Head Slate

**TITLE:** **Lunar Reconnaissance Orbiter (LRO) Pre-launch Resource Tape**

**TAPE #:** **G2009-030**

**TRT:** **53:43**

**GSFC CONTACT:** **Andy Freeberg 301-286-0746**

**HQ CONTACT:** **Grey Hautaluoma 202-358-0668**

**RELEASE DATE:** **5/18/09**

**URL:** **http://www.nasa.gov/lro**

**SYNOPSIS:** The United States and partners have begun a program to extend human presence in the solar system, beginning with a return to the Moon. The first step in this endeavor is the Lunar Reconnaissance Orbiter (LRO), an unmanned mission to create a comprehensive atlas of the Moon's features and resources. To ultimately aid in future lunar exploration, LRO is equipped with seven scientific instruments whose objectives focus on the selection of safe landing sites, identification of lunar resources, and studies of how the lunar radiation environment will affect humans.

Item 1

**TITLE:** **LRO/LCROSS Launch, Deploy, and Mission Animation**

**DESCRIPTION:** This extended conceptual animation shows the LRO launch, deployment, and mission. LRO will travel with a secondary payload called Lunar Crater Observation and Sensing Satellite (LCROSS). The second half of the animation focuses on the LCROSS mission.

**SUPER:** NASA/GSFC and Frassanito & Associates

**TRT:** 4:10

**URL:** http://svs.gsfc.nasa.gov/goto?10334

Item 2

**TITLE:** **LRO Scouts for Safe Landing Sites**

**DESCRIPTION:** This short video feature describes how LRO's instruments are used collectively to scout for safe landing sites. The crater depicted in this animation is fictitious and only intended for illustrative purposes.

**SUPER:** NASA/GSFC

**TRT:** 2:54

**URL:** http://svs.gsfc.nasa.gov/goto?10349

Item 3

**TITLE:** **LRO Spin (instruments labeled)**

**DESCRIPTION:** A 720-degree spin of the LRO spacecraft including both a version with the scientific instruments labeled and without labels.
**SUPER:** NASA/GSFC
**TRT:** 0:29
**URL:** http://svs.gsfc.nasa.gov/goto?10279

Item 4
**TITLE:** **LRO Over Moon**
**DESCRIPTION:** This animation is a close-up view highlighting spacecraft instrumentation - pulling away to reveal LRO's track over the moon.
**SUPER:** NASA/GSFC
**TRT:** 0:30
**URL:** http://svs.gsfc.nasa.gov/goto?10272

Item 5
**TITLE:** **LRO Tracking (version 1)**
**DESCRIPTION:** Here we follow LRO as it moves along its orbit high above the lunar surface.
**SUPER:** NASA/GSFC
**TRT:** 0:33
**URL:** http://svs.gsfc.nasa.gov/goto?10280

Item 6
**TITLE:** **LRO Moonview**
**DESCRIPTION:** This animated sequence takes a view from inside a large crater as LRO passes overhead.
**SUPER:** NASA/GSFC
**TRT:** 0:23
**URL:** http://svs.gsfc.nasa.gov/goto?10277

Item 7
**TITLE:** **LRO Follow Over Crater (version 1)**
**DESCRIPTION:** This animation tracks with LRO as it passes above a large lunar crater.
**SUPER:** NASA/GSFC
**TRT:** 0:33
**URL:** http://svs.gsfc.nasa.gov/goto?10274

Item 8
**TITLE:** **LRO Orbit Insertion**

**DESCRIPTION:** This visualization shows an example of how the orbit insertion for the Lunar Reconnaissance Orbiter (LRO) might look. LRO launches from Cape Kennedy, then flies around the Earth and on to the moon. Time speeds up during the journey to the moon, then slows again as LRO approaches the moon.
**SUPER:** NASA/GSFC
**TRT:** 2:14
**URL:** http://svs.gsfc.nasa.gov/goto?3612

Item 9
**TITLE:** **Clementine Moon Spin**
**DESCRIPTION:** This animation depicts a virtual camera spinning around Clementine data of the moon.
**SUPER:** NASA/GSFC
**TRT:** 0:48
**URL:** http://svs.gsfc.nasa.gov/goto?3444

Item 10
**TITLE:** **Lunar Topography in False Color**
**DESCRIPTION:** This animation is a brief tour of several prominent features of the Moon's terrain: Tycho crater, the south pole, and the South Pole-Aitken basin. The height of the terrain is color-coded, with blues and greens representing low altitudes and reds representing high altitudes. The view is match-moved to a companion piece showing the Moon in natural colors.
**SUPER:** NASA/GSFC, JAXA/SELENE
**TRT:** 1:39
**URL:** http://svs.gsfc.nasa.gov/goto?3582

Item 11
**TITLE:** **Lunar Topography in Natural Color**
**DESCRIPTION:** This animation is a brief tour of several prominent features of the Moon's terrain: Tycho crater, the south pole, and the South Pole-Aitken basin. It is match-moved to a companion piece showing the terrain elevations in false color.
**SUPER:** NASA/GSFC, JAXA/SELENE
**TRT:** 1:39
**URL:** http://svs.gsfc.nasa.gov/goto?3594

