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# SPACE CENTER Roundup

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## Crew connects Zarya and Unity modules

**E**ndeavour's six-member American and Russian crew ended their 12-day International Space Station assembly mission late Dec. 15, landing at the Kennedy Space Center.

The shuttle crew touched down at 9:53 p.m. CST, safely skirting threats of cloudy skies and rain showers that could have forced postponement.

It was only the 10th time in the 17-year history of the shuttle program of 93 missions that a crew has landed in darkness. With Commander Bob Cabana and Pilot Rick Sturckow at the controls, crewmembers made their approach from the southwest and over the Gulf of Mexico with electronic navigational aids but no lights.

Astronauts Nancy Currie, Jerry Ross and Jim Newman, Russian Cosmonaut Sergei Krikalev, Cabana and Sturckow

launched December 4 with Unity, the second large component of the new International Space Station.

The crew rendezvoused with Zarya, the Russian-built and launched power and propulsion module that had been launched November 20.

The crew returned to Ellington Field December 17. In congratulating the astronauts, JSC Center Director George W.S. Abbey said that they had done a fantastic job as the first shuttle and station crew.

To the hundreds of people in attendance, Cabana said, "I'd like to thank all of you for your dedication and hard work. That made it all possible."

Cabana said that when he joined NASA in 1985, he "dreamed of building a space station – a place where all nations could work together, a stepping-stone to the

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NASA Photo STS088-703-032

Using the shuttle's robot arm and three space walks by Jerry Ross and Jim Newman, the crew linked the two modules, creating a single uninhabited 35-ton, 75-foot-long structure that circles the Earth at more than 240 miles high.

## Station truss acoustic testing begins at JSC

By James Hartsfield

**A** four-story-tall, 12-ton – relatively tiny – piece of the International Space Station is at JSC to undergo the noise and vibration of a simulated space shuttle launch, and more than a thousand neck-craning employees turned out recently for a glimpse of it.

An exact replica of the centerpiece of the station's 356-foot long girder-like truss structure, a 43-foot long segment called the S-zero truss, has been in the Bldg. 49 Spacecraft Acoustic Lab undergoing a complex series of vibro-acoustic tests. The S-zero Truss Structural Test Article will not actually be launched. The piece that will fly is currently under construction at Boeing's Huntington Beach, Ca., factory. The flight truss is scheduled to be shipped to Florida in mid-1999 to begin acceptance testing.

Also built at Huntington Beach, the test article arrived at JSC via NASA's Super Guppy aircraft in late October, said Don McCormack, NASA's station launch package manager for the truss segment. The S-zero is the first of nine segments that will be connected in orbit to build the football field-long final truss.

"Although this piece is huge, it's

incredible when you realize that it represents only about 12 percent of the length of the entire station truss," McCormack said. "We build test articles like this to allow us to verify the design through testing without putting the flight hardware at risk of damage. Simulating the acoustic and vibration environment of the shuttle's payload bay during launch in this test helps assure us that our predictions are accurate about what the various components on the segment will face at launch."

More than a thousand employees from all areas of JSC turned out for an opportunity to see the truss segment in Bldg. 49 during a break in the test activities. Among them was John Weghorst, who works at Boeing's Space Park facility.

"I wanted to see the hardware firsthand," Weghorst explained. "I'm amazed at the size. The station itself is bigger than people think it is. You can hear the dimensions on the news, but until you are right here on top of it, you don't realize just how big it really is."

More than 320 sensors – 240 accelerometers to measure vibrations, 20 microphones and 60 strain gauges – were placed on the truss test article after its arrival here, said Dennis Halpin, the

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JSC Photo S98-20383 by Benny Benavides

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Employees take X-38 for test drive.

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Shine your boots: it's rodeo time again.

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Drug delivery system being developed.

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