Uploaded Date	Channel	Video URL	Video Title	Description	
2023 06 28	NASA's Marshall Space Flight Center	https://youtu.be/G6GaeaACKJs	Take a Giant Leap Outside with NASA and Great Smoky Mountains National Park	As NASA prepares to put boots back on the Moon through the #Artemis missions, we are looking at the similarities of having boots on Earth with help from Great Smoky Mountains National Park. Join us over the next few months as we take a giant leap outside. #artemis #nasa #smokymountains #shorts	0
2023 06 21	NASA's Marshall Space Flight Center	https://youtu.be/55dYUKCKelA	Milky Way's Central Black Hole Sonification from NASA's IXPE	Combined images of Sagittarius A*, the supermassive black hole at the center of the Milky Way galaxy, enabled researchers to develop a sonification, or an adaptation of visual information into audible, even musical sounds. In this sonification, adapting data from NASA's Imaging X-ray Polarimetry Explorer and Chandra X-ray Observatory, an arched line ripples across the image, starting at the lower righthand corner. As it passes over the orange-tinted IXPE data, sounds like digital winds are triggered, particularly where those orange areas are brightest. When the traveling line passes the blue-tinted Chandra data, the resulting notes resemble steel drums. #nasa #shorts #sonification #spacesounds #blackhole	Transcript Link
2023 06 20	NASA's Marshall Space Flight Center	https://youtu.be/iG4CI9TZhr8	R Aquarii Sonification from Chandra X-Ray Observatory, NASA Telescopes	The system called R Aquarii contains two stars — a white dwarf and a red giant — in orbit around each other. In a composite visual image, Hubble data (red and blue) reveal spectacular structures that are evidence of outbursts generated by the pair of stars buried at the center of the image. X-rays from Chandra show a jet from the white dwarf banging into the material surrounding it and creating shock waves. In the sonification of R Aquarii, the piece evolves as a radar-like scan of the image, clockwise starting at the 12 o'clock position. The volume changes in proportion to the brightness of sources in Hubble's visible light and Chandra's X-ray image, while the distance from the center dictates the musical pitch (higher notes are farther out). The deep thuds toward the four corners are "diffraction spikes," which are artifacts from the bright central star. Listeners can hear jets from the white dwarf as the cursor travels near the two o'clock and eight o'clock positions. The ribbon-like arcs captured by Hubble create a rising and falling melody that sounds similar to a set of singing bowls (metal bowls that produce different sounds and tones when struck with a mallet), while the Chandra data are rendered to sound more like a synthetic and windy purr. #nasa #sonification #spacesounds #shorts	0

2023 06 20	NASA's Marshall Space Flight Center	https://youtu.be/zAexyWxTsEM	M104 Sonification of Chandra X-Ray Observatory, NASA Telescopes	Messier 104 (M104 for short), located about 28 million light-years from Earth, is one of the largest galaxies in the nearby Virgo cluster. As seen from Earth, the galaxy is angled nearly edge-on allowing a view of its bright core and spiral arms wrapped around it. In sonifying these data, we can listen to each type of light either separately or together. Either option begins at the top and scans toward the bottom of the image. The brightness controls the volume and the pitch, meaning the brightest sources in the image are the loudest and highest frequencies. The data from the three telescopes are mapped to different types of sounds. The X-rays from Chandra sound like a synthesizer, Spitzer's infrared data are strings, and optical light from Hubble has bell-like tones. The core of the galaxy, its dust lanes and spiral arms, and point-like X-ray sources are all audible features in the sonification of these data. #nasa #sonification #spacesounds #shorts	Transcript Link
2023 06 20	NASA's Marshall Space Flight Center	https://youtu.be/j-W5CDGGq50	Stephan's Quintet Sonification from Chandra X-Ray Observatory, NASA Telescopes	In Stephan's Quintet, four galaxies move around each other, held together by gravity, while a fifth galaxy sits in the frame but is actually at a much different distance. A visual image of Stephan's Quintet contains infrared light from the James Webb Space Telescope (red, orange, yellow, green, and blue) with additional data from the Spitzer Space Telescope (red, green, and blue) and X-ray light from Chandra (light blue). A sonification of these data begins at the top and scans the image downward. As the cursor moves, the pitch changes in relationship to the brightness in different ways. The background galaxies and foreground stars in the visual images Webb detects are mapped to different notes on a synthetic glass marimba. Meanwhile, stars with diffraction spikes are played as crash cymbals. The galaxies of Stephan's Quintet themselves are heard as smoothly changing frequencies as the scan passes over them. The X-rays from Chandra, which reveal a shock wave that has superheated gas to tens of millions of degrees, are represented by a synthetic string sound. #nasa #sonification #sonification #shorts	0
2023 06 09	NASA's Marshall Space Flight Center	https://youtu.be/poBsw69iBns	NASA Crews Spray Foam Insulation on Artemis III Rocket Hardware	Watch as teams at NASA's Marshall Space Flight Center apply a spray-on foam insulation to the SLS rocket's launch vehicle stage adapter for Artemis III. #Artemis #NASA #SLS #Astronauts #rocket #shorts	Transcript Link

