

Skylab celebrates 40th anniversary

America's first space station, *Skylab*, was launched on May 14, 1973, atop the last *Saturn V* rocket to fly. Despite many mechanical problems, three crews were able to prove that humans could live in space for extended periods, and expand our knowledge of solar astronomy well beyond Earth-based observations



Micrometeoroid/heat shield

Torn off during launch, taking one of two main solar panels with it



"Golden Umbrella"

Replacement heat shield deployed during spacewalk to protect *Orbital Workshop*

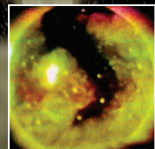
SA-513 launch vehicle: Two-stage *Saturn V* rocket

Solar array wing



Solar Panel Array

Remaining array jammed shut. Opened manually during spacewalk by first crew



Apollo Telescope Mount:

Houses eight solar experiments. Discoveries include confirmation of existence of coronal holes of Sun

Apollo Command/Service Module (CSM)

Carries three astronauts to and from Skylab

Oxygen tanks

Multiple Docking Adapter
Two docking ports and controls for *Apollo Telescope Mount*

Airlock Module
Space walk hatch



Skylab's orbit decays faster than expected due to intense sunspot activity



Missing solar array
Lost on launch

Waste tank

Orbital Workshop

Refrigeration system radiator



Impact area

MISSION TIMELINE

1973

1974

1975

1976

1977

1978

1979

May 14, 1973: Skylab launched from *Kennedy Space Center*. Damage on launch deprives spacecraft of most electrical power and removes protection from intense solar heating

May 25, 1973: First CSM arrives. Crew carries out first major in-space repair, to heat shield and solar panels

Duration: 28 days

Earth orbits: 404

Travelled: 18.5m km

Jul 28, 1973: Second CSM docks. Over 1,000 hours of solar and Earth experiments carried out. More repairs done

Duration: 59 days

Earth orbits: 858

Travelled: 39.4m km

Nov 16, 1973: Last CSM docks on mission to observe *comet Kohutek* and carry out scientific experiments

Duration: 84 days

Earth orbits: 1,214

Travelled: 89.3m km

Jul 11, 1979: NASA plans to boost Skylab to higher orbit using new *Space Shuttle**, but project is delayed. Skylab disintegrates on re-entry, with debris striking parts of Western Australia