GUARDIAN DEFENSE MFG.

GDM® 50

BIG BORE SUPPRESSOR

OWNER'S, MOUNTING & OPERATING INSTRUCTIONS

Silent Defense. Loud Impact.®

WARNING **Read and understand this manual completely before installing or using any GDM® 50 suppressor. Improper installation, alignment, mounting, ammunition selection, or maintenance can cause suppressor damage, firearm damage, serious personal injury, or death.**

Document	Details
Document	GDM® 50 Owner's, Mounting & Operating Instructions
Models	GDM® 50
Mounting	Direct Thread / HTI / GDM QD
Revision	Draft Rev. A
Effective Date	July 2026

1. IMPORTANT SAFETY INFORMATION

Read and understand these instructions completely before installing or using a GDM® 50 suppressor.

WARNING	**Follow all firearm safety rules and verify the firearm is unloaded before installation, removal, inspection, or service.**

- Always treat every firearm as if it is loaded.
- Keep the firearm pointed in a safe direction.
- Remove the magazine, open the action, and physically verify the chamber is empty.
- Never install or remove a suppressor from a loaded firearm.
- Never fire through a suppressor that is loose, damaged, obstructed, or improperly aligned.
- Never use a crush washer behind a suppressor or direct mount.
- Verify projectile stability before suppressor use.
- Wear appropriate eye and hearing protection.
- Suppressors become extremely hot during firing; do not touch a hot suppressor with bare skin.

2. PRODUCT OVERVIEW

The GDM® 50 is a large-bore suppressor engineered for high-energy applications, including .50 BMG-rated platforms when properly configured and aligned. It uses fusion-welded 6Al-4V Grade 5 titanium, is approximately 18.125 inches long, weighs approximately 3 lb. 13 oz., and has a Cerakote finish. Specifications may vary by production revision and configuration.

3. MODEL COMPARISON

Model	Construction	Use profile	Key distinction
GDM® 50	Fusion-welded 6Al-4V Grade 5 titanium	High-energy applications, including approved .50 BMG-rated platforms	Approx. 18.125 in.; 3 lb. 13 oz.; Cerakote
Integrated brake	Front lock nut	Angled ports at 3 and 9 o’clock, directed rearward toward shooter	Hold indexed position while locking
HTI mount	1-7/16-18	Compatible Desert Tech HTI-type applications	Verify exact host configuration
GDM QD	7/8-14, 1-14, or 25 mm x 1.5 muzzle device	Use only approved GDM components	Time with precision shims when required

Ratings apply only within Guardian Defense Mfg.’s current barrel-length, ammunition, and firing-schedule limits. Confirm those limits before use.

4. CARTRIDGE, HOST & MOUNT COMPATIBILITY

Use only ammunition and host configurations expressly approved by Guardian Defense Mfg. for the specific suppressor model. Compatibility must be confirmed for the exact cartridge, barrel, load, and suppressor model:

Cartridge / chamber	Status	Required verification
Approved .50 BMG-rated and smaller centerfire applications	Per current GDM compatibility list	Model, barrel length, twist, projectile stability, pressure, and load
Subsonic / supersonic ammunition	Only as approved for the exact host and model	Projectile stability and current barrel-length / firing-schedule limits
Unlisted cartridges or loads	Not approved by this manual	Obtain written GDM approval before use

IMPORTANT	Bullet diameter alone does not establish compatibility. Pressure, projectile stability, barrel length, twist rate, thread geometry, ammunition quality, and suppressor model all affect safe use.

5. AVAILABLE MOUNTING CONFIGURATIONS

Depending on the ordered configuration, use the approved GDM direct-thread mount, HTI mount, or GDM muzzle device and QD mounting system for the host firearm's actual threads and shoulder geometry.

Approved GDM 50 Configurations

• Direct thread: 7/8-14 or 1-14 • HTI: 1-7/16-18 • GDM QD muzzle device: 7/8-14, 1-14, or 25 mm x 1.5

• Use only the exact GDM direct mount that matches the host barrel thread pitch and shoulder geometry.

NO CRUSH WASHERS	**Never use a crush washer. If QD muzzle-device timing or spacing is required, use properly fitted precision shims or another GDM-approved method.**

6. PRE-INSTALLATION INSPECTION

1. Unload the firearm completely and remove the magazine.
2. Open the action; visually and physically verify the chamber is empty.
3. Inspect barrel threads, shoulder, direct mount, and rear suppressor threads.
4. Remove carbon, chips, burrs, dirt, excess thread compound, and other debris.
5. Verify the suppressor bore is unobstructed.
6. Confirm the mount matches both the host firearm and suppressor.

