threads get nickel anti-seize; coated barrel threads get Rocksett.**

3.1 Identify your barrel threads

The barrel steel does not change the rule. For reference, the common barrel steels are:

Barrel steel	Where you see it
4140 chrome-moly	Most factory blued bolt-action barrels
4150, 4150 CMV, 41V45, 41V50 (chrome-moly-vanadium)	AR-15/AR-10 and military-pattern barrels; MIL-B-11595E is a 4150-grade spec
416R stainless	Most stainless and match barrels

Chrome lining is in the bore only; it does not count as a thread coating. Check your barrel maker's listing for the finish on the muzzle threads. If you cannot tell, use nickel anti-seize.

Barrel threads	Examples	Compound
Coated: nitride, QPQ, Melonite, phosphate/Parkerized, bluing, black oxide	Most AR barrels, black-nitrided 416R, blued factory 4140	Rocksett
Uncoated: bare stainless or bare steel	Raw 416R bolt-gun barrels	Nickel anti-seize
Not sure		Nickel anti-seize

Why: bare stainless galls under high contact pressure, and anti-seize keeps the metal surfaces apart. Coated threads resist galling, so Rocksett can be used for its added rotational retention.

3.2 Preparation

1. Remove the magazine, lock the bolt open, confirm the firearm is unloaded, engage the safety, and secure it in a vise block.

2. Remove any existing muzzle device and all washers, shims, and spacers.
3. Clean the barrel threads and shoulder of debris, carbon, and old compound. Wipe with isopropyl alcohol and let dry at least 60 seconds.
4. Clean the device's internal threads the same way.

3.3 Shoulder

WARNING: Never use a crush washer on any silencer mount interface. Crush washers can cause misalignment and baffle strikes.

Seat LPM devices directly against the barrel shoulder. LPM devices need no timing; orientation does not affect performance.

3.4 Apply thread compound

Rocksett:

1. Threads must be clean, degreased with isopropyl alcohol, and dry. Any oil or anti-seize prevents bonding.
2. Apply a small amount (about pea size) to the barrel male threads toward the end. The device spreads it as it threads on.
3. Let it cure for 24 hours before firing.
4. Removal: Rocksett is water soluble. Soaking the joint in boiling water for about 15 minutes softens it. Wear heat-resistant gloves, keep water out of the action, and dry and oil the barrel afterward.

Nickel anti-seize:

1. Apply a thin, even coat to the barrel male threads only. Use it sparingly.
2. Install the device immediately.

3.5 Torque and inspect

1. Thread the device on by hand until snug. Stop if it does not thread smoothly.
2. Torque with an 11/16" socket and a calibrated wrench to the Section 5 value.
3. Confirm the device is fully shouldered with no visible gap.

Bore alignment is checked after the silencer is mounted (Section 6), not at this stage.

3.6 Post-installation check

After the first 5-10 rounds, let the firearm cool and re-check device torque. Re-torque if it moved. If a Rocksett-installed device moved, remove it, clean the threads, and re-apply Rocksett.

Section 4: Thread Adapter Installation (Silencer Side)

All LPM silencers use a 1.375-24 HUB thread at the rear. Use nickel anti-seize on this interface for every body material. Never use Rocksett here.

The fine pitch, torqued to a shoulder, gives enough preload to retain the adapter, so a thread locker is not needed.

LPM ships every silencer-side adapter (direct thread and QD) finger tight with anti-seize already applied, not torqued. Torque it before first use.

4.1 Silencer preparation

1. Confirm the firearm is unloaded and remove the silencer.
2. Hold the silencer in a tube clamp in a vise. Never clamp the bare tube in vise jaws.
3. Inspect the 1.375-24 female threads and the adapter male threads. Clean with isopropyl alcohol and let dry. (Skip if the factory anti-seize is still clean and in place.)

4.2 Thread compound

1. Apply a thin, even coat of nickel anti-seize to the adapter male threads only.
2. Use it sparingly. Excess gets pushed into the silencer.

4.3 Installation

1. Thread the adapter in by hand. It should run smoothly; if you feel resistance, stop and check for cross-threading, burrs, or galling.
2. Run it in until hand tight and shouldered.
3. Torque to the Section 5 value for your silencer body material, using a socket sized for the adapter.
4. Confirm the adapter is fully seated with no gap.

Silencer body	Models	Torque
17-4 PH stainless	Anthem, Duty, Comp, Torch 5.56	35-40 ft-lb
Inconel 718 with welded 17-4 PH rear section	Torch 7.62, Torch 7.62 QD	35-40 ft-lb
Grade 5 titanium	Mach series	30-35 ft-lb

The Torch 7.62's HUB threads are cut in its 17-4 PH stainless rear section, so it takes the same torque as the stainless silencers.

