Every night vision and thermal imaging system is a complex electro-optical piece of equipment. Each optical, electronic, electro-optical part, component, and sub-assembly undergoes a series of tests to determine its ability to withstand vibration and shock. Fully constructed GSCI systems are additionally tested according to standardized procedures to ensure they are fully MIL-SPEC compliant, and can withstand shock values of up to 500g.

When mounting a GSCI system on a firearm, note that every setup - firearm/caliber/case size (grain) - is different and significantly impacts recoil value. Mounting techniques may also play a role in how GSCI electro-optical systems react when subjected to shock.

It is therefore crucial to consider using any available Recoil Mitigation Solution (RMS) which may help to reduce possible negative effects while using the devices on a firearm and/or under extreme mechanical stress.

It is entirely the end user's responsibility to utilize any legally obtainable recoil mitigation solution in order to minimize the amount of recoil generated by a firearm they use. Recoil mitigation solutions include suppressors, recoil compensators and other equipment.

Recoil Mitigation Solution (RMS) recommendation based on objective lens size used

Information contained in the Recoil Table is collected from open independent sources, listing calibers in increasing order with corresponding muzzle, recoil energy and is for reference only. Actual values of muzzle and recoil energy may significantly vary.

CALIBER	MUZZLE ENERGY	RECOIL ENERGY	25mm LENS	50mm LENS	75mm LENS	100mm LENS
9mm Parabellum	475 joules	4.4-7.3 fps	Desirable	Desirable	Recommended	Recommended
.45 ACP	540 joules	0.9 fps				
.22 Centerfire Hornet	1009 joules	1.3 fps				
.223/5.56mm Rem. NATO	1822 joules	3.2 fps				
7.62x39mm	2019 joules	5.95 fps				
.243 Winchester	2820 joules	8.8 fps				
.25-06 Remington	3140 joules	12.5 fps	Recommended	Recommended	Mandatory	Mandatory
.257 Weatherby	3950 joules	15.1 fps				
.270 Winchester	3669 joules	17 fps				
.280 Remington	3398 joules	17.2 fps				
7mm Remington	4367 joules	19.2 fps				
.30 M1 Carbine	1308 joules	3.5 fps				
.30 Winchester	2560 joules	11 fps				
7.62mm AK 47	2045 joules	13.1 fps				
.303 Lee Enfield	3469 joules	14.41 fps				
.308 Winchester, NATO	3744 joules	15.8 fps				
.300 WSM	5190 joules	23.8 fps	Mandatory	Mandatory	Mandatory	Mandatory
.300 Winchester	5385 joules	25.9 fps				
.300 Weatherby	5658 joules	24.6 fps				
.325 WSM	5075 joules	33.1 fps				
.338 Federal	4374 joules	21.9 fps				
.340 Weatherby	4867 joules	29.6 fps				
.338 Winchester	5307 joules	43.1 fps				
.375 H&H	6319 joules	46.16 fps				
.416 Rigby	7618 joules	58.1 fps				
.50	17821 joules	70 fps				-

The columns which list the different objective focal lengths states the importance factor of using the **Recoil Mitigation Solutions (RMS)** with certain calibers, in order to withstand the recoil shock having been properly mounted and having been used with all available solutions. For example, when using a 50mm lens with a .270 Winchester, the RMS is **recommended,** while being **mandatory** when the 50mm lens is mounted on a .300 Winchester.