



**TICON**



**SUPPRESSORS**



# THE EVOLUTION OF TiON PREMIUM TITANIUM SUPPRESSORS



## Freedom Armory

Freedom Armory Inc. was formed in 1993 with the intent of creating a full service, premier training, shooting, retail firearms and gunsmithing facility. Over the past 25 years we have morphed from a modest 1000 sq. ft. retail facility to a 23,000 sq. ft. state-of-the-art operation and manufacturing complex. Twenty-three years ago, Freedom Armory became a Class III dealer selling silencers, machineguns and short barreled rifles. As a Class III dealer, the thought of starting a manufacturing division with its core objective being the reinvention of the sound suppressor became increasingly attractive. As the evolution of suppressors in the marketplace unfolded, we had a “gut feeling” that we could do it better.

## Freedom Armory Machine Works

In December 2012 the idea, belief, and dream became a reality as Freedom Armory Machine Works, a division of Freedom Armory, Inc. was formed. In this short time what many said was impossible, has been accomplished. Facilities have been built and expanded, highly skilled machinists/designers/engineers have been hired, top end CNC equipment and software, selected and integrated to create our proven, unique design.

Our extensive prototyping and testing has resulted in the manufacturing of our revolutionary Minuteman, Grenadier and Dragoon Family of Suppressors.

## TiON

On January 2, 2019 TiON Inc. was formed from the Freedom Armory Machine Works division of Freedom Armory Inc. Over time it became clear that the manufacturing activity must become its own entity with its own identity. While the name has changed, in this catalog you will see the same product and the same support by the same people but with new branding.

TiON Corporation looks forward to supporting our customers with the same gusto and enthusiasm as before, but with a new name.

# THE TECHNOLOGY BEHIND OUR SUPPRESSORS

- **Total Breakdown Technology (TBT)**

*TBT design allows every suppressor component to be removed from the suppressor tube / body for the ease of cleaning / servicing each suppressor component.*

*TiON suppressor technology allows the consumer to completely disassemble all suppressor components for cleaning and maintenance without any special tools or manufacturing equipment. All parts including the piston housing, baffles and other piece parts disassemble and so provides an unobstructed, smooth suppressor tube to be accessible for cleaning. As a result, the cleaning process is enhanced due to the ability to access all part surfaces.*

- **Quick Detach Technology (QD)**

*Our Proprietary QD Mounting System eliminates Point of Impact (POI) issues associated with mounting systems using course threads / ratcheting attachment methods. TiON's robust system accomplishes the mating of the rifle mount to the suppressor with two beveled and parallel shoulders against its counterpart surfaces in the muzzle end of the suppressor body. Additionally, the surfaces are maintained in tight interface with the use of a special retention nut which pulls the surfaces together and locks them in place until removal. One handed attachment and / or removal is achieved in one to two seconds.*

- **Gas Indexing Technology (GIT)** [U.S. Patent 9,410,761]

*Historically, consumers have been required to use any given suppressor in a fixed design configuration determined by the manufacturer. GIT fundamentally changes this dynamic. GIT allows the consumer to reconfigure the suppressor baffle stack for improved sound reduction capabilities on different host firearms. Because of the pressure differences created by the length of the barrel, the ability to configure and reconfigure the baffle ports in relation to each other affects the silencer sound reduction performance. GIT allows the rotational orientation of baffles as one relates to the next in a given baffle stack for the purpose of improving sound reduction as the consumer transfers a given suppressor from a high pressure to a low pressure or low pressure to high pressure host firearm. A specific example of the performance improvement is the .22LR handgun versus the .22LR rifle. When the suppressor baffle ports are aligned in a straight orientation they perform best on the handgun (high pressure); and when the baffle stack orients each successive baffle (turned) 90 degrees creating a spiral configuration, they perform best on the rifle (low Pressure). Thus, the consumer can reconfigure the baffle ports any number of times as he / she transfers the suppressor back and forth between a handgun and a rifle.*