4.4 Removal

Standard reverse torque is normally enough with anti-seize. If it is unusually tight after heavy use:

- Let the silencer cool fully to room temperature.
- Apply penetrating oil at the thread joint and let it soak 10-15 minutes.
- Use proper tools only: tube clamp and a correctly sized socket or wrench. No pipe wrenches or improvised tools.
- Contact LPM before applying excessive force.

Before reinstalling, clean both threads with isopropyl alcohol to remove any penetrating oil, then apply fresh nickel anti-seize. Do this every time the adapter is reinstalled.

Section 5: Torque and Thread Compound Reference

One table for every torqued part. All values need a calibrated wrench in its accurate range (Section 2).

Part	Mates to	Thread	Torque	Compound
LPM muzzle device, 11/16" socket	Barrel, bore up to .30 cal	1/2-28	25-30 ft-lb	Per Section 3
LPM muzzle device	Barrel, bore over .30 cal (9mm, .357)	1/2-28	15-20 ft-lb	Per Section 3
LPM muzzle device	Barrel, any bore up to .375	5/8-24	25-30 ft-lb	Per Section 3

Part	Mates to	Thread	Torque	Compound
1/2-28 to 5/8-24 barrel adapter, 13/16" socket	Barrel, bore up to .30 cal	1/2-28	25-30 ft-lb	Per Section 3
1/2-28 to 5/8-24 barrel adapter	Barrel, bore over .30 cal	1/2-28	15-20 ft-lb	Per Section 3
LPM muzzle device on the barrel adapter	Barrel adapter	5/8-24	Never more than the adapter's own torque	Nickel anti-seize
Silencer-side adapter (Rearden DTA or Atlas Gen 2)	17-4 PH stainless body, incl. Torch 7.62 rear section	1.375-24	35-40 ft-lb	Nickel anti-seize
Silencer-side adapter	Grade 5 titanium body	1.375-24	30-35 ft-lb	Nickel anti-seize
Front end cap, 3/4" socket	Silencer body	1"-24	60 in-lb (5 ft-lb), in-lb wrench	Nickel anti-seize
MBEC, MBEC wrench	Silencer body	1"-24	About 60 in-lb by feel	Nickel anti-seize
Thread protector	Plan-B device	.9"-24	Hand tight	None
Direct-thread silencer	Barrel or 5/8-24 adapter	1/2-28 or 5/8-24	Hand tight, fully shouldered	Nickel anti-seize

Muzzle device and barrel adapter torque is the same with Rocksett or anti-seize. Bores over .30 cal leave a thin wall in a 1/2-28 barrel thread, so those take less torque. A device on the barrel adapter must not exceed the adapter's torque, or it will turn the adapter tighter on the barrel.

Rules

- Never mix Rocksett and anti-seize on the same interface. Anti-seize contamination keeps Rocksett from bonding.
- Never use Rocksett on the 1.375-24 silencer-side thread or on end caps.
- Never use crush washers on a silencer mount interface.

Section 6: Mounting the Silencer

WARNING: ALWAYS CONFIRM BORE ALIGNMENT WITH AN ALIGNMENT ROD BEFORE FIRING. Misalignment can cause a baffle strike, silencer damage, and injury.

6.1 Device clearance (QD and adapters)

When a muzzle device sits inside the silencer's blast chamber, keep at least 0.1" between the front of the device and the first baffle. Check the dimensioned drawings on the LPM product pages for device projection and each silencer's blast chamber depth. Avoid long muzzle devices and recessed adapters that eat into this gap.

6.2 Direct-thread mounting

1. Remove the magazine, clear the action, confirm the chamber is empty, and engage the safety.
2. Confirm the installed adapter matches your barrel thread.
3. Apply a thin coat of nickel anti-seize to the barrel (or barrel adapter) male threads only.
4. Thread the silencer on clockwise by hand. It must run smoothly. Do not force it. If it binds, stop and contact LPM.
5. Thread it on until hand tight and fully shouldered.
6. Insert an alignment rod and confirm it passes without touching.

6.3 QD mounting (Rearden Atlas over a Plan-B device)

1. Confirm the firearm is unloaded and the muzzle device is torqued per Section 5.
2. Remove the thread protector if installed.
3. Clean the device taper and threads of carbon.
4. Slide the silencer over the device and turn clockwise until the threads draw it firmly onto the taper. Hand tight.
5. Insert an alignment rod and confirm it passes without touching.

6.4 After mounting

- Fire 1-2 rounds and re-check that the silencer is tight.
- After the first 5-10 rounds, let it cool and re-check the silencer and (where removable) the front end cap.

- Direct-thread silencers can loosen with use. Check tightness regularly. QD: re-seat if you feel any play.
- Do not touch the silencer while hot. Let it cool before removing it, or use heat-resistant gloves.

