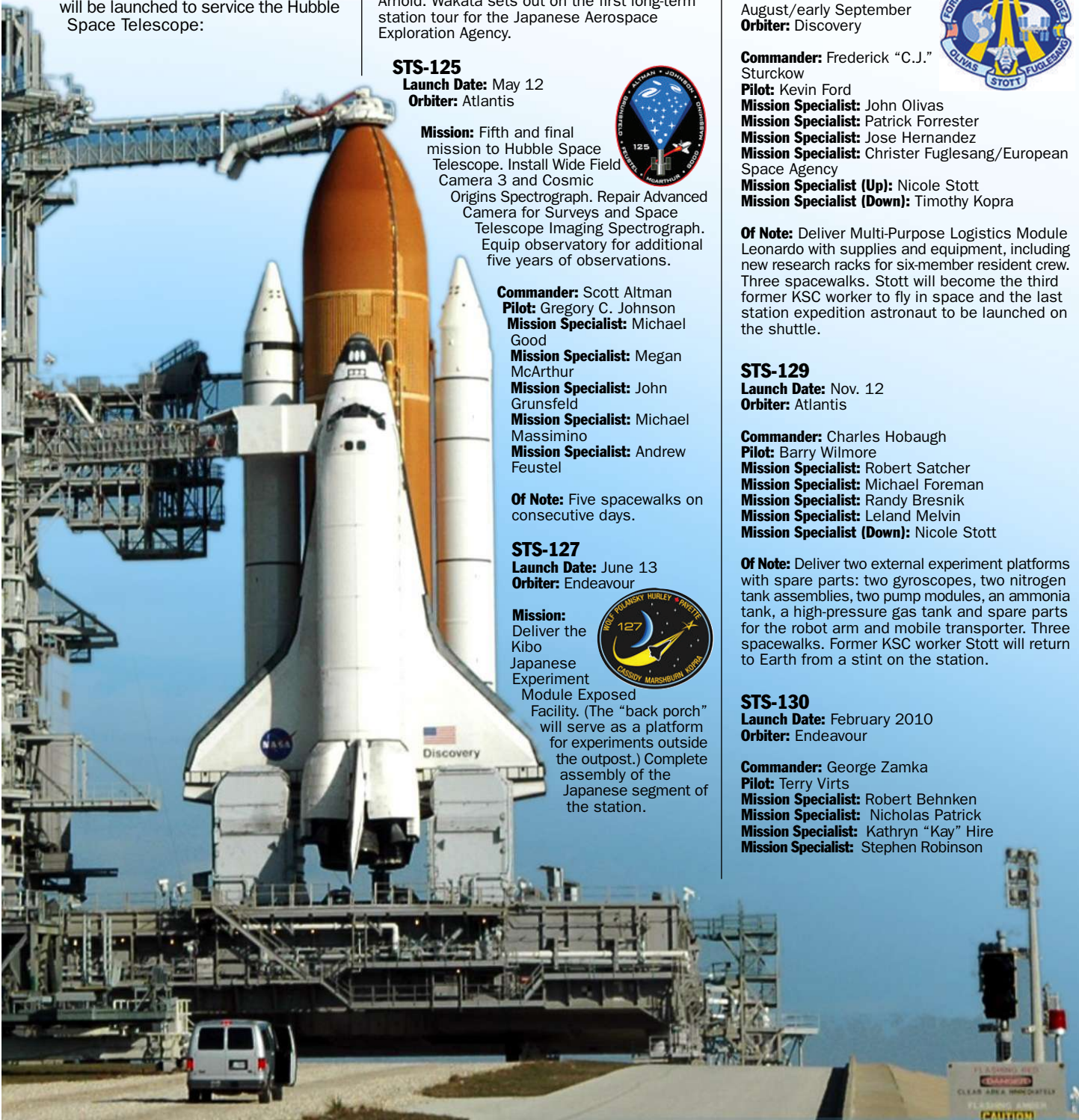


T-minus 10 missions and counting:

10 remaining missions on NASA's shuttle manifest

President Barack Obama is sticking with plans to complete the International Space Station and retire NASA's shuttle fleet in 2010. His recently released budget gave NASA the green light to add a single shuttle mission to its schedule — if it can be carried out “safely and affordably” by the end of 2010.

Here is a snapshot of remaining missions. Nine will be flown to complete the International Space Station and one will be launched to service the Hubble Space Telescope:



STS-119

Launch Date: Today
Orbiter: Discovery



Mission: Deliver fourth and final set of American solar wings; complete station's central truss.

Commander: Lee Archambault
Pilot: Dominic “Tony” Antonelli
Mission Specialist: Joseph Acaba
Mission Specialist: Steven Swanson
Mission Specialist: Richard Arnold
Mission Specialist: John Phillips
Mission Specialist (Up): Koichi Wakata
Mission Specialist (Down): Sandra Magnus

Of Note: Four spacewalks by Acaba, Swanson and Arnold. Wakata sets out on the first long-term station tour for the Japanese Aerospace Exploration Agency.

