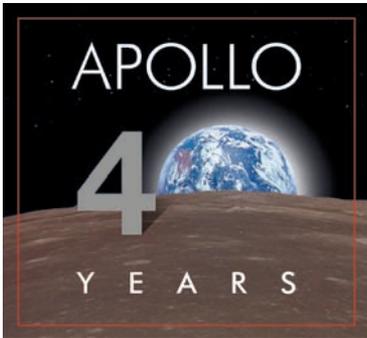




# Space Shuttle Program Artifacts



*Information Pamphlet*



*As we celebrate the 40th anniversary of the first human presence on the Moon, NASA continues to move forward with a new focus for the human space flight program. We expect to retire the Space Shuttles and associated hardware following our last mission currently scheduled in late 2010. At the same time, we will continue to transition to the next generation space transportation.*

## **SPACE SHUTTLE HISTORY**

NASA's Space Shuttle orbiters are the first spacecraft capable of routinely launching into orbit like rockets and then returning to Earth as gliders. They are the main element of NASA's Space Transportation System and are used for carrying astronauts to the International Space Station and other destinations in low-Earth orbit, like the Mir and the Hubble Space Telescope as well as for scientific research and space applications, such as deploying and repairing satellites.

A Space Shuttle can carry a payload of about 65,000 pounds to orbit. Typical missions have crews of 7 astronauts, orbit at altitudes of approximately 150 to 250 miles, and stay in space from 10 days to more than 2 weeks.



The Space Shuttle is composed of several large components: the orbiter, the vehicle that carries people and payloads to orbit; three main engines that power the Shuttle; the external tank and two solid rocket boosters, which together provide the energy necessary to lift the Shuttle out of Earth's gravity into space.

## FREQUENTLY ASKED QUESTIONS

### *How will NASA dispose of Space Shuttle Program artifacts?*

NASA recognizes the importance the Space Shuttle Program has played in our Nation's history and is working with the appropriate Federal agencies to ensure that Shuttle artifacts are preserved and made available for public display in museums, at NASA visitor centers, and in qualified educational institutions. In order for that to occur, NASA is utilizing existing legislative authorities and agreements to transfer artifacts to authorized recipients.

### *Why are SSP artifacts being offered through prescreening rather than the regular disposal process?*

Prescreening will allow recipients extended time to screen, plan and determine the availability of funds and other necessary resources.

### *What will be available and when?*

There are thousands of items that vary in size from large Space Shuttle Main Engines to smaller hardware pieces that have flown in space that may become artifacts. Artifacts will be periodically listed as they become available. With Space Shuttle missions ongoing through 2010, NASA is working aggressively to identify and screen artifacts now, recognizing that some items will not be available for release until after the final shuttle flights. The list of artifacts NASA is providing during the prescreening process is NASA's best estimate of what will be available for qualified institutions after the end of the Program. Artifact availability, release date, and quantity are subject to change.

### *Can we preview items that will be available?*

NASA and the General Services Administration have partnered to provide an online module for prescreening potential shuttle artifacts. The prescreening module is part of GSAXcess®—GSA's electronic property management system. Eligible Federal agencies, public museums, and educational organizations can preview potential shuttle artifacts as they become available for screening. NASA Space Shuttle Artifacts are listed at <http://gsaxcess.gov/NASAWel.htm>.

### *How can we access and use the prescreening module?*

Access varies by the type of organization wishing to participate:

- 1) Federal agency users with access to GSAXcess® will use their existing User ID to access the prescreening module. Federal agency users without access to GSAXcess® must contact their GSAXcess National Utilization Officer for a User ID.
- 2) Non-State Agency for Surplus Property (SASP)-sponsored universities and schools must register online at <http://gsaxcess.gov/NASAWel.htm> to gain access to the prescreening module. The registration process requires a valid Integrated Postsecondary



Education Data System (IPEDS) or National Center for Education Statistics (NCES) number assigned by the Department of Education. After registration is complete, GSAXcess® will email a User ID to the registrant to access the prescreening module.

3) SASP-sponsored public museums, universities, and schools must contact their SASP to request access to the online prescreening module. The SASP determines the organization's eligibility to screen/receive surplus Government property and will assign unique User access IDs.

### ***How do we obtain items we want?***

The GSA Web site is the first entry point for institutions seeking to obtain artifacts from the Shuttle Program. Participation in the prescreening process does not guarantee that you will receive the artifacts you have requested. NASA will evaluate the requests received during the prescreening process against the inventory of artifacts available at the Program's end.