Section 7: Heat Management and Firing Guidelines

These limits are part of each silencer’s Published Ratings under the LPM Limited Lifetime Warranty. Damage from use beyond them is not covered.

Measuring temperature: use an IR thermometer on the outer tube. The tube reads cooler than the blast baffle inside, so treat these limits as limits, not targets. Cerakote’s surface color is not a reliable temperature indicator.

WARNING: Never cool a hot silencer in water. Thermal quenching can crack components and welds. Cool in open air only.

7.1 Grade 5 titanium (Mach series)

Ti-6Al-4V has lower heat tolerance than stainless. Strength drops measurably above about 600°F; above 750°F, creep and microstructure change accelerate.

Rate of fire: semi-auto. Strings of 5-10 rounds with cooling between. Short barrels make more heat and need shorter strings. **Full auto: rated with subsonic ammunition only.**

Tube temp	Action
Below 400°F	Normal operation
400-600°F	Reduce rate of fire; cool between strings
600-750°F	Stop firing; cool below 400°F before resuming
Above 750°F	Cease fire; cool fully; inspect before further use

Tip: measure tube temperature after each string and time how long it takes to return to 150°F. That is your baseline cooling interval for that host.

7.2 17-4 PH stainless, H900 (Anthem, Duty, Comp, Torch 5.56)

LPM 17-4 silencers are fully welded and heat treated to H900. Practical operating limit: 17-4 H900 retains excellent mechanical properties through approximately 800°F (427°C) for sustained use.

Full auto: all LPM 17-4 stainless silencers (Anthem series, Duty 5.56, Comp 6.5, Torch 5.56) are full-auto rated up to 800°F tube temperature. Stop full-auto fire at 800°F.

Tube temp	Action
Below 800°F	Normal operating range; keep monitoring
800-900°F	Reduce rate of fire; approaching upper limit
Above 900°F	Cease fire; cool fully; inspect before further use

H900 is aged at 900°F. Repeated or long time above 900°F over-ages the steel toward softer H950/H1025 properties. This is cumulative, so avoid long full-auto strings at extreme temperature.

7.3 Inconel 718 (Torch 7.62, Torch 7.62 QD)

The Torch 7.62 body is Inconel 718, a nickel superalloy generally used up to about 1,200°F. Its rear section, including the HUB threads, is 17-4 PH stainless welded to the Inconel body. That rear section sits at the mount end next to the blast chamber, which runs hottest, so **the 17-4 limits set the rating for the whole silencer.**

Full auto: rated up to 900°F, measured at the rear section.

Tube temp (rear section)	Action
Below 800°F	Normal operating range; keep monitoring
800-900°F	Reduce rate of fire; approaching upper limit
Above 900°F	Cease fire; cool fully; inspect before further use

Section 8: Maintenance and Cleaning

Clean every 1,000-2,000 rounds, or when the silencer has gained 1-2 oz over its clean weight, whichever comes first. Short barrels and magnums foul faster.

LPM centerfire silencers are fully welded; the baffles do not come out. Cleaning means soaking the sealed body. (Spark .22 owners: see Chapter 10.)

8.1 Baseline weight

Weigh the silencer when new, without the rear adapter, on a scale that reads to 0.1 oz. Record the weight and date here: _____. Weigh again after each cleaning.

8.2 Safety and PPE

WARNING: Nitrile gloves are NOT safe for use with Breakthrough Suppressor Cleaner. Wear butyl rubber gloves (minimum 15 mil) and splash goggles or a face shield.

- Clean only when the silencer is fully cool.
- Work in a well-ventilated area.
- Fouling contains lead. Wash your hands after handling the silencer, the cleaner, or rinse water.
- Do not eat, drink, or smoke while cleaning. Keep children and pets away from the work area.
- Wipe up residue with damp disposable towels. Do not dry-sweep it or blow it off with compressed air, which spreads lead dust.

8.3 Cleaning chemicals

Use Breakthrough Clean Suppressor Cleaner only. It is the only cleaner LPM recommends, based on LPM's long-term use on Cerakoted silencers. It is water based, ammonia free, and petroleum free.

