

- B. At some pre-calculated point after receiving the fire command, the controller will issue a fire pulse to the solenoid power supply for each gun. The solenoid in turn triggers the release of the control pressure air. As this occurs, an imbalance is created between the control pressure reservoir and the high pressure reservoir that allows the high pressure air to force the seat and shuttle upward and expose the exhaust ports, thus releasing the high pressure air.
- C. Upon firing, a sensor on the guns produces a return signal which is detected by the controller. Ideally, this fire detect signal should occur at a pre-selected time referred to as the Aiming Point.
- D. If the fire detect for any gun does not occur at the Aiming Point, the controller will correct the error by adjusting the time at which the next fire pulse is issued to the gun. These adjustments are computed from a filter applied to the previous error values.
- E. Time break for the recording system is generated by the synchronizer when 62.5% of the total enabled gun array volume has returned fire detect signals. The time break is thus a true representation of the release of air. There are no delays to be compensated for in processing of the data.

Through this method of constant electronic adjustment, the energy source system delivers its optimal seismic signals [ref. 17].