*GIT Technology applies to TiON's rimfire and pistol caliber handgun / rifle suppressors but does **NOT** apply to the centerfire rifle caliber suppressor line. The internal pressures of centerfire rifle calibers are such that this technology is not applicable.*





# MINUTEMAN RIMFIRE & GRENADEIER®

## HANDGUN CALIBER SUPPRESSORS

### Minuteman & Grenadier®

TION has revolutionized modern suppressor technology with the introduction of the Minuteman and Grenadier suppressors. Both use our patented \*Gas Indexing Technology (GIT). GIT allows the rotational orientation of baffles as one relates to the next in a given stack to take advantage of differences in pressures between handguns and rifles. This provides optimum sound reduction on a host of different firearms as you re-configure stacks when transferring the suppressor between a handgun and a rifle. \* [U.S. Patent 9,410,761]

### Minuteman & Grenadier Benefits

- TBT allows 100% of Parts to be disassembled for easy cleaning.
- Extreme strength/durability derived from 100% Titanium Construction.
- Field strip and assemble with standard tools.
- Available in Black, FDE or Natural Polished Titanium finishes.





# DRAGOON® 5.56mm, 7.62mm CQB & 7.62mm

## RIFLE SUPPRESSORS

### Dragoon® Suppressors

In a market where heavy, welded, non-servicable suppressors are the norm, the TiON Dragoon family of suppressors are machined from solid Titanium bar stock.\* This eliminates any welds/failure points and creates extremely durable and light weight suppressors. All feature Total Breakdown Technology (TBT), allowing the user to remove, clean and service ALL components. Top rated sound reduction is achieved throughout caliber ranges creating a truly universal suppressor for your many caliber needs.

*\* Excluding the Dragoon .450B*

### Dragoon Benefits

- *TBT allows 100% of Parts to be disassembled for easy cleaning.*
- *Extreme strength/durability derived from 100% Titanium Construction.*
- *Field strip and assemble with standard tools.*
- *Available in Black, FDE or Clear Gunmetal Cerakote finishes.*





# FEATURES & TECHNICAL SPECIFICATIONS

## DRAGOON 5.56mm, 7.62mm CQB & 7.62mm FEATURES

- 5.56 is rated from .22LR thru 22-250 caliber.
- 7.62 CQB is rated from .22LR thru .308/7.62 NATO.
- 7.62 is rated from .22LR thru .300 Wby Mag.
- Configured in both Direct Attach (DA) and Quick Detach (QD) models. (7.62 CQB is available in Quick Detach only)
- Proprietary flash hider/QD mount creates rock solid, fast and light weight Titanium lock-up.
- Robust mounting system allows one handed installation or removal in 2 seconds.