Chemical	Status
Breakthrough Clean Suppressor Cleaner	Recommended, all LPM silencers including the Torch 7.62
CLR or any other cleaner	Do not use
Mixing cleaners	Never

8.4 Procedure

1. Remove the silencer from the firearm and confirm the firearm is unloaded.

2. Remove the front end cap (3/4" socket, tube clamp) and the rear adapter. **Torch 7.62: the end cap is fixed; remove the rear adapter only.**
3. Soak the body in Breakthrough Suppressor Cleaner. Maker's directions: about 1 hour for routine cleaning, 8-12 hours for heavy fouling.
4. An ultrasonic cleaner with the heater on gives the best results. Cerakote must never touch metal in the tank: use a plastic basket, a plastic bag, or a plastic tube to hold the silencer. Repeated ultrasonic cycles can dull Cerakote; this is cosmetic.
5. Clean the end cap and adapter separately and briefly; don't leave nitrided parts soaking.
6. Rinse thoroughly with clean water.
7. Dry completely: oven at 350°F for 30 minutes. No moisture before reassembly. Use an oven that is never used for food, since residue can contain lead. Let the silencer cool before handling.
8. Reinstall the end cap (60 in-lb) and adapter (Section 5) with fresh nickel anti-seize.
9. Weigh and record. It should be back near baseline.

8.5 Corrosion on nitrided parts

Nitriding lowers the corrosion resistance of 17-4 stainless. After cleaning or wet use, wipe nitrided devices and end caps with a thin oil and remove the excess.

8.6 Disposal

Used cleaner and rinse water contain lead and other firing residue. Do not pour them down drains, storm drains, or on the ground. Take them to your local household hazardous waste (HHW) program, and follow federal, state, and local rules.

Section 9: NFA Compliance and Warranty

9.1 NFA compliance

Your LPM silencer is regulated under the National Firearms Act (NFA). Ownership, possession, and transfer are governed by federal law and may be further restricted by state and local law.

WARNING: Always keep a copy of your approved ATF transfer documents with your silencer when transporting or using it.

9.2 Effective date

The warranty in 9.3 is effective **October 7, 2026** and applies to Covered Products purchased on or after that date. Products purchased before October 7, 2026 are covered by the prior warranty (see 9.4).

9.3 Limited Lifetime Warranty

1. Warranty. Liberty Precision Machine LLC ("LPM," "we," "us," or "our") warrants to each Owner (as defined below) that every silencer, muzzle device, adapter, end cap, and accessory manufactured by LPM, and every Rearden MFG adapter and mount sold by LPM (each, a "Covered Product"), shall be free from defects in materials and workmanship for the lifetime of the Covered Product (this "Warranty").

2. Owners; Transferability. This Warranty extends to the original purchaser and to each subsequent owner of a Covered Product (each, an "Owner"). No registration, proof of purchase, or warranty card is required. This Warranty applies to Covered Products purchased directly from LPM or through any dealer or distributor.

3. Scope of Coverage. This Warranty covers (a) defects in materials or workmanship and (b) failures occurring during normal, intended use of a Covered Product within its Published Ratings. "Published Ratings" means the caliber rating, minimum barrel length, full-automatic fire rating, and heat management limits set forth on the applicable product page and in the LPM Master Installation Manual.

4. Remedies. If LPM determines that a Covered Product contains a defect covered by this Warranty, LPM shall, at its option, repair or replace the Covered Product at no charge to the Owner, including return shipping to the Owner or the Owner's licensed dealer. If the Covered Product is no longer manufactured, LPM may replace it with a comparable current model. If federal law limits the manner in which a registered silencer may be repaired or replaced, LPM shall contact the Owner to discuss available options before performing any work. To the extent permitted by law, repair or replacement as provided in this Section 4 is the Owner's exclusive remedy under this Warranty.

5. Exclusions. This Warranty does not cover:

- (a) baffle strikes, end cap strikes, or other damage resulting from misalignment, improper installation, or loose or damaged mounts or muzzle devices;
- (b) use outside the Published Ratings, including use with calibers exceeding the rating, barrels shorter than the stated minimum length, full-automatic fire on models not rated for such use, or operation beyond heat management limits;

- (c) damage caused by out-of-specification, defective, or destructive ammunition;
- (d) modifications, alterations, or repairs not authorized in writing by LPM;
- (e) normal wear, including finish wear, heat discoloration, and gradual erosion resulting from use;
- (f) loss of or damage to any product while in transit to LPM;
- (g) damage resulting from criminal use, abuse, or intentional misuse;
- (h) merchandise and gift cards; or
- (i) products manufactured by third parties, other than Rearden MFG adapters and mounts sold by LPM. Such third-party products are subject solely to the warranty, if any, of their respective manufacturers.

6. Repairs Not Covered by Warranty. Damage excluded under Section 5, including damage resulting from a baffle strike, may be repaired by LPM at the Owner's expense. LPM may, in its sole discretion, perform such repairs at no charge. Any such accommodation shall not modify this Warranty or obligate LPM to provide a similar accommodation in the future.

7. Third-Party Components. The use of a muzzle device, mount, or adapter manufactured by a third party shall not void this Warranty. This Warranty excludes only damage caused by such third-party component.