Space Shuttle artifacts are requested through the prescreening module at <http://gsaxcess.gov/NASAWel.htm>. However, the property donation or transfer process varies by the type of participating organization/recipient:

- 1) Federal agencies request potential artifacts in the prescreening module for interagency transfer through the normal excess property reutilization process.
- 2) Non-SASP-sponsored universities and schools directly request potential artifacts in the prescreening module. If approved by NASA, the property will be transferred under authority of the Stevenson-Wydler Technology Innovation Act.
- 3) SASP-sponsored public museums, universities, and schools can request potential artifacts in the prescreening module, but a SASP must electronically approve the organization's selection.

### ***Are there costs?***

Yes. Recipients must understand they are responsible for packaging, preparation, and transportation costs. Some items will also require special handling fees because of unique attributes including size and weight. Items being donated through a SASP may also incur SASP directed fees.

### ***Who will get the Space Shuttles (orbiters) and when?***

NASA's primary focus is to ensure that the Space Shuttle safely and successfully completes its mission to assemble the International Space Station by the end of 2010. Once the Shuttle's mission is complete, NASA intends to transfer the Shuttle orbiter Discovery to the Smithsonian Institution, National Air and Space Museum. NASA has made no decisions on final disposition of the Shuttle orbiters Atlantis and Endeavour.



All property disposition is being accomplished according to Government guidelines. Because of the role that they have played in our Nation's space program, special attention is being given to ensure the Shuttle orbiters are appropriately retired and displayed in the broadest interest of the American public.



## ***Property Transfer Programs***

### ***General Information***

Space Shuttle Program artifacts (property) are being donated or transferred under one of three programs:

- Federal Transfer of Excess Personal Property
- Stevenson-Wydler Act
- Federal Surplus Personal Property Donation Program

The Federal Transfer of Excess Personal Property is intended to move property from a Federal agency that no longer needs the item, to a Federal agency that has a need for the item. This policy resides in Federal Management Regulation (FMR) 102.36.

The Stevenson-Wydler Act is intended to assist the national education goals by transfer of Federally owned excess research equipment to educational organizations and nonprofit institutions for the conduct of technical and scientific education and research activities. This authority resides in The Stevenson-Wydler Technology Innovation Act of 1980 (Public Law 96-480).

The Federal Government Federal Surplus Personal Property Donation Program on the other hand, is more broadly focused. Under this program, eligible recipients must work with their individual SASP. SASPs determine eligibility for participation in the donation program and assist eligible donees in locating, screening, and acquiring needed equipment. SASPs also advise donees of the terms, conditions, restrictions, and noncompliance ramifications associated with donated personal property. Additional conditions and restrictions are imposed by the General Services Administration on certain types of property, and SASPs may assess donation recipients a service charge to cover packaging, preparation, transportation, and administrative expenses for donated surplus property. This policy resides in FMR 102.37.

## ***Where to Find Additional Information***

<http://gsaxcess.gov/NASAWel.htm>

This is the home page for the prescreening module where you register, log on, view, and request all Shuttle artifacts.

[artifacts@gsa.gov](mailto:artifacts@gsa.gov)

This GSA e-mail address was established especially to answer questions about eligibility to participate in the prescreening process, the relationship of the prescreening process to GSAXcess®, the assignment of User IDs to gain access to the prescreening module, and the virtual shopping cart/checkout process.

<http://www.nasa.gov/transition>

This Web site offers additional information regarding the Space Shuttle transition and highlights how NASA is progressing with Shuttle retirement planning and transition to the new Constellation human space flight system. It also has current transition documents, including the NASA Transition Plan, the Multi-Program Integrated Milestones chart depicting when the remaining Shuttle flights are scheduled to occur, as well as a listing of links to other public sites that provide other useful information.

<http://spaceoperations.nasa.gov>

This Web site offers various information regarding current Shuttle and International Space Station missions as well as general space operations in space communication and launch services. It also provides details about future activities as the Shuttle retires and the space operations organization begins fully supporting the Constellation Program.

<http://www.nasa.gov/directorates/esmd>

This Web site offers the latest information on space exploration and primarily highlights the development of the new Constellation human space flight system. This is a very exciting Web site where you can experience NASA's new "future" along with links to a lot of information and videos. This is a very good site for those interested in the future of space exploration.



## ***Identifying Space Shuttle Related Artifacts***

NASA has made a concerted effort with the assistance of our historians and the National Air and Space Museum to identify items that may be of special interest to public museums and educational institutions.