2023 05 31	NASA's Marshall Space Flight Center	https://youtu.be/ZCjneVUfaPE	NASA Astronaut Candidates Visit Marshall	NASA’s 2021 astronaut candidate class toured the agency’s Marshall Space Flight Center in Huntsville, Alabama, and met with Marshall leaders May 24. The 10 astronaut candidates were chosen from a field of more than 12,000 applicants from around United States. As part of their tour, the candidates learned about the various missions and projects at Marshall, including work being done on the SLS (Space Launch System) rocket for Artemis II and III. Artemis II flight test will be NASA’s first mission with crew and will pave the way to land the first woman and next man on the Moon on Artemis III. They also went to the V20 Thermal Vacuum Chamber. A vacuum chamber at Marshall that is currently being used to simulate lunar environments and plume surface interaction for landing scenario planning for the Moon. Learn more about Marshall: nasa.gov/marshall #NASA #AstronautCandidates #ArtemisII #MoonMission #SpaceExploration #MSFC #Huntsville #Alabama #shorts	Transcript Link
2023 03 22	NASA's Marshall Space Flight Center	https://youtu.be/2HsZabxGV9I	NASA Unboxes RS-25 Engines for the First Crewed Artemis Mission	Teams at NASA’s Michoud Assembly Facility in New Orleans have unboxed all four RS-25 engines that will be used to help power NASA’s Space Launch System (SLS) rocket for Artemis II, the first crewed Artemis mission that will send four astronauts on a lunar flyby around the Moon. Now that the engines are unboxed, NASA and Aerojet Rocketdyne, the engines prime contractor, will prepare the engines and, later, install each engine into the engine section at the bottom of the 212-foot-tall core stage. To help power NASA’s next-generation lunar missions, the RS-25 engines have been upgraded for SLS. Together, the four RS-25 engines produce more than 2 million pounds of thrust and operate for a full eight minutes during liftoff and ascent. Learn more about SLS: nasa.gov/sls #Artemis #NASA #SLS #SpaceLaunchSystem #NASASLS #Astronauts #shorts	Transcript Link
2023 02 16	NASA's Marshall Space Flight Center	https://youtu.be/xrHVtUmOmis	Space Launch System Engine Section Flipped to Prepare for Artemis II	Artemis II update! Teams at #NASAMichoud “flipped” the engine section for the first crewed #Artemis mission from a vertical to a horizontal position in preparation for final integration to NASA's Space Launch System core stage. #artemis #shorts	Transcript Link

2023 01 30	NASA's Marshall Space Flight Center	https://youtu.be/zDKbzGaGtkw	50 States for Artemis - Episode 10	From the ground to the Moon, suppliers across America are supporting NASA's #Artemis missions. Watch to learn more! #NASA #shorts	Transcript Link
2023 01 24	NASA's Marshall Space Flight Center	https://youtu.be/4cBSAYHBBmk	50 States for Artemis - Episode 9	Electronics are the “brains” of SLS and Orion. Watch to learn more about some suppliers across the U.S. that are providing these! #Artemis #NASA #shorts	Transcript Link
2023 01 20	NASA's Marshall Space Flight Center	https://youtu.be/AGSj5Rc9wlU	50 States for Artemis - Episode 8	Technicians across America are manufacturing SLS and Orion for future #Artemis missions. Watch to learn more!	Transcript Link
2023 01 03	NASA's Marshall Space Flight Center	https://youtu.be/gz7I2g1qpBI	50 States for Artemis - Episode 7	Small businesses across America aid NASA in building the systems to support missions to the Moon and beyond. Watch to learn more about these companies! #nasa #artemis #shorts #spacelaunchsystem	Transcript Link

2022 12 15	NASA's Marshall Space Flight Center	https://youtu.be/Ytk-4ugJsDI	50 States for Artemis - Episode 6	The landing and recovery operations for the Orion spacecraft is a critical aspect of the mission – here are some companies that assist NASA with this for #Artemis. #SLS #NASA #shorts	Transcript Link
2022 12 09	NASA's Marshall Space Flight Center	https://youtu.be/dg72RGqKkvk	50 States for Artemis - Episode 5	NASA has several key partners across America that are developing rocket motors to launch SLS and Orion to the Moon – watch to learn more! #SLS #NASA #shorts	Transcript Link
2022 11 30	NASA's Marshall Space Flight Center	https://youtu.be/xu2CovoZs48	50 States for Artemis - Episode 4	Check out some of the companies across America that helped NASA propel Artemis I to the Moon! #SLS #NASA #Artemis #shorts	Transcript Link
2022 11 22	NASA's Marshall Space Flight Center	https://youtu.be/tgjUymkSMCA	50 States for Artemis - Episode 3	Thousands of materials, coming from all over America, are used to build the SLS rocket and Orion spacecraft for #Artemis! Watch to learn more. #SLS #NASA #shorts	Transcript Link

