

SpaceShipTwo tail system under scrutiny

Air crash investigators say SpaceShipTwo's unique tail section – which “feathers” at an angle to help the spacecraft make a safe descent – deployed as it was ascending without being ordered to do so

SpaceShipTwo

Tail: In low-drag configuration

Hybrid rocket: Designed to accelerate craft to 4,000km/h

1. White Knight Two mother ship releases spacecraft at 10,000m. Launch is normal

2. Hybrid rocket ignites. Test flight is using new solid polyamide-based rocket fuel with liquid nitrous oxide as oxidizer

3. Telemetry. Rocket begins its journey skywards at slightly above Mach 1 (about 1,210km/h)

4. Nine seconds after ignition, critical “feathering” lock-unlock lever on flight deck is moved to unlocked position.

Separate “feathering handle” must be moved to raise tail

5. Approximately two seconds later tail section moves into extended feathered position. Increase in drag causes craft to break apart