STOP	**Do not proceed if any component is damaged, obstructed, incompatible, or questionable.**

7. INSTALLATION

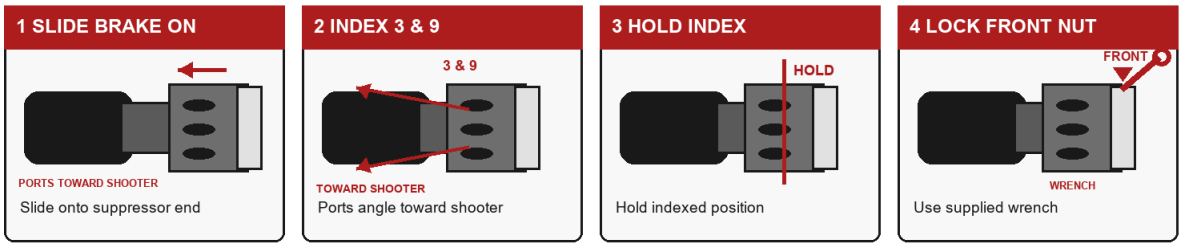
INDEXING THE INTEGRATED BRAKE & LOCKING IT SECURELY

1. Confirm the suppressor is cool, the firearm is unloaded, and the bore is unobstructed.
2. Slide the brake onto the end of the suppressor with the angled brake ports directed rearward toward the shooter.
3. Index the brake so the angled ports are correctly positioned at 3 and 9 o'clock, then hold the brake in that indexed position.

4. After indexing the brake to the correct 3 and 9 o'clock position, tighten the front lock nut with the supplied wrench to secure it.
5. Verify the brake remains in the indexed position and the front lock nut is fully seated and secure.

INSTALLING THE SUPPRESSOR ON THE APPROVED MOUNT

1. Start the suppressor onto clean barrel threads by hand.
2. Rotate slowly; stop if resistance, binding, or cross-threading is felt.
3. Continue until the suppressor seats fully and squarely against the proper shoulder.
4. Secure firmly and perform a light hand check.
5. Perform a bore-alignment check before firing.



WARNING	**Never fire if the suppressor is partially threaded, loose, improperly seated, or misaligned.**

8. BORE ALIGNMENT CHECK

With the firearm unloaded and the suppressor fully installed, insert the correctly sized straight alignment rod through the suppressor and into the barrel bore. Observe clearance at the suppressor exit.

DO NOT FIRE	**If the rod contacts the suppressor bore or appears significantly off-center, remove the suppressor and inspect the complete mounting system. Contact Guardian Defense Mfg. if alignment remains questionable.**

9. FIRST-FIRE PROCEDURE

1. Keep the firearm unloaded until ready to fire.
2. Verify the mount and suppressor are fully seated and secure.
3. Complete the bore-alignment check.
4. Load one round only and fire from a safe position.
5. Unload and inspect the system.
6. Confirm the suppressor and mount remain secure and show no evidence of projectile contact.
7. Inspect the target for abnormal impact behavior.
8. If normal, continue firing while periodically checking mount security.

10. ACCURACY & POINT-OF-IMPACT SHIFT

A repeatable point-of-impact shift may occur when a suppressor is installed. A major, erratic, or changing accuracy loss is not normal.

1. Stop firing and unload the firearm.
2. Verify suppressor and direct-mount tightness.
3. Inspect for projectile contact and perform another alignment check.
4. Verify square seating before resuming fire.

11. MODEL & FIRING GUIDANCE

Model	Heat / firing guidance
GDM® 50	High-energy cartridges create significant heat, pressure, recoil, and vibration. Allow adequate natural cooling between firing strings.
Mount and integrated brake	Periodically verify suppressor tightness, QD engagement, muzzle-device security, and positive brake retention.
All configurations	Recheck bore alignment after mount changes, host changes, impact, suspected loosening, or unexplained point-of-impact shift.
HOT SURFACE	**All suppressors can cause severe burns and ignite nearby combustible material. Never cool a hot suppressor by immersing it in water or another liquid.**

12. PERIODIC MOUNT CHECKS

Periodically verify suppressor tightness, direct-mount security, full shoulder seating, and the absence of abnormal movement. If anything loosens: stop firing, unload, cool, correct the condition, and recheck alignment.

