

**Colonel Edward F. Blum
Inducted 2004**



Colonel Edward F. Blum graduated with a mechanical engineering degree from Rochester Institute of Technology in 1939. He was selected in April 1941 to participate in the Aviation Cadet Training Program and received his commission as a second lieutenant in the Army Air Forces in December 1941. During World War II, he flew 30 bombing missions over Europe in B-17s and B-24s, as well as more than 700 hours on anti-submarine patrol. At the end of the war, he attended the Air Force Institute of Technology (AFIT) and Rensselaer Polytechnic Institute, where he received his master's degree in mechanical engineering. Between 1949 and 1957, he served consecutively as project manager for the J-33 jet engine that powered the F-80 and F-94, as an exchange officer to the British Ministry of Supply Propulsion Office, and in the Propulsion Branch of the Research and Development division at HQ Air Force.

Colonel Blum became Director of Astro Engineering for the WS-117L satellite program during 1957-1958. He was responsible for the engineering and development of the Research Missile (RM)-81 or Agena upper-stage vehicle, the first successful spacecraft designed to serve a wide variety of on-orbit programs, beginning with the world's first reconnaissance satellite. He oversaw the design and development of all the Agena subsystems—propulsion, electrical power, attitude control, stabilization, telemetry communications and control, as well as recovery equipment aboard aircraft.

In late 1958, when WS-117L was split into three separate programs (SAMOS, MIDAS, and Discoverer/Corona), Colonel Blum continued to head the engineering division that developed Agenas for all three programs as well as other government agencies. Agena A was used on Thor and Atlas boosters nineteen times before being structurally redesigned in 1960 to almost double its propellant capacity, thereby allowing heavier payloads. The new, larger Agena B was used on Thor and Atlas boosters 74 times during 1960-1966.

When it was decided in 1962 to develop a standard Agena—the Agena D—as a closely guarded special program, he led a small “cutout team” of USAF officers who worked with Kelly Johnson of the Lockheed “Skunk Works” to establish it. He afterward became director of the Agena D program and established the production line that turned out over 260 Agenas for use by Discoverer/Corona and other NRO programs, NASA’s Lunar Orbiter and Mariner interplanetary probes, and other government projects.

When it became apparent that Agena required increased weight-on-orbit capability, he directed the design and testing of necessary engine modifications to double its operating time, thereby adding up to 600 pounds of payload capability. The later addition of a dual-burn capability—the ability to restart the engine in space—made Agena even more useful to the NRO, NASA, and other customers. Production of the Agena D ended in 1982, and the last flight of an Agena D occurred on 11 February 1987 atop a Titan 34B booster. Over 360 Agenas of all types were launched during 1959-1987.

After his retirement from active duty in 1965, Colonel Blum contributed to the Apollo program as a Lunar Descent Rocket engineer at TRW Systems. He later worked for Hughes Corporation on various Air Force, NASA, and commercial communications satellite programs.