Feature		5.56 DA	5.56 QD	7.62 CQB	7.62 DA	7.62 QD
Caliber	.22LR (Full Auto)	●	●	●	●	●
	FN 5.7 (Full Auto)	●	●	●	●	●
	5.56mm	●	●	●	●	●
	(Limited Full Auto)					
	.22-250	●	●	●	●	●
	.308/7.62 NATO			●	●	●
	(Limited Full Auto)					
6.5 Creedmoor				●	●	
.300 Wby Mag				●	●	
Length		6.75"	7.5"	7.5"	8.75"	9.5"
Diameter		1.375"	1.375"	1.375"	1.375"	1.375"
Weight		9.66 oz	10.96 oz.	11 oz.	11.46 oz.	12.95 oz.
Sound	.22LR Std Vel <sup>1</sup>	116dB	116dB	120dB	120dB	120dB
	FN 5.7 <sup>2</sup>	126dB	126dB	129dB	129dB	129dB
Pressure Level	5.56mm <sup>3</sup>	132dB	132dB	137dB	133dB	133dB
	5.56mm <sup>3</sup> (Heard @ Ear)	127dB	127dB	129dB	127dB	127dB
	.300 Blk Sub <sup>4</sup>			127dB	124dB	124dB
	.300 Blk Sub <sup>4</sup> (Heard @ Ear)			125dB	122dB	122dB
	.308/7.62 NATO <sup>5</sup>			138dB	135dB	135dB
	.308/7.62 NATO <sup>5</sup> (Heard @ Ear)			132dB	132dB	132dB
	6.5 Creedmoor <sup>6</sup>				138dB	138dB
	6.5 Creedmoor <sup>6</sup> (Heard @ Ear)				131dB	131dB
	.300 Wby Mag <sup>7</sup>				144dB	143dB
.300 Wby Mag <sup>7</sup> (Heard @ Ear)				136dB	135dB	
Material	6AL-4V Annealed Titanium	●	●	●	●	●
	QD Spring – Stainless		●	●		●
	Compression Bushing – Brass	●	●	●	●	●
MSRP	Finish	Item No.	Item No.	Item No.	Item No.	Item No.
	Black Cerakote	D5B \$895.00	D5QB \$1095.00	D7CB \$1235.00	D7B \$1095.00	D7QB \$1295.00
	FDE Cerakote	D5F \$895.00	D5QF \$1095.00	D7CF \$1235.00	D7F \$1095.00	D7QF \$1295.00
	Clear Gunmetal Cerkt.	D5G \$895.00	D5QG \$1095.00	D7CG \$1235.00	D7G \$1095.00	D7QG \$1295.00

*Note: DA 7.62mm Dragoon has a 5/8X24 thread pitch and requires a barrel threaded for 5/8X24 to accommodate calibers less than .30 caliber.*

### Barrel Length and Ammunition Used in Mil-Std 1474D Test @ 1 Meter

Barrel Length	Ammunition	Grain
1 20"	.22LR CCI Standard Velocity	40gr
2 10"	FN SS197SR	40gr
3 22"	M855	62gr
4 16"	Sig Sauer .300 Blk Subsonic	220gr
5 20"	Fed .308 Gold Metal	175gr
6 22"	ELD-X	143gr
7 24"	Weatherby Select Ultra High Velocity	180gr



# DRAGOON® .450B & .338

## RIFLE SUPPRESSORS

### Dragoon® .450B

The Dragoon.450B is a Direct Attach (DA) model that utilizes both Total Breakdown Technology (TBT) and Gas Indexing Technology (GIT) baffle design.\* GIT allows rotational orientation of baffles to provide optimum sound reduction capabilities for the .45 ACP, .40SW and 9mm pistol calibers shot from a rifle.

The .450B comes standard with a 11/16 X 24 mount. Four optional mounts are available including 5/8 x 32, 1/2 x 28, 1/2 x 36, 5/8 x 24 and .578 x 28. Top-rated sound reduction is achieved in the primary .450B and .458 SOCOM calibers and secondary calibers of 9mm and .300 Blk. .308 is hearing safe at the ear.

\* [U.S. Patent 9,410,761]

### Dragoon .338

The .338 QD is configured as a Quick Detach (QD) model and also features (TBT) technology. Extremely durable and light weight, this suppressor can be serviced down to the piece parts. Top-rated sound reduction is achieved across the entire caliber range creating a truly universal suppressor for your many caliber needs.



# TICON



# FEATURES & TECHNICAL SPECIFICATIONS

## A DRAGOON .450 BUSHMASTER (.450B) FEATURES

- Patented GIT baffles are configurable by operator. (For pistol calibers only)
- Rated for a long list of Bolt Action calibers .22LR thru .450B caliber.
- Breakthrough dB Reduction in .450B, .458 SOCOM and 9mm Luger.
- Interchangeable direct thread barrel mounts can be tightened/removed with standard sockets.

## B DRAGOON .338 FEATURES

- Rated from .22LR thru .338 caliber.
- Proprietary flash hider/QD mounts creates rock solid, fast and light weight (Titanium) lock-up.
- Robust mounting system allows one handed installation or removal in 2 seconds.
- QD Mounts and Muzzle Break Mounts available in 1/2X28, 5/8X24 & 3/4X24 threads.