2022 11 10	NASA's Marshall Space Flight Center	https://youtu.be/JjP84oYZ1F0	50 States for Artemis - Episode 2	Multiple suppliers across the United States provide vital technical services to NASA’s #Artemis missions – watch to learn more. #nasa #shorts	Transcript Link
2022 11 08	NASA's Marshall Space Flight Center	https://youtu.be/w__EN3cSdVE	50 States for Artemis - Episode 1	Every state in America has contributed to #Artemis – even on the smallest parts like a bolt or screw! #NASA #SLS #shorts	Transcript Link
2022 10 28	NASA's Marshall Space Flight Center	https://youtu.be/Vg5beURzro0	Hinode Sees Annular Solar Eclipse from Orbit	On Oct. 25, the international Hinode satellite used its X-ray Telescope to capture three passages of the Moon eclipsing the Sun. While Hinode was able to observe an annular eclipse from orbit, only a partial solar eclipse was visible from the ground in Asia, Africa, and Europe. Annular eclipses are nearly total with a bright ring of the Sun appearing around the outer edge of the Moon. Learn more about the Hinode mission at https://www.nasa.gov/hinode. Credits: JAXA/NASA/Smithsonian Astrophysical Observatory	Transcript Link
2022 09 02	NASA's Marshall Space Flight Center	https://youtu.be/B33q0qpeGvE	Views of the Artemis SLS Moon Rocket on the Launchpad	🌛 L-1 #Artemis I The Artemis I mission management team has given a “go” for a Sept. 3 launch attempt of the Space Launch System rocket and Orion spacecraft. Get latest updates at blogs.nasa.gov/artemis/ #shorts #sls #nasa #artemis #spacelaunchsystem	Transcript Link

2022 08 10	NASA's Marshall Space Flight Center	https://youtu.be/sLBdSFFSXYo	NASA’s Super Guppy aircraft at Marshall Space Flight Center in Huntsville, Alabama	NASA’s Super Guppy aircraft delivered the Orion Stage Adapter (OSA) test article to Marshall Space Flight Center. Teams at Marshall built the OSA to help prepare the Space Launch System (SLS) rocket for space flight during Artemis missions. 🚀 The Super Guppy is capable of transporting cargo up to 48,000 pounds, 25 feet tall, 25 feet wide, and 111 feet long. Its nose can open 110 degrees to allow NASA teams to load and unload large hardware pieces from the front end of the aircraft. The OSA test article is structurally identical to the flight version of the Orion Stage Adapter, which connects the interim cryogenic propulsion stage of SLS to the Orion spacecraft. Learn more at NASA.gov/Artemis #Short #SLS #Artemis #NASA	0
2022 08 02	NASA's Marshall Space Flight Center	https://youtu.be/R6SUFgJST0I	Heavy lifting at NASA’s Michoud Assembly Facility	Watch technicians at #NASAMichoud in New Orleans move the engine section of NASA’s #SpaceLaunchSystem rocket for #Artemis IV after welding was completed. This hardware is the first large piece manufactured for the Artemis IV mission and makes up the lowest portion of the 212-foot-tall core stage. Currently, the team is in the process of outfitting engine sections for the Artemis II and Artemis III missions. Learn more about SLS at https://www.nasa.gov/sls Learn more about NASA's Michoud Assembly Facility at https://www.nasa.gov/centers/marshall/michoud/index.html #SLS #Shorts	Transcript Link
2022 07 26	NASA's Marshall Space Flight Center	https://youtu.be/6F0e3UHcQkg	NASA’s Full-Scale Space Launch System Rocket Booster Test	Coming in hot!🔥 Teams from NASA’s Space Launch System Program and Northrop Grumman successfully fired a solid rocket booster for future #Artemis missions at Northrop Grumman’s test facility in Promontory, Utah, July 21. This small clip from the test, shows the powerful booster light up! The twin solid rocket boosters for SLS provide 75% of the thrust for Launch. You can watch a full reply of the test on our @NASAMarshall page. #Shorts	Transcript Link
2022 06 23	NASA's Marshall Space Flight Center	https://youtu.be/7Nm5phrTplM	On-Orbit Servicing, Assembly, and Manufacturing 2 (OSAM-2) Animation	The private-public partnership with NASA and Redwire will demonstrate the ability of a small spacecraft – OSAM-2 (On-Orbit Servicing, Manufacturing and Assembly) – to manufacture and assemble spacecraft components in low-Earth orbit. (Redwire)	Transcript Link

