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FRENCH ANTI-AIRCRAFT ROCKETS OF WORLD WAR I

Abstract

While history's first air-launched rockets by Le Prieur during the 1st World War are now well-known by historians and have been analyzed in a previous IAC 1997 paper, a few pictures of unidentified rockets recently led to the discovery of yet other French air launched ones during World War I. This paper presents the results of this research, which starts with Ecole Centrale de Pyrotechnie, transferred from Metz to Bourges, when de Place and Turpin worked on military rockets in 1886-1895. Technical improvements were introduced in 1916 by Sautereau du Part with fins. Perfected by Bosc and Roux, much more powerful than the Le Prieur rockets, the 44 mm Torpedo-Rocket became operational early in 1917. Thanks to research by Bory on nozzles and testing by Andreau of streamlined bodies in the Eiffel wind tunnel, modern 75 mm Pyrotorpedo's were launched in July 1917 in Le Bourget. Great aeronautical engineer Riffard (of later Caudron fame) also tested a 150 mm spin stabilized rocket, even studying the RDP (Réaction Directe Poudre), a rocket propelled fighter! Other experiments addressed anti-aircraft cables propelled by Sautereau rockets, as well as new propellant. Malloué tested 30 mm rocket with a nozzle, using a mixture based upon cotton powder. Lavère and Neuveglisse tested similar rockets, with ammonium picrate, and potassium nitrate mixed with glycerine. Liquid explosives, proposed from the 19th century for rocket propulsion by Lavrénius (anilite, or "panclastite") and tested by Paulet (nitrogen teroxyde plus fuel), also were studied by Andreau (nitric acid plus fuel), while Bory even achieved on the bench "reaction forces" of 80 t in a nozzle. Most of these advanced rockets could not become operational before conclusion of the war. This paper will briefly conclude with experiments of the 20's and 30's.