







April 1990: Post Launch

Spiral Galaxy M100—This Hubble Space Telescope image of M100, a spiral galaxy, revealed the flaw in the telescope optics though this less than diffraction limited picture.

December 1993: SM1 New instruments: WFPC2 and COSTAR

Spiral Galaxy M100—This now super sharp image of the same object above proved that Hubble's vision had been corrected by the new instruments installed on Servicing Mission (SM) 1.

February 1997: SM2 New instruments: STIS and NICMOS

M84, Active Galaxy Spectrum—Using the spectroscopic capability of Hubble, scientists observed super-heated gas at the center of this galaxy rotating at speeds only achievable in the vicinity of a black hole. The first definitive proof that giant black holes exist at the center of most galaxies.

Hubble's 20th Launched April 24, 1990, 8:33:51 am

For two decades the Hubble Space Telescope has provided the world some of its most captivating stories. From its early shortcomings, captivating servicing mission heroics, and ultimately its profoundly beautiful images, Hubble has shown us not only the wonders of the heavens, but NASA at its best. Hubble arguably stands out as the crowning achievement, uniting two of NASA's missions; human spaceflight and world-class science.

No other research instrument has consistently provided forefront scientific results that are publicly appreciated. Hubble's ability to lift our eyes from everyday concerns to a cosmos of stunning beauty and complexity remains its lasting benefit. Humanity's view of the universe and our place in it has been inexorably changed by this telescope.

December 1999: SM3A Replaced aging or failed components

Eskimo Nebula, Planetary Nebula-Shown here is a fantastic picture of a star nearing the ends of its life. The glowing gas seen here composed the outer layers of a sun-like star only 10,000 years ago. The inner filaments are being ejected by strong wind of particles from the central star.

March 2002: SM3B New instruments: ACS

Cone Nebula – In this image, radiation from hot stars off the top of the picture illuminates and erodes this giant, gaseous pillar. Additional ultraviolet radiation causes the gas to glow, giving the pillar its red halo of light.

May 2009: SM4 New instruments: WFC3 and COS

Stephan's Quintet-This beautiful grouping of galaxies features four objects actually close to one another in space and a fifth (left, upper most galaxy) that is seven times closer than the other four.



. + · / / /