2022 06 13	NASA's Marshall Space Flight Center	https://youtu.be/9Pt5dPNRQWQ	On-Orbit Servicing, Assembly, and Manufacturing 2 (OSAM-2)	The private-public partnership with NASA and Redwire will demonstrate the ability of a small spacecraft – OSAM-2 (On-Orbit Servicing, Manufacturing and Assembly) – to manufacture and assemble spacecraft components in low-Earth orbit. (Redwire)	Transcript Link
2022 06 03	NASA's Marshall Space Flight Center	https://youtu.be/sTGxw2cgEKc	Subscale Booster Motor for Future Artemis Missions Fires Up at Marshall	NASA engineers successfully completed a subscale solid rocket motor test June 1, 2022, at NASA's Marshall Space Flight Center in Huntsville, Alabama. The subscale motor produced 92,000 pounds of thrust during the hot fire test. This was the second test supporting development efforts for a new motor design for Artemis missions after Artemis VIII. (Video Credit: NASA/Samuel Lott)	0
2022 05 03	NASA's Marshall Space Flight Center	https://youtu.be/toJynvl7GCU	2022 NASA Human Exploration Rover Challenge Virtual Awards	NASA announced the winners of the 2022 NASA Human Exploration Rover Challenge during a virtual awards ceremony April 29. The challenge involved 91 teams from around the world, including 58 colleges and 33 high schools. The challenge - one of the original seven NASA Artemis Student Challenges - tasked U.S. and international student teams with designing, engineering, and testing a human-powered rover on a course simulating terrain found on rocky bodies in the solar system. Teams also performed mission assignments while negotiating the course, including sample retrievals and spectrographic analysis. High school and college teams competed in multiple categories for design, documentation, and presentation, including the safety award, project review award, and more. For more information on HERC visit https://www.nasa.gov/stem/roverchallenge/home/index.html	Transcript Link
2022 04 14	NASA's Marshall Space Flight Center	https://youtu.be/LfgXtf1VLL0	Marshall 2021 Agency-Level Honor Awards Ceremony, April 12, 2022	The 2021 Agency-Level Honor Awards Ceremony celebrates the Marshall Space Flight Center employees being honored for NASA's Agency Awards in 2021. These are some of the highest awards in the agency.	Transcript Link

2022 03 31	NASA's Marshall Space Flight Center	https://youtu.be/Cyj498ryDYo	Watch Engineers Join SLS Rocket Parts to Form Artemis II Core Stage	This time-lapse video shows how NASA joined the Space Launch System rocket's core stage forward assembly with the 130-foot liquid hydrogen tank for the Artemis II mission on March 18. This completes assembly of four of the five large structures that make up the core stage that will help send the first astronauts to lunar orbit on Artemis II. The 66-foot forward assembly consists of the forward skirt, liquid oxygen tank, and the intertank, which were mated earlier. Engineers inserted 360 bolts to connect the forward assembly to the liquid hydrogen tank to make up the bulk of the stage. Only the engine section, which is currently being outfitted and includes the main propulsion systems that connect to the four RS-25 engines, remains to be added to form the final core stage. All parts of the core stage are manufactured by NASA and Boeing, the core stage lead contractor at the agency's Michoud Assembly Facility in New Orleans. Currently, the team is building core stages for three Artemis missions. The first core stage is stacked with the rest of the SLS rocket, which will launch the Artemis I mission to the Moon this year. Together with its twin solid rocket boosters, the core stage will produce 8.8 million pounds of thrust to send NASA's Orion spacecraft, astronauts, and supplies beyond Earth's orbit to the Moon. The SLS rocket and the Orion spacecraft form the foundation for Artemis missions and future deep space exploration. (NASA video/Eric Borderlen) DeMocker)	Transcript Link
2022 03 15	NASA's Marshall Space Flight Center	https://youtu.be/HVDQWUHLOTw	Marshall is Powering the Future of Space Exploration	Welcome to Marshall Space Flight Center in Huntsville, Alabama. Going to space, working in space, and traveling in space isn't easy! Developing new technologies and maturing proven systems are at the core of how Marshall is powering the future of space exploration. Follow along with us as we explore everything the center has to offer. From taking humans farther into space than ever before, to developing technologies like 3D printing and additive manufacturing and nuclear propulsion, to studying climate change and weather patterns, Marshall has the facilities and capabilities that will continue to allow NASA and our partners to explore space, make life better on Earth, and develop ground-breaking technologies.	Transcript Link
2022 01 27	NASA's Marshall Space Flight Center	https://youtu.be/7h2nnhEqk3k	Day of Remembrance 2022 NASA Marshall Space Flight Center	Each January, NASA honors members of the NASA family who lost their lives while furthering the cause of exploration and discovery, including the crews of Apollo 1 and space shuttles Challenger and Columbia, during the agency's annual Day of Remembrance. As we remember them today, their bravery and dedication continue to inspire us. We carry the lessons they taught us forward as we pursue our mission to the Moon and beyond. This year's virtual observance includes Marshall Center Director Jody Singer and Bill Hill, Director of Marshall's Office of Safety & Mission Assurance.	Transcript Link

