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Kevin Maxwell, esq.
Rarebreed Triggers
Geneva, Florida

Dear Mr. Maxwell,

This letter serves to explain the results of our recent examination and testing of your “Rare Breed, LLC FRT trigger system”, which you recently submitted to us.

Before I explain my findings, it is necessary for me to clarify a few issues as they relate to firearm technology. First, allow me to differentiate between the term semi-automatic and fully-automatic (machinegun). As you know, Title 26 of the U.S Code defines a machinegun (fully-automatic) in subsection 5845(b) as:

The term “machinegun” means any weapon which shoots, is designed to shoot, or can be readily restored to shoot, automatically more than one shot, without manual reloading, by a single function of the trigger.

It is important to note that by contrast, a semi-automatic is any firearm which shoots only one shot “automatically” by a single function of the trigger. The practical difference between fully-automatic and semi-automatic is referred to as the “cyclic rate of fire” (i.e. the number of shots which can be fired within a minute). This number is merely a ratio. Since few firearms have the capacity to hold a full minute’s worth of ammunition, that number is determined by multiplying the number of shots which can be fired in a fraction of a minute. For example, if a firearm can fire 12 shots in 10 seconds, its cyclic rate of fire is 72 rpm (rounds per minute).

Also, many devices have been invented in recent years which increase a semi-automatic firearms cyclic rate of fire. Bump-stocks and other bump-fire devices are some of them. Despite the fact

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that the U.S. Government recently reversed themselves by re-defining their years-long position on the word “automatically” as used in the definition of a machinegun, please note that bump-fire devices, including bump-fire stocks do nothing “automatically”, and firearms equipped with them require a separate trigger pull and release to fire each shot.

Please also note that all firearms have a “cycle of operation” which must be completed between the firing of one shot and the firing of a subsequent shot. There are eight steps which must occur during the cycle of operation (i.e. firing, unlocking, extraction, ejection, cocking, feeding, chambering, locking), and the order in which they occur depends upon the type of mechanical operation which the firearm employs (bolt-action, lever-action, break-action, pump-action, revolving action, self-loading, etc...).

Considering that an AR15-type firearm is a self-loading type of mechanical action (i.e. it uses the energy generated by a fired cartridge to reload its own chamber for a subsequent shot), the eight steps of the cycle of operation all occur extremely quickly (i.e. within less than 1/5 second). Therefore, a second shot may be fired by the shooter within 1/5 of a second after the first. Therefore, the cyclic rate of fire of a semiautomatic firearm is only limited by the physical dexterity of the operator of it. While many shooters may not have the physical dexterity to react each 1/5 second, the Rare Breed, LLC FRT trigger system allows a shooter to keep pressure on the trigger in anticipation of the end of a cycle of operation. Although the shooter may in fact hold pressure against the trigger during the cycle of operation, the trigger is not moving nor performing any “function” and is in fact locked in its non-firing position. Please note that “pressure” is not addressed in the definition of a machinegun, nor is the word “pull”. The word “function” is the key word in the definition, and “function” is defined at Dictionary.com as;

“to perform a specified action or activity; work; operate: to have or exercise a function; serve:”
<https://www.dictionary.com/browse/function>

It is imperative that it be recognized that in the Rare Breed, LLC FRT trigger system, keeping pressure on the trigger serves no function. It is akin to leaning on a locked door, and then falling through it once unlocked, rather than waiting for the unlocking and then pushing it open.

In the case of a machinegun, it isn't the fact that the shooter holds continuous pressure against the trigger, it's the fact that he “functions” the trigger by pulling it to the rear only once and holding it there, and multiple shots result from this “single function of the trigger”.

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The advantage of the Rare Breed, LLC FRT trigger system is that when a shooter holds pressure against the locked trigger during the cycle of operation, he is able to pull (function) it again immediately after the cycle of operation ends, and avoid the normally much slower reaction time needed when using a traditional trigger. A traditional trigger relies on the shooter to hear the report and feel recoil while reacting to them, and then make the decision to release and re-pull the trigger, and then do so, all of which serve to slow reaction time and as a result, reduce the cyclic rate of fire.

