

Federal Explosives Laws for Rocketeers

In this series of articles I will attempt to present an overview of the Federal laws that currently affect model and high-power rocketeers with, when appropriate, commentary pertaining to rocketeers in Oklahoma. Rocketeers in other states may be subject to different, more or less restricted laws than are resident of Oklahoma. Also, I do not present this information as legal advice. I'm not a lawyer, nor do I play one on TV. I go to my wife on issues concerning copyrights, publishing, and other intellectual property and contracts, as she is a lawyer, and she comes to me on issues concerning firearms and explosives laws in Oklahoma as a starting point before contacting a legal expert. Also, the laws are often interpreted and enforced differently by different agents and jurisdictions. I have a friend who is a gun dealer. During an inspection of his premises by two BATF agents from the same office, he asked both separately about the law concerning his purchase of guns for personal use. Each gave a completely opposite answer. One a yes, it had to go on his books, and the other, no, it did not have to go on his books. So all of what I am going to discuss in this series is simply **my** interpretation of the laws and their history of enforcement tempered with common sense. I repeat **do not** take it as legal advice. I'm no lawyer, just an ordinary chemical engineer.

Part I – What's an explosive and what's not?

Ammonium perchlorate composite propellant is defined as an explosive in the *List of Explosives Materials* as provided for in § 55.23 of 27 CFR 55, Code of Federal Regulations concerning commerce in explosives. Black powder is also classified as explosive on the *List*. There are special exemptions to the purchase and storage regulatory requirements, however. For rocketeers, we're concerned with primarily with the "62.5 g" rule. This comes from a briefing paper [1] issued in February 1997, which states:

"The Consumer Product Safety Commission has define **toy** model rocket motors under 16 CFR 1500.85(a) (8), as those motors containing a propellant weight of 62.5 grams or less and which produce less than 80 newton-seconds (17.92 pound seconds) of total impulse. ATF will consider any model rocket motor containing a propellant weight greater than 62.5 grams and producing a total impulse of more than, or equal to, 80 newton-seconds, a high power rocket motor, placing it under the provisions of the Federal explosives laws, 18 U.S.C. Chapter 40. Furthermore, motors containing a total propellant weight of 62.5 grams or less, intended to be used as a segment for installation into larger motors, and which cannot be used individually, will also be regulated."

Apparently the author or authors of the above-quoted document are unaware that the Newton, being named after a man, is properly capitalized. It goes on to state that these regulated motors are to be classified as low explosives and must be handled in accordance with 27 CFR Part 55. Motors that don't fit these criteria are exempt from regulation under this part of the law. All black powder motors with which the author is familiar are exempt due to their mass. Also, motors up to the single-use Aerotech G-80 would be exempt (assuming that the G80 actually only contains 79.999 N-s of total impulse, of course. Beyond that, things start to get blurry. According to the quote given above, any motor that used more than 62.5 g of propellant, *even in separate grains*, would be restricted. Manufacturers "get around" this by packaging larger grains

in a separate bag so that each bag contains less than 62.5 g of propellant. But a strict interpretation of the regulations quoted above would lead one to believe that this is in contravention of the law, but BATF has yet to act upon this. This is why, for example, Aerotech 38mm motors are all Easy Access, meaning that they are not regulated by the government and that no special permits or storage requirements are necessary to purchase, use, or store them: each grain in a reloadable motor reload weighs in at less than 62.5 grams. Once you move up to the 54mm motors, however, each grain weighs in excess of 62.5 grams so they are regulated no matter how they are packaged. Hence their status as Restricted Access reloads. Also, there are many single-use motors that fall into the H impulse range that are restricted because they contain greater than 62.5 g of propellant. In the rest of this paper, APCP and black powder will be referred to as explosives, as that is how they are currently regulated. In the case of APCP this may, in the end, be found to be right or wrong. So, now that we understand what is unrestricted and what is not restricted, let's look at what the restrictions are and how they are implemented.

Part II – Low Explosives Purchasing and the Law

So, you wish to be able to purchase and use low explosives, in our case APCP and black powder. What do you need to do to be within the law? We'll start with the basics. In order to purchase any explosives in your state of residence from a dealer or manufacturer licensed in that state, all you need to do is fill out an explosives transaction record form 5400.4, also known as the Yellow Sheet. On it you state your name, address, height, weight, etc... as well as your intended use for the explosives, the location at which the explosives will be used, the location at which the explosives will be stored, and the date of intended use. It is also interesting to note a quote from [2] concerning non-permittees and non-licensees:

“As defined by the AEIR, a user is an individual who purchases explosives within his State, is not required to obtain a Federal license or permit, and is therefore not subject to Federal inspection of his storage facilities. Although current law requires that all persons store explosive materials in conformance with the regulations in 27 C.F.R. Part 55, ATF only has a statutory right to inspect the storage facilities of licensees and permittees.”

This quote was excerpted from a section of the report concerned with the fact that, during the study period, 52 percent of thefts of explosives came from users, i.e. non-permittees or licensees.