Feature (See details below)	.450B
<b>Caliber</b> .22LR (Full Auto) All Rimfire All Centerfire Rifles chambered in Pistol .45 diameter or smaller (Full Auto for 9mm and 45ACP) .300 Black Out (Subsonic and Supersonic) .308 Win bolt action .450 Bushmaster bolt action and Semiautomatic .458 SOCOM bolt action and Semiautomatic (Subsonic and Supersonic)	● ● ● ● ● ● ● ●
<b>Length</b> 10.375 inches	
<b>Diameter</b> 1.375 inches	
<b>Weight</b> 11.8 to 12 oz. (depending on the mount used)	
<b>Sound</b> .9mm <sup>1</sup>	121dB
<b>Pressure</b> .300 Blk Subsonic <sup>2</sup>	124dB
<b>Level</b> .300 Blk Supersonic <sup>3</sup> .308 Win. <sup>4</sup> .308 Win. <sup>4</sup> (Heard @ Ear) .350 Legend <sup>5</sup> .350 Legend <sup>5</sup> (Heard @ Ear) .458 SOCOM <sup>6</sup> Subsonic .458 SOCOM <sup>7</sup> Supersonic .450 Bushmaster <sup>8</sup> .450 Bushmaster <sup>8</sup> (Bolt Gun Heard @ Ear)	134dB 141dB 135dB 139dB 136dB 133dB 139dB 138dB 133dB
<b>Material</b> 6AL-4V Annealed Titanium GR9 Ti-Tube	
<b>MSRP</b> <b>Finish</b> <b>Item No.</b>	
Black Cerakote	D450BB <b>\$1150.00</b>
FDE Cerakote	D450BF <b>\$1150.00</b>
Clear Gunmetal Cerakote	D450BG <b>\$1150.00</b>
<b>MSRP</b> <b>Additional Mounts</b> (See Accessories Page)	<b>\$140.00</b>

Feature (See details below)	.338 QD
<b>Caliber</b> All Rifle calibers from .22LR thru .338 Lapua Magnum	●
<b>Length</b> 9.5 inches	
<b>Diameter</b> 1.75 inches	
<b>Weight</b> Suppressor: 22.75 oz. 5/8x24 Break/Mount: 2.59 oz. 5/8x24 Mount: 1.98 oz.	
<b>Sound</b> .22LR Std Vel <sup>1</sup>	115dB
<b>Pressure</b> .5.56 NATO <sup>2</sup>	134dB
<b>Level</b> .5.56 NATO <sup>2</sup> (Heard @ Ear) 22-250 Rem <sup>3</sup> .22-250 Rem <sup>3</sup> (Heard @ Ear) .300 Blackout Sub <sup>4</sup> .300 Blackout Sub <sup>4</sup> (Heard @ Ear) 6.5 Creedmoor <sup>5</sup> 6.5 Creedmoor <sup>5</sup> (Heard @ Ear) .308 Win <sup>6</sup> .308 Win <sup>6</sup> (Heard @ Ear) .300 Weatherby Mag <sup>7</sup> .300 Weatherby Mag <sup>7</sup> (Heard @ Ear) .338 Lapua <sup>8</sup> .338 Lapua <sup>8</sup> (Heard @ Ear) .350 Legend <sup>9</sup> .350 Legend <sup>9</sup> (Heard @ Ear)	123dB 135dB 127dB 123dB 118dB 137dB 129dB 136dB 128dB 142dB 128dB 138dB 134dB 136dB 131dB
<b>Material</b> 6AL-4V Annealed Titanium QD Spring – Stainless Compression Bushing – Brass	
<b>MSRP</b> <b>Finish</b> <b>Item No.</b>	
Black Cerakote	D338B <b>\$1695.00</b>
FDE Cerakote	D338F <b>\$1695.00</b>
Clear Gunmetal Cerakote	D338G <b>\$1695.00</b>
<b>MSRP</b> <b>Additional Mounts</b> (See Accessories Page)	<b>\$180.00</b>