***The National Air and Space Museum has identified the following categories as having historic significance:***

- Events (missions, extravehicular activities, etc.)
- People (astronauts, managers, engineers, technicians, etc.)
- Technologies (engines, tiles, spacesuits, spacecraft components, etc.)
- Processes (tests, manufacturing, mission operations, etc.)
- Research (scientific instruments, experiment specimens, etc.)
- Memorabilia (patches, pins, posters, awards, collectibles, etc.)

***Flight status is being used as a first-cut criterion for judging the significance of potential artifacts:***

- Category I: Items that have flown (spacecraft and components, crew equipment, scientific instruments, and memorabilia)
- Category II: Flight items that have not flown (flight qualified spares, backup hardware, and engineering test articles made of the same components as the flight article)
- Category III: Items that have not flown and are not meant to fly but represent the development and practice of space flight (prototypes, boilerplates, developmental test models, wind tunnel models, mockups, display models, simulators, training equipment, memorabilia, public outreach materials, and commissioned art)



## **Potential Space Shuttle Program Historic Artifacts:**

*Examples include, but are not limited to, items such as the following:*

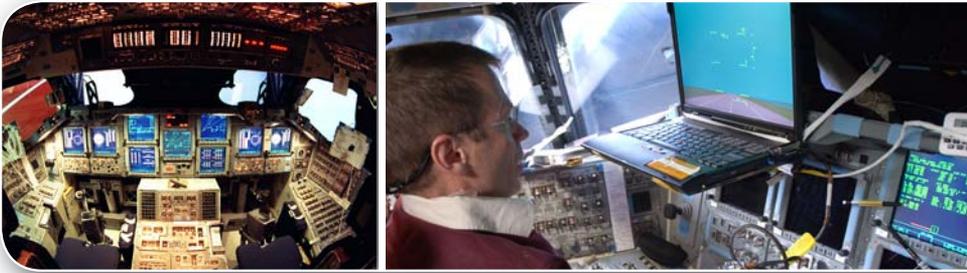
***Personal Use Flight Items (Mission Related)***—items used to serve astronauts' needs such as clothing and body protection as well as:

- Crew altitude protection system (CAPS) consisting of a helmet; communications cap; pressure garment; antiexposure, antigravity suit; gloves; and boots
- Escape equipment worn over the CAPS during launch and consisting of an emergency oxygen system; parachute harness; parachute pack with automatic opener; pilot chute; drogue chute and main canopy; life raft; flotation devices; and survival vest pockets containing a radio/beacon; signal mirror; shroud cutter; pen gun flare kit; sea dye marker; and smoke flare and beacon
- Miscellaneous gear used by an astronaut as a carrying device (such as pouches) and as protective apparatus (such as goggles)

### ***Tools, Equipment, and Materials (Manufacturing):***

- Specifically manufactured to support the orbiters—could include equipment in the Vehicle Assembly Building and Orbiter Processing Facilities
- For manufacturing materials that mask large surfaces such as the thermal protection system
- For manufacturing or preparing materials such as tools used for repair work, testing, and training (space and ground support)
- For fabricating of all other objects required specifically for use in support of the Space Shuttle Program





***Tools and Equipment for Science and Technology (Mission Requirements)***—items such as the operational bioinstrumentation system and radiation equipment as well as tools, equipment, and supplies for:

- Observing, measuring, and documenting objects and events outside Earth's atmosphere
- Observing, measuring, and documenting atmospheric phenomena
- Studying the universe

***Communication Equipment***—tools, equipment, and supplies such as:

- Ground and onboard orbital computers
- Precision drawings and models
- Still and video cameras used on the orbiter
- Equipment used to facilitate communication outside Earth's atmosphere

***Distribution and Transportation***—assets used in order to:

- Pack, transport, or hold unique items used in space such as cargo containers
- Transport people or goods above the surface of Earth

## ***Space Shuttle Program Transition***

By focusing on the evolution of our skilled workers, our facilities, and our infrastructure as we move from the Space Shuttle system to the Constellation system, transition requirements provide NASA with a unique opportunity to revitalize the Nation's human space flight program. NASA established a senior leadership team to address the disposition of personal property to include artifacts.

### ***What's Next?***

#### ***Rendezvous Magazine***

“NASA is not going out of business, but rather beginning a new way of doing business for the next 50 years. We are extending our reach beyond low earth orbit, which is truly exciting.”

