China just carried out its second reusable launch attempt in three weeks



For the second time this month, a Chinese rocket designed for reuse successfully soared into low-Earth orbit on its first flight Monday, defying the questionable odds that burden the debuts of new launch vehicles.

The first Long March 12A rocket, roughly the same height and diameter of SpaceX's workhorse Falcon 9, lifted off from the Jiuquan Satellite Launch Center at 9:00 pm EST Monday (02:00 UTC Tuesday).

Less than 10 minutes later, rocket's methane-fueled first stage booster hurtled through the atmosphere at supersonic speed, impacting in a remote region about 200 miles downrange from the Jiuquan spaceport in northwestern China. The booster failed to complete a braking burn to slow down for landing at a prepared location near the edge of the Gobi Desert.

The Long March 12A’s upper stage performed as intended, successfully reaching the mission’s “predetermined orbit,” said the China Aerospace Science and Technology Corporation (CASC), the state-owned enterprise that leads the country’s space industry.

“The first stage failed to be successfully recovered,” the corporation said in a statement. “The specific reasons are currently under further analysis and investigation.”

A stable of reusable rockets

This outcome resembles the results from the first flight of another medium-class Chinese rocket, the Zhuque-3, on December 2. The Zhuque-3 rocket was developed by a privately-funded startup named LandSpace. Similar in size and performance to the Long March 12A, the Zhuque-3 also reached orbit on its first launch, and its recoverable booster stage crashed during a downrange landing attempt. The Zhuque-3’s first stage came down next to its landing zone, while the Long March 12A appears to have missed by at least a couple of miles.

“Although this mission did not achieve the planned recovery of the rocket’s first stage, it obtained critical engineering data under the rocket’s actual flight conditions, laying an important foundation for subsequent launches and reliable recovery of the stages,” CASC said. “The research and development team will promptly conduct a comprehensive review and technical analysis of this test process, fully investigate the cause of the failure, continuously optimize the recovery plan, and continue to advance reusable technology verification.”

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