8. Warranty Service Procedure. To obtain service under this Warranty, the Owner must:

1. contact LPM at info@libertyprecisionmachine.com before shipping any product, and provide the model, serial number, photographs, and a description of the defect. No silencer may be shipped to LPM without prior instructions from LPM;
2. obtain a return authorization number and shipping instructions from LPM; and
3. for silencers, except as provided below, include a copy of the Owner's approved ATF transfer form (Form 4, or Form 3 for licensed dealers) and a return address, and ship the product insured and with tracking via the carrier designated by LPM.

LPM shall inspect each returned product and shall notify the Owner before performing any work at the Owner's expense.

Silencers Transferred Without a Form 4. If a silencer was transferred to the Owner on ATF Form 4473 without an approved ATF Form 4, the Owner shall not ship the silencer to LPM. Federal law, including 26 U.S.C. § 5861(j), may prohibit the interstate transport of such a silencer, including for warranty service. Such silencers remain fully covered by this Warranty. The Owner shall contact LPM at info@libertyprecisionmachine.com, and LPM will advise the Owner of the lawful options available for warranty service.

9. Limitation of Damages; State Law Rights. To the extent permitted by law, LPM shall not be liable for incidental or consequential damages arising from any breach of this Warranty. Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you. This Warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

10. Warrantor. Liberty Precision Machine LLC, 1954 Main S, Dickinson ND 58601, info@libertyprecisionmachine.com

9.4 Products purchased before October 7, 2026

Covered Products purchased before October 7, 2026 remain covered by the LPM limited lifetime warranty in effect at the time of purchase, reproduced in Appendix A. The service procedure in Section 8 of 9.3 applies to all warranty claims.

9.5 Liability and Proposition 65

LPM is not responsible for damage or injury caused by misuse or unintended use of its products.

WARNING (California Proposition 65): This product can expose you to chemicals including lead, which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

Part II: Silencer Product Chapters

Each chapter lists the silencer's **Published Ratings** (caliber, minimum barrel length, full-auto rating, heat limits), which define warranty coverage. Installation, torque, heat, cleaning, and warranty are covered in Part I. Weights are the silencer body only, without the rear adapter.

Chapter 10: Spark .22 (Discontinued)

No longer produced. Kept for existing owners.

Grade 9 titanium tube, Grade 5 titanium end caps, seven 17-4 PH stainless baffles. Fully user-serviceable: the baffle stack comes out for cleaning.

Published Rating	Value
Calibers	.22 LR, .22 WMR, .22 Hornet, .17 HMR, .17 WSM, 5.7x28mm. Not rated for any other centerfire cartridge.
Minimum barrel length	None
Full auto	Rated for .22 rimfire, up to 500°F. Not rated for 5.7x28mm.
Heat limit	500°F tube temperature. Cease fire above 500°F; cool fully and inspect before further use.

Length 5.35" | Diameter 1.07" | Weight 5.2 oz | Mount 1/2-28 | Finish C-series Graphite Black Cerakote

Mounting: square-shouldered 1/2-28 barrels with threads up to .525" long. Thin nickel anti-seize on the barrel threads, hand tight and fully shouldered, then confirm alignment.

Disassembly and cleaning (every 1,000-1,500 rounds):

1. Let it cool. Remove the front end cap counterclockwise with a 15/16" socket, Dead Air Mask tool, or CGS Master Key.
2. Slide the baffle stack out; push with a wooden dowel (about 3/8") if needed. Do not lose any of the 7 baffles.
3. Soak or ultrasonic-clean the baffles in Breakthrough Suppressor Cleaner. No powered wire brushes or abrasives.
4. Tube: soak, then scrub with a nylon brush. Soaking does not hurt the Cerakote; do not put the Cerakoted tube in an ultrasonic.
5. Rinse, then dry everything completely.

Reassembly:

1. Order: 1 blast baffle (no cut through the cone), 3 skirt baffles (240° inner skirt, bore cut), 2 oval-port baffles, 1 rear baffle (no skirt, no oval port, no 3-lobed lip).
2. Baffles click together one way only; rotate each until it clicks.
3. Thin nickel anti-seize on the front cap threads; light coat of high-temperature grease on the outside of the stack.
4. Slide the stack in with the bore cut aligned to the serial number for consistent point of impact.

5. Thread the front cap on to compress the stack. Firm by hand; do not over-tighten.

Chapter 11: Anthem Series (DT and QD)

17-4 PH stainless, fully welded, heat treated to H900. C-series Graphite Black Cerakote. Removable black-nitride front end cap (1"-24, 3/4" socket, 60 in-lb). 1.375-24 HUB rear. Body wrench flats 1.5".