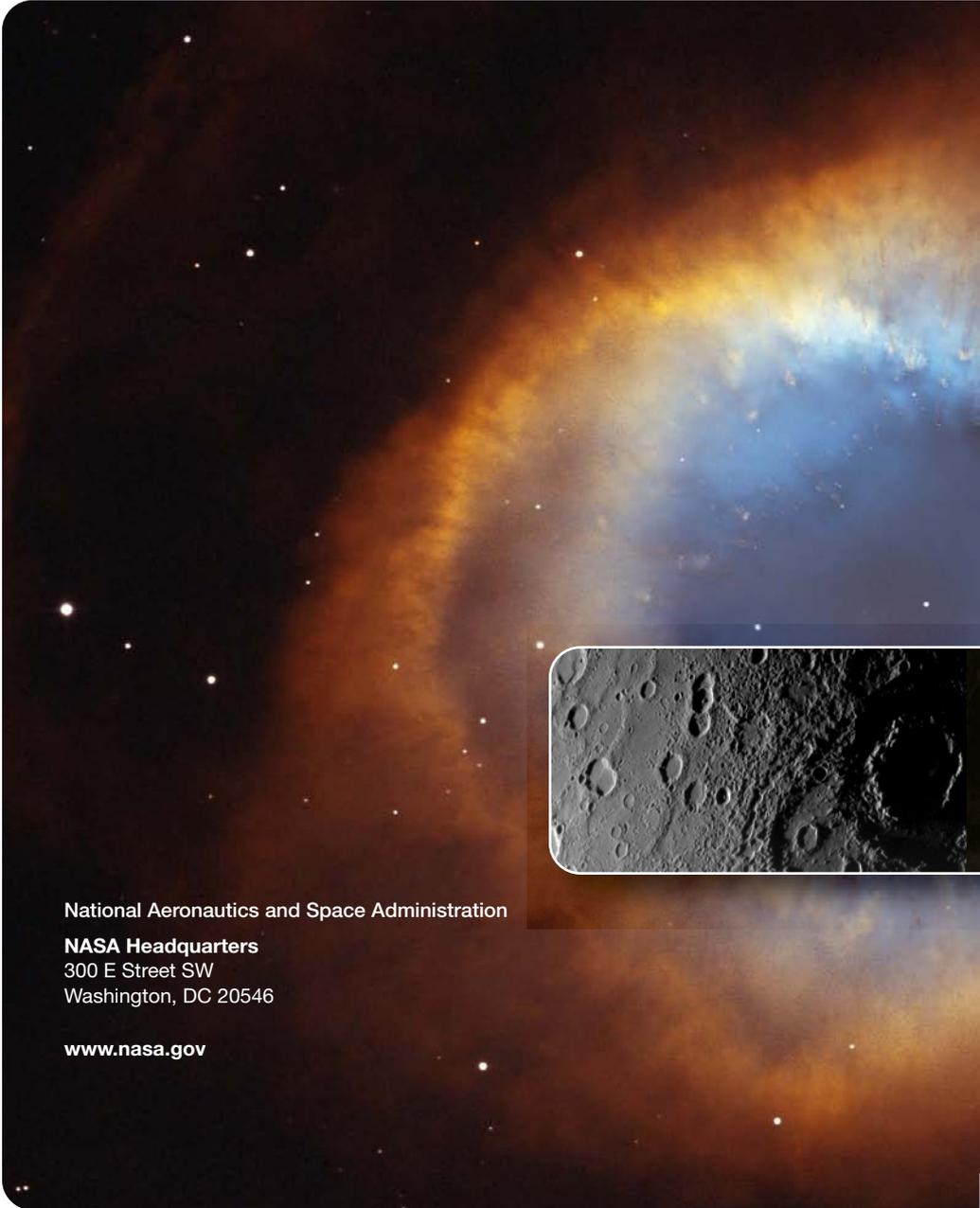
—William Gerstenmaier, Associate Administrator/Space Operations

From the time of our birth, humans have felt a primordial urge to explore—to blaze new trails, map new lands, and answer profound questions about ourselves and our universe. The U.S. Space Exploration Policy will lead us across the solar system beginning with the Moon, then on to Mars, and beyond. But before we can achieve the future, we must perform in the present. NASA's current space flight programs, the Space Shuttle and International Space Station, are our present reality; our primary overriding responsibility is to safely and successfully complete the Space Shuttle Program and the assembly of the International Space Station.



"It is with an iron will that they embark on the most daring of all endeavors . . . to meet the shadowy future without fear and conquer the unknown."

—Ferdinand Magellan, circa 1520



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