2021 12 15	NASA's Marshall Space Flight Center	https://youtu.be/BlsDV7Bxe9s	Watch NASA Build Upper Portion of Artemis II Rocket Stage	Teams at NASA’s Michoud Assembly Facility in New Orleans completed the upper portion of the core stage that will help power Artemis II, the second flight of NASA’s Space Launch System rocket and the first crewed Artemis mission to the Moon. The 66-foot-tall section makes up the top portion of the core stage. Teams used heavy-lift equipment to carefully lower and stack the liquid oxygen tank, intertank, and then the forward skirt on top of one another in a special stacking cell at Michoud. Then, they integrated and tested the various systems inside the upper portion of core stage. Later, teams will join the forward assembly with the liquid hydrogen tank and the engine section to complete the entire core stage. For more information about SLS, visit https://www.nasa.gov/exploration/systems/sls/index.html.	Transcript Link
2021 12 01	NASA's Marshall Space Flight Center	https://youtu.be/9DqrxHnBQs0	IXPE Vibration Test	The Imaging X-Ray Polarimetry Explorer team at Ball Aerospace conducts vibration testing in August 2021 at Ball’s Boulder, Colorado, facility. The IXPE mission, jointly led by NASA and the Italian Space Agency, will measure the polarization of cosmic X-rays to further understanding of the fundamental physics of extreme and exotic objects in the universe, including black holes and exploded stars. Learn more at https://www.nasa.gov/ixpe. Credits: Ball Aerospace	Transcript Link
2021 12 01	NASA's Marshall Space Flight Center	https://youtu.be/3GYFH7C50jw	IXPE Thermal Vacuum Test	The Imaging X-Ray Polarimetry Explorer team at Ball Aerospace conducts a thermal vacuum test in July 2021 at Ball’s Boulder, Colorado, facility. The IXPE mission, jointly led by NASA and the Italian Space Agency, will measure the polarization of cosmic X-rays to further understanding of the fundamental physics of extreme and exotic objects in the universe, including black holes and exploded stars. Learn more at https://www.nasa.gov/ixpe Credits: Ball Aerospace	Transcript Link
2021 12 01	NASA's Marshall Space Flight Center	https://youtu.be/g9XDzxBguu0	IXPE Boom Deployment Test at Ball Aerospace	The Imaging X-Ray Polarimetry Explorer team at Ball Aerospace tests the future observatory’s extendable boom in December 2020 at Ball’s Boulder, Colorado, facility. The IXPE mission, jointly led by NASA and the Italian Space Agency, will measure the polarization of cosmic X-rays to further understanding of the fundamental physics of extreme and exotic objects in the universe, including black holes and exploded stars. Learn more at https://www.nasa.gov/ixpe. Credits: Ball Aerospace	Transcript Link

2021 11 26	NASA's Marshall Space Flight Center	https://youtu.be/dWf-yhb-G_8	Imaging X-ray Polarimetry Explorer (IXPE) Deployment Animation	The Imaging X-ray Polarimetry Explorer, or IXPE, is NASA's newest set of X-ray eyes on the universe. Soon after launching, IXPE will deploy its solar arrays and begin commissioning of the spacecraft. After about a week, IXPE will extend its boom. About a month after launch, IXPE will be ready to begin its two-year science mission – unlocking the secrets of exploded stars, black holes, and more.	Transcript Link
2021 11 24	NASA's Marshall Space Flight Center	https://youtu.be/9VgSkMDaFNk	Meet NASA's Newest Set of X-ray Eyes on the Universe	The Imaging X-ray Polarimetry Explorer mission is set to launch Dec. 9 on a Falcon 9 rocket from NASA's Kennedy Space Center in Florida. In space, IXPE will explore the leftovers of exploded stars, black holes, and more by looking at a special property of light called polarization.	Transcript Link
2021 11 16	NASA's Marshall Space Flight Center	https://youtu.be/xVYHP_veCw4	Marshall's Center-Level Virtual Honor Awards Ceremony, Nov. 16, 2021	The 2021 Center-Level Virtual Honor Awards Ceremony celebrates the accomplishments of individuals and teams working together at Marshall Space Flight Center. This year's theme is "Reflection of Marshall: A Team Accomplishing NASA's Mission, Together." This year's ceremony features NASA Associate Administrator Robert D. Cabana as the keynote speaker.	Transcript Link
2021 09 17	NASA's Marshall Space Flight Center	https://youtu.be/IlRvGow0iB0	Inside the Brains of NASA's Moon Rocket	NASA teams across the country are preparing for the Artemis I launch to the Moon. When NASA's mighty Space Launch System rocket launches to the Moon from the agency's Kennedy Space Center in Florida, its four RS-25 engines and two solid rocket boosters will produce more than 8.8 million pounds of thrust. The rocket's flight software and avionics systems act as the brains behind that muscle to guide and steer the rocket beyond Earth's orbit. Watch to learn more about the SLS rocket's flight software and avionics systems, then learn more about SLS and Artemis, here: https://www.nasa.gov/exploration/systems/sls/index.html.	Transcript Link

