

# SpaceX rocket recycling

SpaceX is to make a third attempt to land the first stage of its Falcon 9 rocket on a floating barge in the Atlantic Ocean, with a view to reusing it for a future cargo mission to the International Space Station

**Second stage (with Dragon capsule):** Can carry six tonnes of cargo into space and return three tonnes to Earth

**Hypersonic grid fins (x4):** Unfold during descent to aid stability

**First stage**  
Incorporates nine Merlin engines – fuelled by liquid oxygen and kerosene – able to produce up to 1.5 million pounds of thrust

**Landing legs:** Fold down to stabilise rocket on barge

**Merlin engines**

**LAUNCH**

Booster flips over before descent

Stage separation

Lift-off

Dragon capsule continues to space station

Soft landing on barge

**LANDING**

**First stage:** Rocket must slow from nearly 5,800km/h to zero, and not miss barge. **Odds of success said to be 50% at best**

**Landing barge:** Unmanned and size of football field. Not anchored but powerful thrusters keep it in place