In order to buy explosives from a dealer in a state other than the one in which a user resides, he must possess a Low Explosive Users Permit (or other permit or license that would be applicable for the class of material and intended use of said material), or LEUP or reside in a state that has laws that *specifically allow* residents to purchase explosives from bordering states. To the best of this author's knowledge, no such law exists in Oklahoma, therefore explosives purchases from out-of-state dealers must be made by Federally licensed persons or businesses. One exception to this rule is that up to 50 pounds of black powder may be purchased in-state or out-of-state by a non-permittee or licensee if [3]:

“...the black powder is intended to be used solely for sporting, recreational, or cultural purposes in antique firearms, as defined in 18 U.S.C. 921(a)(16) or antique devices, as exempted from the term "destructive devices" in 18 U.S.C. 921(a)(4).”

So black powder purchased for rocketry purposes must either be bought on a 5400.4 and magazine-stored or purchased by a permittee/licensee.

Another important point to note is that sales from dealers must be made from their place of business and out-of-state purchases must be shipped to the address appearing on the permit or license. Explosives may be delivered to another location, but the sale must be made at the place of business. This is why motor dealer insist that you order motors prior to a launch and then deliver them to you on-site. They cannot sell motors at a launch unless they have a license listing the launch address as a place of business. Again, this is why it is important to order motors in advance of a launch.

Now that we've covered the ATF definition of what an explosive is and how it may be purchased, it's time to turn our attention to one final aspect: storage.

Part III – Low Explosives Storage and the Law

Now comes the final piece in the regulatory puzzle: storage. It is generally considered allowable to purchase and use explosives within 24 hours of delivery. This is the origin of the idea behind the “non-storage” LEUP. It allows you to purchase explosives in a state other than the one in which you reside, but you must not store them. They must be used immediately. If you need to store high power rocket motors or reloads, however, here's what reference [1] has to say about it:

“High power rocket motors, as defined above, must be stored in a Type IV or equivalent magazine (See 27 CFR 55.210).”

That is to say that they must be stored as any other low explosive. Normally, a magazine may not be located in a residence, but reference [1] addresses this:

“These magazines may be located in an attached garage of a single family residence provided that the magazine is separated by a wall and is not part of the living quarters. Indoor storage will not be permitted in multi-family dwellings such as condominiums, apartments, duplexes, etc. Indoor storage of low explosives must not exceed a quantity of 50 pounds as required by 27 CFR 55.210(b) (1).”

So, if you wish to store high power rocket motors or reloads in a magazine in an attached garage, you must obtain a variance from the BATF for 27 CFR 55.208 (b)(1). If the magazine is an outdoor magazine, you must also meet the spacing requirements set forth in 27 CFR 55.206 regarding spacing requirements between outdoor magazines and inhabited buildings, public highways, passenger railways, and other magazines. One would assume that this variance would be applied for and granted by the ATF Public Safety Branch.

There is one final piece to the storage puzzle that must be put into place in order to be in compliance with the Federal regulations. A quote from [3]:

“Any person who stores explosive materials shall notify the authority having jurisdiction for fire safety in the locality in which the explosive materials are being stored of the type, magazine capacity, and location of each site where such explosive materials are stored. Such notification shall be made orally before the end of the day on which storage of the explosive materials commenced and in writing within 48 hours from the time such storage commenced.”

Note that it doesn't say that you must have permission from the authority having jurisdiction. You must be in compliance with local and state law, but other than that, you must simply notify the AHJ as outlined above. The AHJ may wish to come out and inspect your magazine to insure compliance with state and local codes, however.

How does this relate to the ongoing litigation between the NAR/TRA and BATF? The TRA/NAR are arguing that APCP rocket motors are not low explosives. If that is the case, then they would not come under BATF regulation and no permits, licenses, or storage requirements would need to be met. The hassles would go away. If the BATF wants to get nasty, however, they could enforce the passage I quoted earlier from [1] more rigorously, to wit:

“Furthermore, motors containing a total propellant weight of 62.5 grams or less, intended to be used as a segment for installation into larger motors, and which cannot be used individually, will also be regulated.”

This would mean that motors that are currently unregulated due to packaging considerations would, as they perhaps should rightly be, given the quote above, be considered explosives. No more unregulated I211s. Or H motors, reloadable or not.

I hope that I have shed some light on the many issues involving the rocketeer and the BATF. If I've made a mistake or quoted from materials that have since been supplanted, by all means let me know so that I may spread the word, be it good or bad.

References

- [1] **High Power Rocketry**, Briefing Paper, Firearms and Explosives, Regulatory Enforcement Division, Bureau of Alcohol, Tobacco, and Firearms, February 25, 1997.
- [2] **Progress Report: Study of Marking, Rendering Inert and Licensing of Explosive Materials**, U.S. Department of the Treasury, 1998.
- [3] **ATF P 5400.7 (09/00) Federal Explosives Law and Regulations – 2000, Title 27, Code of Federal Regulations PART 55 -- COMMERCE IN EXPLOSIVES**, Department of the Treasury Bureau of Alcohol, Tobacco and Firearms, 2000.