2021 09 08	NASA's Marshall Space Flight Center	https://youtu.be/E1EenrcQN08	NASA’s SLS Moon Rocket Is Built to Explore	NASA’s Space Launch System (SLS) rocket will enable a new era of space exploration. With NASA’s Orion spacecraft, SLS will launch astronauts on missions to the Moon, Mars, and beyond. Artemis I, the first integrated flight SLS and an uncrewed Orion, is the first in a series of increasingly complex missions that will provide the foundation for human deep-space exploration. The Artemis missions will demonstrate NASA’s commitment and capability to extend human existence beyond low-Earth orbit. Launching as the world’s most powerful rocket from NASA’s Kennedy Space in Florida, the nation’s premier multi-use spaceport, SLS will be the only rocket capable of sending crew and large cargo to the Moon in a single launch. Learn more about SLS and Artemis, here: https://www.nasa.gov/exploration/systems/sls/index.html.	Transcript Link
2021 08 23	NASA's Marshall Space Flight Center	https://youtu.be/h_oAwyNFV8g	NASA Student Launch Overview	Introduction and Overview of NASA Student Launch, one of NASA's Artemis Student Challenges	Transcript Link
2021 07 14	NASA's Marshall Space Flight Center	https://youtu.be/TD9CDzFQEJo	Rocket Science in 60 Seconds How Structured Light Scanning Is Used on the SLS Rocket	Rocket Science in 60 Seconds gives you an inside look at work being done at NASA to explore deep space. Mary Kalayjian is an Aerojet Rocketdyne project and component engineer for the RS-25 engines on NASA’s Space Launch System (SLS) rocket. The four RS-25 engines at the bottom of the SLS rocket will help produce more than 2 million pounds of thrust to help launch NASA’s Artemis missions to the Moon. In this episode, Mary explains how a process called structured light scanning allows teams to build and assemble smaller components of the RS-25 engine precisely and quickly. At its rocket factory in California, Aerojet Rocketdyne is building new engines for SLS missions beyond Artemis IV. For more information about SLS, visit https://www.nasa.gov/exploration/systems/sls/index.html.	0

2021 06 23	NASA's Marshall Space Flight Center	https://youtu.be/cFtdeZv5ick	Rocket Science in 60 Seconds Insulating NASA's Moon Rocket	Rocket Science in 60 Seconds gives you an inside look at work being done at NASA to explore deep space. Amy Buck is an engineer for NASA's Space Launch System Program at the agency's Marshall Space Flight Center in Huntsville, Alabama. In this episode, she explains what the launch vehicle stage adapter is for the SLS rocket and how the thermal protection system protects the different elements of the rocket, like the LVSA, from extreme forces and temperatures during launch and flight. Please note: This video was originally produced and published in February 2018 when foam was being applied to the launch vehicle stage adapter for Artemis I. Engineers are currently manufacturing hardware for NASA's Artemis II and III missions, the first crewed missions of the Artemis program. For more information about SLS, visit https://www.nasa.gov/exploration/systems/sls/index.html.	Transcript Link
2021 06 17	NASA's Marshall Space Flight Center	https://youtu.be/0pKWGDCAZ4I	2021 NASA Student Launch Awards Ceremony	Forty-six teams competed in NASA's 2021 Student Launch competition, one of NASA's Artemis Student Challenges. Countless hours were poured into the design, simulation, construction, testing, and launch of rockets and payloads. On June 3, teams were awarded during a virtual ceremony. For the full awardee list and media release, visit https://www.nasa.gov/centers/marshall/news/releases/2021/21-007.html. Every year, NASA challenges middle school, high school, college, and university students from around the United States to design, build, test, and then fly and land a high-powered amateur rocket to between 3,500 and 5,500 feet above the ground. For more about Student Launch, visit https://www.nasa.gov/stem/studentlaunch/home/index.html.	Transcript Link
2021 06 10	NASA's Marshall Space Flight Center	https://youtu.be/bFcgkkv1D3M	NASA Marshall is Making Deep Space Exploration Possible	At Marshall, we're helping NASA get ready to live and work on the Moon while investigating distant galaxies and keeping our home planet safe. Subscribe to follow our progress and join us on our journey of deep space exploration! For more information, you can also find us at the links below: https://www.nasa.gov/centers/marshall/home/index.html http://twitter.com/NASA_Marshall http://www.facebook.com/nasamarshallcenter http://instagram.com/nasa_marshall	Transcript Link

