

Space junk sparks US space crew scare

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The crew of the International Space Station sought refuge in a Soyuz space capsule amid a threatened close encounter with a debris cloud, highlighting the growing dangers of space junk.

The scare arose when the three-member crew learned too late to take evasive action of an approaching a cloud of debris that exposed the space station to the risk of a potentially catastrophic collision.

NASA appeared most concerned about a piece of a satellite motor that was close enough to ordinarily have forced the space station to undertake an evasive manoeuvre.

But Laura Rochon, a NASA spokeswoman at the Kennedy Space Centre in Florida, had said the risk of collision was "very low".

"The piece itself is about one third of an inch and it's about 4.5 kilometres away," she said.

Americans Mike Fincke, the mission commander, and Sandy Magnus, the number two flight engineer as well as their Russian colleague Yuri Lonchakov, the number one flight engineer, exited the space craft and battened themselves in the Soyuz spacecraft.

NASA said the move was a precaution in case the crew needed to detach from the space station, NASA said.

Crew members had half-locked the Soyuz doors and would have been ready to slam the hatches shut "and quickly depart the station in the unlikely event the debris had collided with the station and caused a depressurisation", NASA said.

The all-clear was sounded at 12:45pm EDT (0345 AEDT, Friday) about 10 minutes after the crew entered the capsule, the space agency said.

"The debris threat to the International Space Station has passed," NASA said in a statement.

The US Strategic Command notified NASA of the debris field late on Wednesday, but NASA said it was too late for flight controllers to coordinate a "debris avoidance" manoeuvre.

"Every once in a while, the crew has to do orbital debris avoidance manoeuvre but this time they didn't do that because we have an upcoming launch possibly on Sunday and they need to stay at the same altitude," Rochon said.

The US Joint Space Operations Centre tracks about 18,000 objects in orbit, so many that it has to decide which to follow most closely, like those that might fly by the International Space Station or manned space flights.

Experts estimate that there are more than 300,000 orbital objects measuring between one and 10 centimetres in diameter and "billions" of smaller pieces.

Travelling at speeds of up to thousands of miles an hour they pose a risk of catastrophic damage to spacecraft.

Last month, a spent Russian satellite collided with an Iridium communications satellite, showering more debris in an orbit 436 kilometres above the space station.

US military trackers failed to anticipate that collision, the first between two intact satellites, the Pentagon said at the time.

The worst debris clouds are in low Earth orbit (LEO), between 800 and 1,500 kilometres above the Earth, and in geostationary orbit, about 35,000 kilometres up.

In January 2007, China tested an anti-satellite weapon, destroying a disused Chinese weather satellite, the Fengyun-1C, creating the largest man-made debris field in history and put 2,378 fragments greater than five centimetres in low Earth orbit.

In June 1983, the windscreen of the US space shuttle Challenger had to be replaced after it was chipped by a fleck of paint measuring 0.3 millimetres that had been travelling at four kilometres per second.

Some 6,000 satellites have been sent into space since the Soviet Union launched the first man-made orbiter, Sputnik 1, in 1957.

About 800 satellites remain in operation, according to STRATCOM.

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