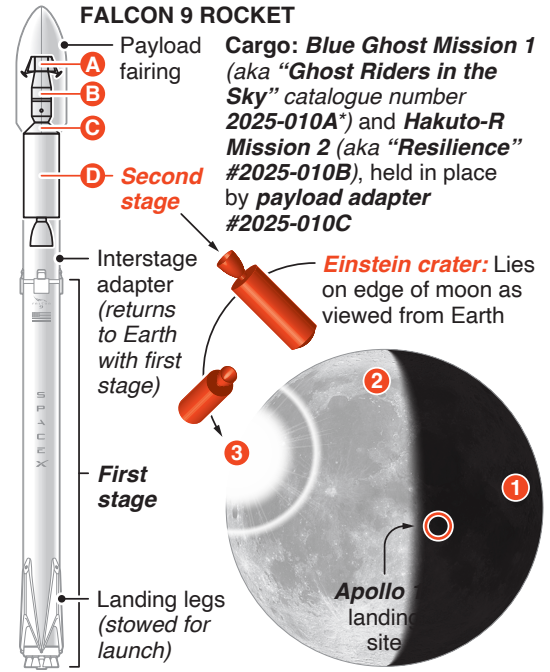
Why a SpaceX rocket hit the moon

An out-of-control rocket has smashed into the moon, giving it a new crater and highlighting the risk of space junk striking the lunar surface just as NASA pushes hard to return humans to our celestial neighbour

FALCON 9 ROCKET



Payload fairing

Cargo: ***Blue Ghost Mission 1*** *(aka* ***"Ghost Riders in the Sky"*** *catalogue number* ***2025-010A****)* and ***Hakuto-R Mission 2*** *(aka* ***"Resilience" #2025-010B****)*, held in place by ***payload adapter #2025-010C***

Interstage adapter *(returns to Earth with first stage)*

Einstein crater: Lies on edge of moon as viewed from Earth

First stage

Landing legs *(stowed for launch)*



SpaceX engineers pose with second stage

TIMELINE

Jan 15, 2025: Launch of ***SpaceX Falcon 9*** rocket *(carrying two moon landers)*

First stage separates and lands back on Earth for reuse, as planned

Second stage *(****#2025-010D****)* carries ***payload fairing*** into higher Earth orbit

1 hour after launch: Blue Ghost separates from adapter

1hr 30mins: Hakuto-R deploys

1 **Mar 2:** ***Mare Crisium*** – Blue Ghost lands successfully

Mar 15: Payload adapter burns up on re-entry to Earth's atmosphere, as planned

2 **Jun 5:** ***Mare Frigoris*** – Hakuto-R crashes due to instrument failure

3 **06:35GMT, Aug 5, 2026:** Second stage – size of five-storey building *(left)* and tumbling out of control at **8,700 km/h** – crashes near moon's ***Einstein*** crater

*Numbers highlight year of launch and number of launch that year, with letters signifying pieces of hardware. Sources: Space.com, Project Pluto, SpaceX. Pictures: NASA, SpaceX

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