2021 05 27	NASA's Marshall Space Flight Center	https://youtu.be/mg6H5VI-1Xk	Marshall Celebrates Asian American and Pacific Islander Heritage Month Gayleen Ijames	Each May, NASA celebrates Asian American and Pacific Islander Month, highlighting and celebrating the work and contributions of team members across the agency. Our Marshall AAPI community plays an essential role in helping NASA reach our mission goals, and inspiring the next generation to reach for the stars. Whether observing and studying the cosmos, enabling our workforce to safely continue work during a pandemic, or helping us explore other worlds, each of these team members embodies the spirit of exploration and unity. Gayleen Ijames is a Mission Operations Lead Engineer at Marshall Space Flight Center.	0
2021 05 20	NASA's Marshall Space Flight Center	https://youtu.be/XIHhuZGDo1A	IC 443 Sketchfab Platform	The second animation of IC 443 is from Ustamujic and colleagues. The shock wave (gray) and the remains of the star (red, yellow, green, and blue) have collided with the gas cloud and are now passing through it. The different colors for the star's remains show the range of velocities for their motion away from the center of the explosion. The model is combined with a visible light image of this field of view from the Focal Pointe Observatory, a private telescope run by amateur astronomer Bob Franke. (Credit: Simulation: INAF/S. Ustamujic et. al.; Wide Field Optical: Focal Pointe Observatory/B.Franke, Inset X-ray: NASA/CXC/MSFC/D.Swartz et al, Inset Optical: DSS, SARA)	Transcript Link
2021 05 20	NASA's Marshall Space Flight Center	https://youtu.be/lBTAaCY51rM	IC 443 Voyager Platform	The third animation is from the Smithsonian Voyager platform, in which the 3D model has been transformed so that it is more suitable for augmented reality as well as 3D printing, which requires connected structures. The Voyager IC 443 has the central region of the debris field in blue with the shockwave in purple. (Credit: NASA/CXC/SAO; INAF/S. Ustamujic et. al.; Smithsonian Digitization Program Office)	Transcript Link
2021 05 20	NASA's Marshall Space Flight Center	https://youtu.be/ysZK_tNeh38	IC 443 Virtual Reality	A new model of the IC 443 supernova remnant is part of a collection of 3D objects from Chandra now available on a platform from the Smithsonian Institution called Voyager, which enables datasets to be used as tools for learning and discovery. There are several versions of the IC 443 model to explore. This first animation of IC 443 data in 3D was optimized for virtual reality. It shows the blast wave of the explosion (bright blue) as well as the outer layers of the star (reds and oranges). In the center, Chandra's data reveal a nebula of particles and energy around the neutron star (cyan), the dense object left behind after the star collapsed. (Credit: VR version: VR model: NASA/CXC/Brown Univ./A.Dupuis et al.; Simulation: INAF/S. Ustamujic et al.; X-ray data: NASA/CXC/MSFC/D.Swartz et al.)	Transcript Link

2021 05 18	NASA's Marshall Space Flight Center	https://youtu.be/r2KH-OBP0LY	Marshall Celebrates Asian American and Pacific Islander Heritage Month Sara Yoon	Each May, NASA celebrates Asian American and Pacific Islander Month, highlighting and celebrating the work and contributions of team members across the agency. Our Marshall AAPI community plays an essential role in helping NASA reach our mission goals, and inspiring the next generation to reach for the stars. Whether observing and studying the cosmos, enabling our workforce to safely continue work during a pandemic, or helping us explore other worlds, each of these team members embodies the spirit of exploration and unity. Sara Yoon is an information technology specialist at Marshall Space Flight Center.	0
2021 05 17	NASA's Marshall Space Flight Center	https://youtu.be/KSGM19xl8kY	Marshall Celebrates Asian American and Pacific Islander Heritage Month Michelle Hui	Each May, NASA celebrates Asian American and Pacific Islander Month, highlighting and celebrating the work and contributions of team members across the agency. Our Marshall AAPI community plays an essential role in helping NASA reach our mission goals, and inspiring the next generation to reach for the stars. Whether observing and studying the cosmos, enabling our workforce to safely continue work during a pandemic, or helping us explore other worlds, each of these team members embodies the spirit of exploration and unity. Michelle Hui is a research astrophysicist at Marshall Space Flight Center.	0
2021 05 04	NASA's Marshall Space Flight Center	https://youtu.be/Qn6klt4Uh1Q	NASA Barge Crew Describes What It's Like to Transport Moon Rocket	Meet the crew of NASA's Pegasus barge and learn how they transported the core stage for NASA's Space Launch System rocket. The stage for NASA's Moon rocket arrived at the agency's Kennedy Space Center in Florida for Artemis I launch preparations on April 27. Pegasus ferried the huge, 212-foot-tall rocket stage from NASA's Stennis Space Center near Bay St. Louis, Mississippi, where it underwent Green Run testing, to the Space Coast. During its 900-mile journey, the rocket stage was in the hands of a skilled crew from Center Operations at NASA's Marshall Space Flight Center in Huntsville, Alabama. The team carefully planned and orchestrated the core stage's voyage on both a river and the ocean. To ensure the stage's safe travels, the Pegasus team worked closely with NASA personnel as well as with Boeing, the lead contractor for the core stage, and Aerojet Rocketdyne, the RS-25 engines lead contractor. For decades, NASA has used barges to move large, heavy spaceflight hardware from testing and manufacturing sites to launch sites at Kennedy. Pegasus was specially modified to carry the deep space rocket hardware for NASA's Artemis program, and the SLS core stage is the longest item ever shipped by any NASA barge. The Pegasus crew is responsible for safely transporting the hardware for NASA's next-generation Moon missions. For more about Pegasus and the crew, visit: https://www.nasa.gov/exploration/systems/sls/fs/pegasus-barge.html	Transcript Link