Model	Length	Weight	Caliber	Min barrel	Full auto
Anthem-K2	5.5"	11.8 oz	.30 cal or smaller	None	Rated up to 800°F
Anthem-S2	6.85"	14.2 oz	.30 cal or smaller	None	Rated up to 800°F
Anthem-L2	9.1"	18.8 oz	.30 cal or smaller	None	Rated up to 800°F
Anthem 38 V2	7.2"	15.4 oz	.375 cal or smaller	None; .375 CheyTac needs 30"+	Rated up to 800°F

Heat limits: 17-4 stainless, Section 7.2.

L2 on gas guns: not recommended. Back pressure is very high and can cause cycling problems, extra wear, port pop, and gas to the face. Exception: subsonic-only 300 BLK.

In the box:

- Anthem (DT): silencer with Rearden MFG Ti direct thread adapter, 5/8-24.
- Anthem QD (K2, S2, L2): silencer with Rearden Atlas Gen 2 HUB adapter, LPM Eclipse flash hider 1/2-28, LPM Liberty Bell brake 5/8-24. One device ships installed in the Atlas; the other is in a foam bag. Install the device on your barrel (Section 3) before mounting.

Mounting: Section 6. Distance to blast baffle: 1.6" (K2, S2, 38 V2).

Chapter 12: Mach Series (Titanium)

Grade 5 titanium (Ti-6Al-4V), fully welded. C-series Graphite Black Cerakote. Stainless black-nitride front end cap (1"-24, 3/4" socket, 60 in-lb). 1.375-24 HUB rear. The Mach-S and Mach-L share internal designs with the Anthem-S2 and L2. Body wrench flats 1.5".

Model	Length	Weight	Caliber	Min barrel
Mach-K	5.5"	7.4 oz	.30 cal or smaller	None; brake recommended under 14.5" with supersonic ammo

Model	Length	Weight	Caliber	Min barrel
Mach-S	6.85"	9.0 oz	.30 cal or smaller	None; brake recommended under 14.5" with supersonic ammo
Mach-L	9.1"	11.9 oz	.30 cal or smaller	None; brake recommended under 14.5" with supersonic ammo
Mach 38	7.2"	10.4 oz	.375 cal or smaller	None for .30 cal and smaller; 16" for .338/.375 cartridges over 75 gr of powder; .375 CheyTac needs 30"+
Mach 38L	9.45"	13.5 oz	.375 cal or smaller	None for .30 cal and smaller; 16" for .338/.375 cartridges over 75 gr of powder; .375 CheyTac needs 30"+

Full auto: rated with subsonic ammunition only.

Heat limits: titanium, Section 7.1. Titanium heats fast; for short barrels with rapid fire, choose a stainless Anthem.

L models on gas guns: not recommended, except subsonic-only 300 BLK (Mach-L) or subsonic 300 BLK and 9mm (Mach 38L).

In the box: silencer with Rearden MFG Ti direct thread adapter, 5/8-24. No QD package; swap in a Rearden Atlas to use LPM muzzle devices.

Chapter 13: Torch 7.62 and Torch 7.62 QD (New)

LPM's first printed silencer: an Inconel 718 body made by laser powder bed fusion (LPBF), with a 17-4 PH stainless rear section welded on. The HUB threads are in the 17-4 rear section. Optimized for small-frame gas guns and tested heavily there; it also performs very well on large-frame, high-pressure gas guns. Very low back pressure. C-series Graphite Black Cerakote. Two-stage end cap to reduce flash.

Published Rating	Value
Caliber	Up to 7.62mm (.30 cal), including .308 and .30 magnums
Minimum barrel length	None

Published Rating	Value
Full auto	Rated up to 900°F, measured at the rear section (Section 7.3)
Heat limits	Section 7.3

Spec	Torch 7.62 (DT)	Torch 7.62 QD
SKU	LPM-10025	LPM-10026
Length (without mount)	6.9"	6.9"
Weight (without mount)	18.9 oz	18.9 oz
Diameter	1.75"	1.75"
Rear thread	1.375-24 HUB (17-4 rear section)	1.375-24 HUB (17-4 rear section)
Mount included	Rearden MFG Ti direct thread adapter, 5/8-24	Rearden Atlas Gen 2
Muzzle devices included	None	LPM Liberty Bell brake 5/8-24 and LPM Eclipse flash hider 1/2-28
Blast chamber depth	1.75"	1.75"
Body wrench flats	1.562"	1.562"

The DT and QD are the same silencer; only the accessories in the box differ. Both are HUB compatible, so any industry-standard 1.375-24 HUB mount can be installed.

End cap: fixed. The Torch 7.62 has no removable or swappable end caps, and the MBEC and LPM replacement end caps do not fit it.

Mounting notes

- Adapter torque: 35-40 ft-lb (Section 5), the same as the stainless silencers, because the HUB threads are in the 17-4 rear section. Nickel anti-seize on the adapter threads.
- The 1.562" body flats are safe to torque from, but a tube clamp or vise block is less likely to scratch the Cerakote.