STS-125

Launch Date: May 12
Orbiter: Atlantis



Mission: Fifth and final mission to Hubble Space Telescope. Install Wide Field Camera 3 and Cosmic Origins Spectrograph. Repair Advanced Camera for Surveys and Space Telescope Imaging Spectrograph. Equip observatory for additional five years of observations.

Commander: Scott Altman
Pilot: Gregory C. Johnson
Mission Specialist: Michael Good
Mission Specialist: Megan McArthur
Mission Specialist: John Grunsfeld
Mission Specialist: Michael Massimino
Mission Specialist: Andrew Feustel

Of Note: Five spacewalks on consecutive days.

STS-127

Launch Date: June 13
Orbiter: Endeavour



Mission: Deliver the Kibo Japanese Experiment Module Exposed Facility. (The “back porch” will serve as a platform for experiments outside the outpost.) Complete assembly of the Japanese segment of the station.

Commander: Mark Polansky
Pilot: Douglas Hurlley
Mission Specialist: Thomas Marshburn
Mission Specialist: Julie Payette/Canadian Space Agency
Mission Specialist: David Wolf
Mission Specialist: Christopher Cassidy
Mission Specialist (Up): Timothy Kopra
Mission Specialist (Down): Koichi Wakata

Of Note: First station assembly mission to stage five spacewalks. First mission to swap out batteries on the station's central truss. Wakata returns from the first long-term Japanese tour at the station.

STS-128

Launch Date: Late August/early September
Orbiter: Discovery



Commander: Frederick “C.J.” Sturckow
Pilot: Kevin Ford
Mission Specialist: John Olivas
Mission Specialist: Patrick Forrester
Mission Specialist: Jose Hernandez
Mission Specialist: Christer Fuglesang/European Space Agency
Mission Specialist (Up): Nicole Stott
Mission Specialist (Down): Timothy Kopra

Of Note: Deliver Multi-Purpose Logistics Module Leonardo with supplies and equipment, including new research racks for six-member resident crew. Three spacewalks. Stott will become the third former KSC worker to fly in space and the last station expedition astronaut to be launched on the shuttle.

STS-129

Launch Date: Nov. 12
Orbiter: Atlantis

Commander: Charles Hobaugh
Pilot: Barry Wilmore
Mission Specialist: Robert Satcher
Mission Specialist: Michael Foreman
Mission Specialist: Randy Bresnik
Mission Specialist: Leland Melvin
Mission Specialist (Down): Nicole Stott

Of Note: Deliver two external experiment platforms with spare parts: two gyroscopes, two nitrogen tank assemblies, two pump modules, an ammonia tank, a high-pressure gas tank and spare parts for the robot arm and mobile transporter. Three spacewalks. Former KSC worker Stott will return to Earth from a stint on the station.

STS-130

Launch Date: February 2010
Orbiter: Endeavour

Commander: George Zamka
Pilot: Terry Virts
Mission Specialist: Robert Behnken
Mission Specialist: Nicholas Patrick
Mission Specialist: Kathryn “Kay” Hire
Mission Specialist: Stephen Robinson

Of Note: Deliver Node 3 and Cupola to the station. Node 3 houses advanced life support systems and six berthing ports for future station expansion. The Cupola is a robotic control center with six windows that provide a 360-degree view of the outpost. Three spacewalks. Hire becomes the first former KSC worker to make a second trip to space.

STS-131

Launch Date: March 18, 2010
Orbiter: Atlantis

Commander: Alan Poindexter
Pilot: James Dutton
Mission Specialist: Richard Mastracchio
Mission Specialist: Clayton Anderson
Mission Specialist: Dorothy Metcalf-Lindenburger
Mission Specialist: Stephanie Wilson
Mission Specialist: Naoko Yamazaki/Japan Aerospace Exploration Agency

Of Note: Deliver a Multi-Purpose Logistics Module with science experiment equipment, a new sleep station and supplies to the station. Three spacewalks. Last scheduled flight of Atlantis.

STS-132

Launch Date: May 13, 2010
Orbiter: Discovery
Crew: TBD

Of Note: Deliver a Russian Mini Research Module identical to the station's Pirs Docking Compartment as well as a U.S. Integrated Cargo Carrier. The payload includes an airlock and European robot arm for the Russian Mini Research Module, six batteries, a boom assembly for the station's Ku-band communications antenna and spare parts for the station's two-armed Canadian robot Dextre.

STS-133

Launch Date: July 29, 2010
Orbiter: Endeavour
Crew: TBD

Of Note: Deliver two external experiment platforms and large spare parts to the station. Final scheduled mission for Endeavour. 134th shuttle mission; 164th NASA human space flight from U.S. soil.

STS-134

Launch date: Sept. 16, 2010
Orbiter: Discovery
Crew: TBD

Of Note: The NASA Authorization Act of 2008 adds this one additional shuttle flight to launch the Alpha Magnetic Spectrometer and other scientific equipment to the International Space Station. Money for the mission has not yet been appropriated, but President Barack Obama's recently released budget blueprint for fiscal year 2010 calls for NASA to add a mission to its manifest.

Also of Note: 135th and final shuttle mission.

Shuttle Discovery on the launch pad last year.
FLORIDA TODAY file photo