Item 12
**TITLE:** **LRO Ground Track**

**DESCRIPTION:** The LRO spacecraft will be placed in low polar orbit. As the moon rotates below the orbit, LRO's ground track will gradually provide coverage of the lunar surface with greater saturation at the poles than the equator. This animation shows conceptually how LRO's data will accumulate.
**SUPER:** NASA/GSFC, JAXA/SELENE
**TRT:** 1:10
**URL:** http://svs.gsfc.nasa.gov/goto?3576

Item 13
**TITLE:** **Permanent Shadows on the Moon**
**DESCRIPTION:** As the Earth and Moon orbit around the Sun, there are certain parts of the moon that never receive direct sunlight. Most of these permanently shadowed regions are at the lunar poles. These areas are of interest because they could potentially hold water ice.
**SUPER:** NASA/GSFC, JAXA/SELENE
**TRT:** 2:00
**URL:** http://svs.gsfc.nasa.gov/goto?3577

Item 14
**TITLE:** **Lunar Fly By and Earth Approach**
**DESCRIPTION:** This is an animation flying over the surface of the moon then approaching the Earth.
**SUPER:** NASA/GSFC
**TRT:** 0:38
**URL:** http://svs.gsfc.nasa.gov/goto?3041

Item 15
**TITLE:** **Testing of LRO**
**DESCRIPTION:** The LRO spacecraft and its parts have been through extensive testing.
**SUPER:** NASA/GSFC
**TRT:** 1:58
**URL:** http://svs.gsfc.nasa.gov/goto?10425

Item 16
**TITLE:** **LRO Instrument Integrations**
**DESCRIPTION:** The LRO payload, comprised of six instruments and one technology demonstration, will provide key data sets to enable a human return to the moon. Though built at a variety of partner institutions, all of LRO's instruments were integrated onto the spacecraft at NASA's Goddard Space Flight Center.
**SUPER:** NASA/GSFC
**TRT:** 2:45

**URL:** http://svs.gsfc.nasa.gov/goto?10201

Item 17
**TITLE:** **Assembly of LRO**
**DESCRIPTION:** The LRO spacecraft was built by engineers at NASA's Goddard Space Flight Center in Greenbelt, Md. The following clips record a few pieces of the complex assembly process of the satellite.
**SUPER:** NASA/GSFC
**TRT:** 1:42
**URL:** http://svs.gsfc.nasa.gov/goto?10326

Item 18
**TITLE:** **LRO Interview: Craig Tooley, Project Manager**
**DESCRIPTION:** Craig Tooley is the Project Manager for the Lunar Reconnaissance Orbiter (LRO) mission. The following sound bites from Tooley give information about the LRO mission, its objectives and importance.
**SUPER:** NASA/Goddard Space Flight Center
**TRT:** 3:44
**URL:** http://svs.gsfc.nasa.gov/goto?10433

Item 19
**TITLE:** **LRO Interview: Rich Vondrak, Project Scientist**
**DESCRIPTION:** Rich Vondrak is the Project Scientist for the Lunar Reconnaissance Orbiter (LRO) mission. The following sound bites from Vondrak give information about the LRO mission, its objectives and importance.
**SUPER:** NASA/Goddard Space Flight Center
**TRT:** 3:45
**URL:** http://svs.gsfc.nasa.gov/goto?10378

Item 20
**TITLE:** **LRO Interview: Cathy Peddie, Deputy Project Manager**
**DESCRIPTION:** Cathy Peddie is the Deputy Project Manager for the Lunar Reconnaissance Orbiter (LRO) mission. The following sound bites from Peddie give information about the LRO mission, its objectives and importance.
**SUPER:** NASA/Goddard Space Flight Center
**TRT:** 3:51
**URL:** http://svs.gsfc.nasa.gov/goto?10430

Item 21
**TITLE:** **LRO Interview: John Keller, Deputy Project Scientist**

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| **DESCRIPTION:** | John Keller is the Deputy Project Scientist for the Lunar Reconnaissance Orbiter (LRO) mission. The following sound bites from Keller give information about the LRO mission, its objectives and importance. |
| **SUPER:** | NASA/Goddard Space Flight Center |
| **TRT:** | 3:50 |
| **URL:** | http://svs.gsfc.nasa.gov/goto?10429 |

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| Item | 22 |
| **TITLE:** | **The Past: Apollo Mission Lunar Surface Footage** |
| **DESCRIPTION:** | This footage give a glimpse of what it was like to set foot on the surface of the moon. To obtain more historical footage from manned spaceflight missions, contact JSC's Media Resource Center at (281) 483-4231. |
| **SUPER:** | NASA/Goddard Space Flight Center |
| **TRT:** | 3:07 |
| **URL:** | http://svs.gsfc.nasa.gov/goto?10432 |

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| Item | 23 |
| **TITLE:** | **The Future: Lunar Exploration Animations** |
| **DESCRIPTION:** | The maps created from LRO's data will be an essential part of future lunar exploration. These animations give an idea of how future manned missions to the moon might look. |
| **SUPER:** | NASA/Goddard Space Flight Center |
| **TRT:** | 3:34 |
| **URL:** | http://www.frassanito.com/ |