## A Barrel Length and Ammunition Used in Mil-Std 1474D Test @ 1 Meter - .450B

Barrel Length	Ammunition	Grain
<sup>1</sup> 16"	FMJ Armscor	147gr
<sup>2</sup> 16"	Sig Sauer	220gr
<sup>3</sup> 16"	Sig Sauer	120gr
<sup>4</sup> 20"	Federal Gold Metal	175gr
<sup>5</sup> 16"	Federal	180gr
<sup>6</sup> 16"	Barnes	500gr
<sup>7</sup> 16"	Barnes TSX	250gr
<sup>8</sup> 16"	Hornady FTX	250gr

## B Barrel Length and Ammunition Used in Mil-Std 1474D Test @ 1 Meter- .338

Barrel Length	Ammunition	Grain
<sup>1</sup> 20"	.22LR CCI Standard Velocity	40gr
<sup>2</sup> 22"	PMC 5.56mm	62gr
<sup>3</sup> 22"	Federal SP	55gr
<sup>4</sup> 16"	Sig Sauer .300 Blk	220gr
<sup>5</sup> 22"	American Eagle	140gr
<sup>6</sup> 20"	Federal Gold Medal Match	168gr
<sup>7</sup> 24"	Weatherby Select Ultra High Velocity	180gr
<sup>8</sup> 24"	Sellier & Bellot	250gr
<sup>9</sup> 16"	Federal	180gr

# SUPPRESSOR ACCESSORIES



## Suppressor Testing

TION follows stringent testing standards and procedures outlined in Paulson, Alan C., *Silencer History and Performance*, Volume 1, Chapter 5.

This protocol positions the measuring meter 1.0m to the left of muzzle 90 degrees to the bore axis. Testing height is 1.6m above a non-reflective surface with no reflecting surfaces positioned near by. 10 rounds are fired and averaged to determine performance. Atmospheric conditions are recorded each time.

### Equipment Used:

B&K 2209 meter  
B&K type 4136 1/4" microphone  
B&K type 4220 pistonphone

Many things can impact the performance of a suppressor (partial list):

### Major impacts:

Host weapon  
Barrel length  
Ammunition

### Minor impacts:

Temperature  
Humidity  
Local atmospheric pressure  
Wind direction & velocity



SIDE MIC POSITION

1 METER  
(39.3701")



FIREARM

MARKSMAN

**A**

### Grenadier Titanium Piston & Mount Kits

#### Size:

.5 x 28 Titanium Piston  
.5 x 36 Titanium Piston  
.578 x 28 Titanium Piston  
13.5 x 1 Titanium Piston; Left Hand Mount  
14.5 x 1 Titanium Piston; Left Hand Mount  
9/16 x 24 Titanium Piston  
16 x 1 Titanium Piston; Left Hand Mount  
16 x 1 Titanium Piston; Right Hand Mount  
.625 x 32 Titanium Piston  
5/8 x 24 Titanium Piston  
Fixed Mount MG Rifle Spacer  
3 Lug Mount Kit for H&K (Black)

#### Part No.

AGT528  
AGT536  
AGT578  
AGT13  
AGT14  
AGT916  
AGT16L  
AGT16R  
AGT625  
AGT58  
AGTSPACER  
3LKB



**B**

### Dragoon .450B Mounts

#### Size:

11/16 x 24 Mount  
5/8 x 32 Mount  
5/8 x 24 Mount  
1/2 x 28 Mount  
1/2 x 36 Mount  
.578 x 28 Mount

#### Part No.

AD41116  
AD45832  
AD45824  
AD4528  
AD4536  
AD4528



**C**

### Dragoon .338 QD Mounts

#### Size:

1/2 x 28 Mount  
5/8 x 24 Mount  
3/4 x 24 Mount  
M18 x 1.5 Mount  
M18 x 1 Mount

