

By: July 2007 orneanu, Science Editor

[Watch Out! Astronauts Will Throw Fridges at Us from the ISS](#)

How to get rid of junk while in space

It's true, the three members of the crew on the International Space Station will have some nasty work to do during a spacewalk scheduled for July 23, because NASA realized it was time for a bit of cleaning, so they're getting rid of more than 730 kg (1600 pounds) of obsolete gear in and around the station. There's one problem: where to you take out trash, while in space? They can't hide it under the carpet, letting it loose in space is somewhat dangerous, so they're using a more earthly approach: they'll be throwing junk at us, back home. Yes, all the garbage will be tossed overboard and left to burn up in Earth's atmosphere, while in free-fall toward the surface. NASA officials say it will be all right, since the debris will burn in the atmosphere so there's no danger of finding oneself with a space wrench jammed to one's skull. However, one piece of junk is of particular interest, since it's a 1,400-pound (635 kg) ammonia container that will be hurled toward us at an impressive speed. How fast? Well, it depends whether it will all burn out or not, but since the speed of any falling object increases by 9.8 meters per second, every second and the ISS is located at an average altitude of 330 km (~200 mi), I invite you to calculate the potential speed, if it increases in an accelerated manner, starting from zero. Even if we subtract the atmospheric drag from the resulting speed, you still wouldn't want that falling on your house... The fact is NASA has chosen the most economical way of losing the tank, since they have already upgraded the station's power and cooling systems. "This is the first time we've ever done a jettison quite like this on the space station," said Bob Dempsey, NASA's lead flight director for Expedition 15. "We agonized over this for a very long time before we came to this decision," said deputy space station program manager Kirk Shireman. Yet despite this agony, the agency decided to bring its contribution to the pile of junk that's already floating around Earth, which consists of everything from entire spent rocket stages and defunct satellites to explosion fragments, paint flakes, dust and slag from solid rocket motors, coolant released by RORSAT nuclear powered satellites, deliberate insertion of small needles and other small particles. It even includes some rather strange objects, like a glove lost by astronaut Ed White on the first American spacewalk, a camera Michael Collins lost near the spacecraft Gemini 10, garbage bags, a wrench and a toothbrush. Sunita Williams of STS-116 also lost a camera during an EVA.