



MESSENGER undergoes integration test on the pad Saturday

▲ **ELV Update:** MESSENGER, riding atop its spacecraft transporter, departed the Astrotech Space Operations facilities in Titusville at 12:27 a.m. yesterday. It arrived at Pad 17-B on Cape Canaveral Air Force Station at 4:30 a.m. and was hoisted atop the Boeing Delta II rocket at 6:20 a.m. The Flight Program Verification, an integrated test of the spacecraft/launch vehicle combination and the last major test before launch, is scheduled to occur Saturday.

▲ NASA Television Expands Reach With Satellite Switch July 24:

NASA Television will improve coverage to viewers in Alaska and Hawaii, as well as the continental United States, when it switches its signal from one satellite to two different ones.

Beginning July 24, NASA Television will be seen in the continental United States on AMC-6, at 72 degrees west longitude, Transponder 9, 3880 MHz, vertical polarization, audio at 6.8 MHz. People living in Alaska or Hawaii can see NASA TV on AMC-7, at 137 degrees west longitude, Transponder 18, at 4060 MHz, vertical polarization, audio at 6.8 MHz.

NASA Television will no longer broadcast from its present satellite, AMC-9, after July 24.

New NASA satellite adds TV coverage in Alaska, Hawaii

■ Last Day To Request Badges For Take Our Children to Work Day —

This is a reminder that badging requests for children of NASA employees should be received by XA-F (External Affairs, Special Events) **today** in order to send badges back through the mail for the July 27 event. Employees must go to the Protocol Office at the Visitor Complex July 23 through July 26 to pick up badges in person. Go to <http://childrenatwork.ksc.nasa.gov/badging.htm> for badging request forms, contacts and additional program information.

■ **Silver Snoopy Award** — Theresa Keeney, logistics process control lead engineer, recently received the prestigious Silver Snoopy Award for her service to Space Shuttle astronauts. The award was presented to Keeney as a surprise by astronauts Barry “Butch” Wilmore and Bob Behnken during an office meeting. The recognition is for her efforts in developing the processes to loan Space Shuttle Columbia debris for research and educational purposes.

■ **KSC Contributes to New Patent Technology** — NASA recently granted two partially exclusive patent license agreements for the manufacturing and sale of a high-performance wireless data acquisition and control system involving work done at the Kennedy Space Center.

Two of the developers of the patent-pending technology, known as the “Wireless Instrumentation System And Power Management Scheme Therefore,” are Angel Lucena and Jose Perotti of NASA. The system acquires and processes data remotely without the need of cabling installation.

■ **Did You Know? A NASA infrared camera helps surgeons map brain tumors.** NASA scientists already use infrared technology to map Earth's surface and search for distant objects in the universe. Firefighters use it to locate people trapped in buildings, and military forces track down their targets hiding in the dark. Now surgeons are testing thermal imaging and image processing to see if they can create useful maps of brain tumors by using an infrared video camera developed by researchers at NASA's Jet Propulsion Laboratory in Pasadena, Calif. Researchers want to see if the camera, which detects infrared – or heat – emissions, might help neurosurgeons better visualize tumors before they operate and also find tiny clusters of cancerous cells that might remain after surgery. Physicians have used infrared technology for mapping the roots of skin cancer, but it has never been used for brain tumors until now.