#### Part No.

MT33812  
MT33858  
MT33834  
MT3381815  
MT338181

**C**

### Dragoon .338 QD Muzzle Breaks

#### Size:

1/2 x 28 Muzzle Break  
5/8 x 24 Muzzle Break  
3/4 x 24 Muzzle Break  
M18 x 1.5 Muzzle Break  
M18 x 1 Muzzle Break

#### Part No.

MB33812  
MB33858  
MB33834  
MB3381815  
MB338181



**D**

### Dragoon 5.56 QD Mounts

#### Size:

1/2 x 28 Muzzle Break  
1/2 x 28 Flash Hider  
1/2 x 28 Mount

#### Part No.

MB5x28  
FH5x28  
MT5x28



**E**

### Dragoon 7.62 QD Mounts

#### Size:

5/8 x 24 Muzzle Break  
5/8 x 24 Flash Hider  
5/8 x 24 Tooth Flash Hider  
5/8 x 24 Mount  
9/16 x 24 Mount

#### Part No.

MB58x24  
FH58x24  
FH58x24T  
MT58x24  
MT96x24



(Photos above are typical representations of accessory designs and are not shown to scale)



# A Bit of History About the Grenadier, Minuteman & Dragoon Soldiers of the Revolutionary War



## Grenadier

In 1776 the 26th Continental Regiment, under the command of Colonel James Wesson and Captain Thomas Mighill, was one of the first regiments of the Continental Army to outfit a grenadier company. The grenadier uniform included a brown coat with buff facings similar to the British with waistcoats and breeches of white cloth. Under the command of Captain Thomas Mighill, the company wore the traditional grenadier's mitre cap. Embroidered on the red cap were the Roman numerals "XXVI" and the cipher "GW", for George Washington. The 26th Regiment was referred to as the "George Washington Regiment". The 26th Regiment under the command of Colonel Loammi Baldwin and Lieutenant Colonel James Wesson distinguished itself at the Battle of Throg's Neck and the Battle of Pell's Point, holding off a much larger British force to allow George Washington to withdraw from Manhattan to White Plains where the 26th Regiment joined George Washington for battle. The 26th Regiment also participated in both the crossing and the fight at the Battle of Trenton.

## Minuteman

Minutemen were civilian colonists who independently organized to form well-prepared militia companies self-trained in weaponry, tactics, and military strategies from the American colonial partisan militia during the American Revolutionary War. They were also known for being ready at a minute's notice, hence the name. They provided a highly mobile, rapidly deployed force that allowed the colonies to respond immediately to war threats.

Minutemen were generally younger and more mobile, and served as part of a network for early response. Minuteman and Sons of Liberty member Paul Revere was among those who spread the news that the British Regulars (soldiers) were coming out from Boston.

## Dragoon

The 1st Continental Light Dragoons, nicknamed "Bland's Horse", was a mounted regiment of the Continental Army organized between June and September 1776 in Williamsburg, Virginia for service with the Continental Army. The regiment was first authorized 8 June 1776 in the Virginia State Troops as the 1st, 2d, 3d, 4th, 5th (Captain Henry "Light Horse Harry" Lee) and 6th Troops of Light Horse and on 25 June 1776 mustered as the Virginia Light Horse Regiment. The dragoon uniform initially consisted of a brown coat with green facings; but in 1781, the uniform changed to a blue coat with red facings. On March 31, 1777 in General Orders, George Washington named officers of the 1st Light Dragoons. Notable commanders included Lt. Col. Theodorick Bland, Lt. Col. Anthony Walton White, and Colonel William Washington.

The regiment saw action at the Battle of Brandywine, Battle of Germantown and the Battle of Guilford Court House. The regiment was disbanded on November 15, 1783, at Winchester, Virginia.





**TICON**

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