- Keep at least 0.1" from the front of the muzzle device to the first baffle; more is better. Avoid long muzzle devices and recessed adapters. A short device such as the LPM Baby Bell is recommended.
- QD: install the device on your barrel (Section 3), then mount per Section 6.3.

Host and ammo: some hosts and some subsonic loads may not cycle reliably. Too many factors (host, gas system, ammo) to guarantee cycling.

Cleaning: same as other LPM silencers (Section 8). The end cap is fixed, so remove only the rear adapter.

Chapter 14: Duty 5.56

Compact 17-4 PH stainless silencer, fully welded, H900. Built for moderate flow and high durability on duty and defensive rifles. C-series Graphite Black Cerakote. Removable black-nitride front end cap (3/4" socket, 60 in-lb). 1.375-24 HUB rear. Body wrench flats 1.5".

Published Rating	Value
Caliber	Any 6mm or smaller, including 5.56 NATO, .223 Rem, and .243 Win
Minimum barrel length	7.5"
Full auto	Rated up to 800°F
Heat limits	17-4 stainless, Section 7.2

Length 5.1" | Weight 11.7 oz | Diameter 1.75" | Blast chamber depth 1.8"

In the box: silencer with Rearden MFG Ti direct thread adapter, 1/2-28. Convert to QD with a Rearden Atlas. Back pressure is high enough that an adjustable gas block helps sound on a gas gun.

Chapter 15: Comp 6.5

17-4 PH stainless competition silencer, fully welded, H900. Built for PRS and similar precision competition. Intentionally heavy (21.8 oz) to move the balance point forward and reduce recoil so you can spot your own impacts. Loud by design; not recommended for hunting.

Published Rating	Value
Caliber	6.5mm or smaller, including 6.5 Creedmoor and 6.5 PRC
Minimum barrel length	7.5"
Full auto	Rated up to 800°F
Heat limits	17-4 stainless, Section 7.2

Length 7.2" | Weight 21.8 oz | Distance to first baffle 1.8"

In the box: silencer with Rearden MFG Ti direct thread adapter 5/8-24, and the MBEC (muzzle brake end cap) installed. See Chapter 21 to remove or reinstall the MBEC.

Chapter 16: Torch 5.56 (Discontinued)

No longer produced. Kept for existing owners.

17-4 PH stainless, fully welded, H900, with a nested blast baffle. C-series Graphite Black Cerakote. Ships with solid and vented black-nitride front end caps (3/4" socket, 60 in-lb). Body wrench flats 1.5".

Published Rating	Value
Caliber	6mm or smaller, including 5.56 NATO and .223 Rem
Minimum barrel length	7.5"
Full auto	Rated up to 800°F
Heat limits	17-4 stainless, Section 7.2

Length 6.2" | Weight 14.0 oz

In the box: Torch 5.56 (DT): Rearden MFG Ti direct thread adapter, 1/2-28. Torch 5.56 QD: Rearden Atlas Gen 2 and LPM Eclipse flash hider 1/2-28. Vented end caps are not sold separately; LPM keeps a few for warranty replacement.

Never use on a rimfire firearm (Section 1).

Part III: Component Guides

All LPM muzzle devices are nitrided 17-4 PH stainless, in 1/2-28 and 5/8-24 only, and use the Plan-B pattern (Rearden Atlas compatible). Install every device per Section 3 and torque per Section 5. No crush washers, ever.

Chapter 17: Eclipse Flash Hiders

Product	Threads	Notes
Eclipse	1/2-28, 5/8-24	
Eclipse-L	1/2-28, 5/8-24	
Eclipse 13.7" pin-and-weld	1/2-28, 5/8-24	Same projection as the Eclipse-L; extra length is behind the threads. Pin and shims not included.
Eclipse 14.5" pin-and-weld	1/2-28, 5/8-24	Same projection as the standard Eclipse; extra length is behind the threads. Pin and shims not included.

- Bore: .30 cal on all Eclipse models. WARNING: never use an Eclipse with 9mm or anything larger than .30 cal. The bullet will hit the flash hider.
- Socket: 11/16" on the forward hex (preferred). The 13/16" rear hex is not the install point.
- No timing required.
- Pin-and-weld versions work safely without being pinned. If you pin and weld, confirm alignment and orientation first; welding is permanent.
- Unsuppressed, the Eclipse can show flash on short barrels. It is designed as a sacrificial blast surface for the silencer, not as a dedicated flash suppressor.