The fact is, that a semiautomatic firearm, such as the AR15-type firearm, takes only a fraction of a second to cycle from one shot to another. There are videos on the internet of professional shooters firing 5 shots from an AR15 within one second. Regardless of whether the ability to fire that quickly semi-automatically is perceived as acceptable by ATF, the mechanical operation of a firearm equipped with an “Rare Breed, LLC FRT” trigger system is still done semi-automatically as defined in federal law. While it is true that a shooter may fire successive shots quickly by keeping pressure on the trigger of a firearm equipped with an “Rare Breed, LLC FRT” trigger system, the shooter must nevertheless make a subsequent movement of the trigger to the rear for each shot fired. The only thing which keeping continuous pressure on the trigger does, is to allow the shooter to be ready to make his next trigger movement immediately after the cycle of operation is complete.

We note that the only thing which happens “automatically” in the Rare Breed, LLC FRT trigger system is the return of the trigger to the set position when it is impinged upon by the hammer. It is also noteworthy that previous ATF rulings since 2009 concerning other devices for use in firing an AR15-type firearm more rapidly, such as the “fire-on-release” (i.e. Franklin Armory’s “binary” trigger) type of mechanisms, have defined a single function of the trigger as a “single movement of the trigger”. In fact the Franklin Armory Binary trigger system allows 2 shots to be fired with each pull-release of the trigger, yet ATF has opined that these are acceptable and not within the definition of a machinegun. The Rare Breed, LLC FRT trigger system in fact, requires two separate movements of the trigger (rearward and forward) for each single shot fired.

The Rare Breed, LLC FRT trigger system is a self-contained body which fits into the firing-control cavity of an AR15-type firearm. The body utilizes the conventional trigger pivot pin and hammer pivot pin to be held into place. The body houses a trigger, trigger-return spring, hammer, hammer-return spring, and a proprietary “locking bar”.

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The “Rare Breed, LLC FRT” trigger system was examined as installed into a Spikes Tactical model SR15 rifle, serial #SKU0092, chambered in 5.56 x 45mm caliber. My examination revealed that the Rare Breed, LLC FRT trigger is designed such that upon firing a shot, as the bolt-carrier moves to the rear it cocks the hammer as normal. However, the hammer in turn forces the reset of the trigger to its original position. Upon doing so, a locking-bar locks the trigger into the reset position, making it physically impossible to move the trigger rearward during the remainder of the cycle of operation. I note that whereas a traditional semiautomatic AR15-type trigger must consciously be released by the shooter in order for it to reset, the “Rare Breed, LLC FRT” type of trigger system forces the reset of the trigger and makes it impossible for the shooter to hold the trigger to the rear. This actually prevents the fully-automatic firing which could result in the case of parts malfunction, and therefore makes an AR15 equipped with a Rare Breed, LLC FRT” trigger system less susceptible to fully-automatic firing than a conventional AR15.

This is accomplished as follows. The bolt-carrier group already having completed the extraction and ejection of a fired cartridge case, begins moving forward under the energy of the buffer-spring. As the bolt goes back into battery, having fed and chambered the next cartridge into the chamber, the lower-tail of the bolt carrier impacts the top of the locking block, causing it to pivot out of engagement with the trigger. Only then, once the next cartridge has been chambered and the breech is locked, is the shooter able to again pull the trigger to fire a follow-up shot. Upon pulling the trigger to fire another shot, the above -described procedural cycle begins again.

The testing of the submitted rifle was done on June 13, 2020, at an outdoor range in Geneva, Florida, in the form of a live-fire session, using factory-loaded ammunition.

While in the “Safe” position, the rifle was found to be incapable of firing as the result of a trigger-pull. While in the “Fire” or “semiautomatic” position, the rifle was found to operate as a semi-automatic firearm as originally designed, firing only one shot for every pull of the trigger. During the rapid firing of full 30 rd. magazines, which were fired as rapidly as possible, there were no instances of “hammer-follow”.

At no time did the firearm fire more than one shot per function of the trigger, no matter how quickly in succession the trigger was pulled and released.

In summary, the “Rare Breed, LLC FRT” trigger system did not perform in any way which would make it or a firearm in which it is properly installed, subject to the National Firearms Act. It is also my professional opinion that the “Rare Breed, LLC FRT” trigger system for AR-type

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firearms as submitted, is not a firearm under the purview of the Gun Control Act, nor under the National Firearms Act.

I trust that my findings have been helpful.

Respectfully,

Daniel O'Kelly

Director

Daniel G. O'Kelly