

valve mechanism closing the escape of gas. The most logical means is the bullet. Therefore it is assumed that the various suggestions of valve mechanisms discussed will be programmed to be activated by the bullet. Inertial problems are a big factor and careful calculations, computer analysis, and measurements are necessary. If the nose of the bullet activates a valve mechanism in sufficient time a difficult problem in timing is overcome. Conversely if more delay is needed earlier programming by the bullet in some selected area of the barrel is needed and careful analysis and design must be instigated to prevent dangerous premature muzzle closure before bullet exit.

The following suggestions are without calculation or measured foundation and are ideas only, to be examined and reviewed by design and laboratory personnel. It is hoped that they may cause an hedonic reaction by the readers to further enlarge the spectrum of thought.

#### Suggestion I

Utilize a 3-section barrel. The first section is held rigid containing the chamber and is smooth bored. Being the longer of the three lengths allows the bullet to obtain maximum velocity. The second or middle section rotates like a nut in a threaded tube. This portion is relatively short and contains gain twist rifling. The rear portion of the barrel works like a collet closing a sphinter valve when rotated by the bullet trapping the expanding gas. The bullet continues into and thru the third rifled muzzle section

*Three  
Section  
Barrel*