

Curiosity's Launch

NASA began a historic voyage to Mars with the Nov. 26, 2011, launch of the Mars Science Laboratory, which carries a car-sized rover named Curiosity. Liftoff from Cape Canaveral Air Force Station aboard an Atlas V rocket occurred at 10:02 a.m. EST (7:02 a.m. PST).

[00:00:01] George Diiler (announcer): 'T-minus 15 seconds...'
[00:00:04]
[00:00:07] 'T-minus 10...'
[00:00:08] '9...'
[00:00:09] '8...'
[00:00:10] '7...'
[00:00:11] '6...'
[00:00:12] '5...'
[00:00:13] '4...'
[00:00:14] '3...'
[00:00:15] '2...'
[00:00:16] '1...'
[00:00:17] 'Main engine start...'
[00:00:19] 'Zero...'
[00:00:20] 'And liftoff of the Atlas V with Curiosity -- seeking clues to the planetary puzzle about life on Mars.'
[00:00:28] (rocket noise)
[00:00:43] Rob Gagnon (telemetry manager): 'And throttling down to 76%...'
[00:00:46] (rocket noise)
[00:00:53] 'And MSL is now breaking the sound barrier.'
[00:00:57] (rocket noise)
[00:00:59] 'SRB chamber pressures following the nominal curve -- everything looking good.'
[00:01:04] (rocket noise)
[00:01:09] 'And we've passed through Max-Q.'
[00:01:11] (rocket noise)
[00:01:14] 'We're on closed loop on Atlas VU. Signatures as expected.'
[00:01:18] (rocket noise)
[00:01:21] 'SRB profile continues to look nominal. Throttling back up to 100% thrust on the RD-180.'
[00:01:28] 'Engine parameters looking good.'
[00:01:30] (rocket noise)
[00:01:33] 'Flight control disturbances look as expected.'
[00:01:37] (rocket noise)
[00:01:41] 'SRB pressures running right as expected.'
[00:01:44] (rocket noise)
[00:01:48] 'Coming up on SRB burnout -- we have burnout of the SRBs.'
[00:01:52]
[00:01:58] 'Everything is looking good.'
[00:02:00] 'Ten seconds to SRB jet.'
[00:02:04]
[00:02:11] 'And we have first pair and second pair. Both sets of SRBs have successfully jettisoned the vehicle.'
[00:02:17] 'We have re-enabled guidance.'
[00:02:19] 'Everything is looking good.'
[00:02:22] George Diiler: 'This is Rob Gagnon, our United Launch Alliance telemetry manager, we're hearing.'
[00:02:27] Rob Gagnon: 'Vehicle is now 32 nautical miles in altitude, 54 miles down range...'
[00:02:33] 'Traveling at 4900 miles per hour.'
[00:02:37]
[00:02:42] 'And we've throttled down to hold a constant 2.5 G level for payload fairing jettison.'
[00:02:49]

[00:03:09] 'And we've fired the pyro valve, pressurizing the RCS bottle.'
[00:03:12]
[00:03:19] 'Pressure increasing in the loop as expected.'
[00:03:21]
[00:03:27] 'Now we're hitting our 2.5 G limit. Coming up on payload fairing jettison in approximately 10 seconds.'
[00:03:37]
[00:03:44] 'Fairing jet.'
[00:03:46] 'And we also have the successful CFLR jettison, right as expected.'
[00:03:53] 'Throttling up on the RD-180. Everything looking good.'
[00:03:57] 'Coming up to 89% thrust.'
[00:03:59]
[00:04:01] NASA Jet Propulsion Laboratory, California Institute of Technology