Milestone Moments

NASA Stennis and Space Shuttle Main Engine Testing

March 1, 1971
NASA assigns responsibility for space shuttle main engine testing to NASA Stennis, setting the stage for a **34-YEAR HOT FIRE CAMPAIGN** stretching from 1975 to 2009.

May 19, 1975
NASA Stennis teams on the Fred Haise Test Stand (formerly A-1) conduct the site's first space shuttle main engine test. The so-called **"BURP" TEST** was conducted on a main engine with a shortened thrust chamber assembly and did not achieve full ignition.

June 23/24, 1975
NASA Stennis teams achieve its first full space shuttle main engine **THRUST CHAMBER IGNITION** with a 1.08-second start.

March 31, 1976
NASA Stennis conducts the first space shuttle main engine hot fire on its **A-2 TEST STAND**.

September 30, 1976
NASA Stennis records its first **FULL-DURATION** (500 seconds) test of a space shuttle main engine with a 650-second hot fire.

April 21, 1978
NASA Stennis operators on the B-2 side of the Thad Cochran Test Stand conduct the first of 18 tests of the space shuttle **MAIN PROPULSION TEST ARTICLE**, the three-engine configuration used to help launch each shuttle mission.

December 17, 1979
NASA Stennis conducts a 550-second test of the shuttle Main Propulsion Test Article on the B-2 side of the Thad Cochran Test Stand, marking the first full-duration hot fire of the **THREE-ENGINE CONFIGURATION** used to help launch each shuttle mission.

March 14, 1980
NASA Stennis teams record a major shuttle main engine milestone, completing a full-power-level test at **109% RATED THRUST**.

March 28, 1980
NASA Stennis teams achieve a key developmental milestone, surpassing **65,000 SECONDS** of cumulative ground testing to demonstrate the space shuttle main engine is mature enough to fly.

January 17, 1981
NASA Stennis operators conduct the last of **18 TESTS** of the three-engine space shuttle Main Propulsion Test Article. The maiden space shuttle flight launches just three months later.

April 12, 1981
Shuttle Columbia lifts off from NASA's Kennedy Space Center on the first flight – STS-1 – of the new vehicle. The launch is powered, in part, by **THREE MAIN ENGINES** tested at NASA Stennis.

March 30, 1988
NASA Stennis conducts the first space shuttle main engine hot fire on the B-1 side of the **THAD COCHRAN TEST STAND**.

August 3, 1988
NASA Stennis teams conduct a record 2,017-second hot fire of a shuttle main engine on the B-1 side of the Thad Cochran Test Stand, **FOUR TIMES** longer than an engine must fire for a launch.

September 29, 1988
NASA launches the STS-26 mission, marking a return to flight following the loss of the Challenger shuttle in February 1986. Shuttle **DISCOVERY** flies on three main engines proven flightworthy at NASA Stennis.

July 25, 1990
NASA Stennis teams make history with shuttle main engine hot fires on three separate test stands in a single day – the B-1 side of the Thad Cochran Test Stand, the A-2 Test Stand, and the Fred Haise Test Stand (formerly A-1). The tests use **10.8 MILLION GALLONS** of water from the High Pressure Industrial Water facility.

July 24, 1992
NASA Stennis operators conduct the **2,000TH HOT FIRE** of a space shuttle main engine. The total includes tests at three sites and shuttle launch firings to date. The majority of the firings – 1,474 – are conducted at NASA Stennis.

May 1, 1994
NASA's Marshall Space Flight Center in Alabama transfers **FULL MANAGEMENT** of shuttle main engine test operations to NASA Stennis, allowing NASA Stennis engineers to become more directly involved and gain additional operational experience.

January 21, 2004
NASA marks a landmark milestone, achieving **1 MILLION SECONDS** of shuttle main engine test and flight operation during a 520-second hot fire on the A-2 Test Stand at NASA Stennis.

August 19, 2004
NASA Stennis teams conduct a shuttle main engine test on the last of three engines to help power Discovery's **RETURN TO FLIGHT** following the loss of Columbia in 2003. The three engines help launch Discovery's successful STS-114 mission on July 26, 2005.

October 22, 2008
NASA Stennis teams on the A-2 Test Stand conduct an acceptance test on shuttle main engine No. 2061, the **LAST FLIGHT ENGINE** built to help power space shuttle missions.

July 29, 2009
NASA Stennis conducts the **FINAL** space shuttle main engine hot fire of a 34-year test campaign on the site's A-2 Test Stand.