Chapter 18: Liberty Bell and Baby Bell Muzzle Brakes

Product	Threads	Bore	Rated for
Liberty Bell	1/2-28, 5/8-24	.334"	.30 cal and smaller only

Product	Threads	Bore	Rated for
Baby Bell	1/2-28, 5/8-24	.395"	Up to .375 cal, including 9mm and .357

- **WARNING:** never use a Liberty Bell with 9mm or anything larger than .30 cal. The bullet will hit the brake.
- Socket: 11/16" on the front hex. No timing required. Seat directly on the barrel shoulder.

Chapter 19: Front End Caps

End cap	Use with
Standard .30 cal	.30 cal and smaller
6.5mm (.312" bore)	6.5mm and smaller only
.375 cal	.375 cal and smaller

LPM end caps use LPM's own 1"-24 thread and taper and fit only LPM silencers (Anthem, Mach, Duty, Comp, Torch 5.56, and the 38 series). They do **not** fit the Torch 7.62, whose end cap is fixed.

WARNING: the end cap bore must match or exceed your cartridge's caliber. A smaller-bore cap on a larger caliber will cause an end cap strike.

Removal

1. Remove the silencer and let it cool fully.
2. Hold it in a tube clamp in a vise.
3. Turn the end cap counterclockwise with a 3/4" socket.
4. Clean the threads on the cap and the silencer with isopropyl alcohol.

Installation

1. Thin coat of nickel anti-seize on the end cap threads.
2. Thread it in by hand until snug.
3. Torque to 60 in-lb with a 3/4" socket and an in-lb torque wrench.
4. Confirm it is fully seated and the bore is clear and centered before firing.

Chapter 20: Thread Adapters

Adapter	Side	Ships with	Install
Rearden MFG Ti direct thread adapter (1/2-28 or 5/8-24)	Silencer	All LPM DT silencers	Section 4
Rearden Atlas Gen 2 HUB adapter (Plan-B QD)	Silencer	All LPM QD silencers	Section 4
LPM 1/2-28 to 5/8-24 thread adapter (17-4 stainless)	Barrel	Sold separately	Section 3, 13/16" socket, torque per Section 5

The barrel-side adapter converts a 1/2-28 barrel to 5/8-24 so a 5/8-24 direct-thread silencer can mount.

Chapter 21: MBEC (Muzzle Brake End Cap)

Variant	Fits	Wrench
LPM 1"-24	LPM Anthem (.30), Mach (.30), Duty, Comp, Torch 5.56	Included
Dead Air front cap thread	Dead Air silencers	Included
OCL Infinity thread	OCL Infinity	Supplied by OCL with the silencer

- Bore .375"; for .30 cal and smaller only.
- Does **not** fit the Anthem 38 V2, Mach 38, Mach 38L, or Torch 7.62.
- **WARNING:** for PRS and precision competition only. Not recommended for hunting. The side ports vent gas sideways and greatly increase blast to the sides.

Install

1. Remove the standard end cap (Chapter 19). Clean the threads.
2. Thin coat of nickel anti-seize on the MBEC threads.
3. Thread in by hand, then tighten with the MBEC wrench to about 60 in-lb by feel; the wrench has no torque-wrench provision.

4. Confirm it is seated on the taper. A small gap between the MBEC and the front face of the body is normal on the LPM and Dead Air variants.
5. Confirm the bore is clear and aligned before firing.

To go back to the standard cap: remove the MBEC with its wrench, apply fresh anti-seize, and install the standard cap at 60 in-lb.

Chapter 22: Thread Protector

LPM thread protector, .9"-24, Plan-B thread and taper. 17-4 H900 stainless, black nitride. Protects the threads and taper of a Plan-B device (such as an Eclipse) when no QD silencer is mounted.

1. Thread it on clockwise by hand until snug and seated on the taper. Hand tight only.
2. Shooting with it installed is fine; check that it has not worked loose.
3. Remove it before mounting a QD silencer, and clean the threads and taper first.

Appendix A: Prior Warranty (Products Purchased Before October 7, 2026)

The text below is the warranty from the LPM Master Installation Manual dated May 28, 2026. It applies to products purchased before October 7, 2026 (see Section 9.4).

Lifetime Warranty. Liberty Precision Machine LLC provides a limited lifetime warranty against all manufacturing defects and damages caused by normal use. LPM LLC will repair or replace free of charge any silencer found to have a covered manufacturing defect.

- Manufacturing defects in materials and workmanship
- Damage resulting from normal, intended use of the product

Warranty Exclusions.

- Modifications not authorized by LPM LLC
- Abuse or neglect: usage outside the reasonable scope for which the product is intended
- Use of destructive, non-standard, or out-of-spec ammunition
- Criminal conduct
- Damage resulting from improper installation, including failure to follow this manual
- Thermal damage from use outside the heat management guidelines

Service and Returns. Do not ship any NFA item to LPM LLC without first contacting a representative. Include a copy of your ATF transfer documents with any shipment.
Contact: info@libertyprecisionmachine.com