13. REMOVAL

Removing the Suppressor from the Firearm

1. Unload the firearm completely.
2. Allow the suppressor to cool naturally.
3. Secure the firearm safely.
4. Rotate the suppressor in the removal direction; use the approved wrench when applicable.
5. Remove it without damaging barrel threads.
6. Inspect barrel and mount threads after removal.

Removing or Changing the Direct Thread / HTI / GDM QD

1. Confirm the suppressor is completely cool.
2. Secure it using a safe, non-damaging method.
3. Use the supplied or approved mount wrench when applicable.
4. Rotate and remove the mount carefully.
5. Inspect and clean mount and rear suppressor threads before installing another compatible mount.

HOT SURFACE	**Never attempt to remove a dangerously hot suppressor with bare hands.**

14. CLEANING & MAINTENANCE

Do not disassemble welded suppressor components unless specifically authorized by Guardian Defense Mfg.

Routine Maintenance

- After cooling, wipe down the exterior with a clean cloth.
- Inspect the suppressor bore for obstructions.
- Inspect barrel, mount, and rear suppressor threads.
- Remove loose carbon and debris from accessible mounting surfaces.
- Check for impact, erosion, cracking, corrosion, or abnormal wear.
- Store clean and dry in a ventilated location.

Do Not

- Cut open the suppressor or remove welded components.
- Drill, modify, or probe internal components.
- Use aggressive chemicals or cleaning methods that may damage the material or finish.
- Fire with a bore obstruction or continue after a suspected baffle or end-cap strike.

SERVICE	If damage or abnormal wear is suspected, discontinue use and contact Guardian Defense Mfg. before firing again.

15. AMMUNITION & PROJECTILE STABILITY

Use only high-quality ammunition appropriate for the firearm and approved suppressor application. Before suppressor use—especially with a new firearm or ammunition combination—fire the host without the suppressor and inspect the target for clean, stable bullet impacts.

- Do not use ammunition showing unstable projectiles or keyholing.
- Do not use damaged or improperly loaded cartridges.
- Do not use ammunition with suspected bore incompatibility.
- Do not use remanufactured, reloaded, frangible, or specialty ammunition unless specifically approved for the application.

16. TROUBLESHOOTING

Condition	Possible cause	Required action
Will not thread smoothly	Wrong pitch, dirt, burr, damage, cross-threading	Stop. Remove, inspect, clean, and confirm compatibility. Never force threads.
Becomes loose during firing	Insufficient seating, contamination, vibration	Stop firing. Unload, cool, inspect, reinstall, and recheck alignment.
Significant accuracy loss	Loose mount, misalignment, harmonics, projectile contact	Stop firing and inspect the complete system before reuse.
Suspected baffle / end-cap strike	Misalignment, instability, obstruction, loose mount	Stop immediately. Do not continue use. Contact GDM.
Extreme heat / visible glow	Firing schedule exceeded	Stop firing. Keep clear of combustibles and allow natural cooling.

17. WARRANTY & SERVICE

Coordinate warranty evaluation and repair directly through Guardian Defense Mfg. Do not attempt unauthorized structural repair or modification.

When requesting service, provide:

- Suppressor model and serial number
- Host firearm make, model, barrel length, and barrel thread pitch
- Direct mount used
- Ammunition type and approximate round count
- Description of the issue and photographs when applicable

DO NOT FIRE	**Visible contact, cracking, deformation, an obstructed bore, or persistent alignment doubt requires immediate discontinuation of use.**

18. FINAL PRE-FIRE CHECKLIST

- ☐ Firearm, cartridge, barrel length, and suppressor model are compatible
- ☐ Correct GDM direct-thread, HTI, or QD mount is installed
- ☐ Mounting system is secure; brake ports are at 3 and 9 o'clock facing the shooter; front lock nut is seated
- ☐ No crush washer is present
- ☐ Barrel threads and shoulder are clean and undamaged
- ☐ Suppressor is fully installed and secure on the firearm
- ☐ Bore is unobstructed
- ☐ Alignment has been verified
- ☐ Projectile stability has been confirmed
- ☐ Eye and hearing protection are in use
- ☐ Safe firing direction and backstop are confirmed

DO NOT FIRE	**If any item cannot be confirmed, do not fire**

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For technical support, warranty evaluation, mounting assistance, replacement components, or service questions, contact Guardian Defense Mfg.

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DOCUMENT CONTROL

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NOTICE: Guardian Defense Mfg. reserves the right to revise product specifications, approved cartridges, barrel-length requirements, direct mounts, accessories, firing schedules, and instructions as product designs evolve.