

CHALLENGER'S FINAL SECONDS

■ 73.12 SECONDS:

The bottom of the ship's external fuel tank falls off, releasing a massive amount of liquid hydrogen propellant. At the same time, the right booster breaks from its lower strut and punctures the external tank,

■ 64.66 SECONDS:

The escaping flame melts a hole in external tank and mixes with leaking hydrogen from the tank

■ 58.79 SECONDS:

A flicker of flame becomes visible as the hot gases start burning a hole through the booster joint's metal casing.

■ 12 SECONDS:

The puffs of black smoke disappear as the faulty O-ring and joint manages to seal itself

■ 7.72 SECONDS:

The ship performs a normal roll

■ LIFTOFF - 3.75 SECONDS:

Dark puffs of smoke are visible on Challenger's right solid rocket booster, evidence hot gases are burning through O-ring seals in booster joint.

■ 36.99 SECONDS:

Challenger passes through the first of several wind shear's - extremely high winds - that reopen the damaged booster joint.

■ 110 SECONDS:

Air Force range safety controller destroys the errant boosters

9 MILES HIGH

13 MILES DOWN RANGE