2021 04 28	NASA's Marshall Space Flight Center	https://youtu.be/sCoKt-LsR2k	Marshall Delivers Final Hardware for America's Rocket	Marshall delivered the largest rocket element NASA has ever built - the core stage of the Space Launch System (SLS) rocket. This historic moment is recognized by Jody Singer, center director of the Marshall Space Flight Center. This personal message thanks the dedicated workforce and stakeholders across the nation helping make human space exploration possible. Under the Artemis program, NASA will land the first woman and the first person of color on the Moon, and establish sustainable exploration in preparation for missions to Mars. SLS is the world's most powerful rocket and the only rocket capable of sending Orion, astronauts, and supplies to the Moon in a single mission. To learn more, visit https://www.nasa.gov/centers/marshall/home/index.html or https://www.nasa.gov/exploration/systems/sls/index.html	Transcript Link
2021 04 21	NASA's Marshall Space Flight Center	https://youtu.be/4j7Gv6fDyHs	2021 NASA Human Exploration Rover Challenge Awards Ceremony	NASA announced the winners of the 2021 NASA Human Exploration Rover Challenge during a virtual awards ceremony April 16. HERC tasks U.S. and international student teams to design, engineer, and test a human-powered rover on a course that simulates the terrain found on rocky bodies in the solar system. The teams also must perform mission tasks while negotiating the course, including sample retrievals and spectrographic analysis. Despite the cancellation of on-site competition activities at the U.S. Space & Rocket Center near NASA's Marshall Space Flight Center in Huntsville, Alabama, due to the global COVID-19 pandemic, the high school and college teams competed in multiple design, documentation, and presentation categories, and were recognized for their successful efforts.	Transcript Link
2021 04 20	NASA's Marshall Space Flight Center	https://youtu.be/H10Y6Ht5H80	Developing a Dynamic Lightning Safety Algorithm for NASA Marshall	Lightning experts at NASA's Marshall Space Flight Center in Huntsville, Alabama, are developing a new way to assess lightning hazards at the center in real time. Their dynamic lightning safety algorithm could help emergency managers more accurately determine when lightning threatens Marshall's outdoor spaces. This Center Innovation Fund project could also possibly reduce the time and cost of suspended work activities and improve safety.	Transcript Link
2021 04 14	NASA's Marshall Space Flight Center	https://youtu.be/INJpIuQQTGs	Marshall Celebrates Women's History Month 'First Ladies' of Marshall, Audrey Robinson	During the month of March, NASA celebrates the many women who have played an essential role in shaping the history of space exploration at the agency. This year, Marshall Space Flight Center is highlighting some of the "first ladies" of Marshall – women who are the first in their role at the center. From engineers to attorneys, these women are helping NASA fulfill its mission to explore our universe for the benefit of all. Audrey Robinson is the chief counsel at Marshall Space Flight Center.	0

2021 04 14	NASA's Marshall Space Flight Center	https://youtu.be/1gN2hbZ4tKQ	Marshall Celebrates Women's History Month 'First Ladies' of Marshall, Mary Beth Koelbl	During the month of March, NASA celebrates the many women who have played an essential role in shaping the history of space exploration at the agency. This year, Marshall Space Flight Center is highlighting some of the "first ladies" of Marshall – women who are the first in their role at the center. From engineers to attorneys, these women are helping NASA fulfill its mission to explore our universe for the benefit of all. Mary Beth Koelbl is the director of engineering at Marshall Space Flight Center.	0
2021 04 14	NASA's Marshall Space Flight Center	https://youtu.be/jaAQh4CeUzI	Marshall Celebrates Women's History Month 'First Ladies' of Marshall, Lisa Watson-Morgan	During the month of March, NASA celebrates the many women who have played an essential role in shaping the history of space exploration at the agency. This year, Marshall Space Flight Center is highlighting some of the "first ladies" of Marshall – women who are the first in their role at the center. From engineers to attorneys, these women are helping NASA fulfill its mission to explore our universe for the benefit of all. Lisa Watson-Morgan is the Human Landing Systems Program Manager at Marshall Space Flight Center.	0
2021 04 14	NASA's Marshall Space Flight Center	https://youtu.be/UBjgcHZBNks	Marshall Celebrates Women's History Month 'First Ladies' of Marshall, Shelia Nash-Stevenson	During the month of March, NASA celebrates the many women who have played an essential role in shaping the history of space exploration at the agency. This year, Marshall Space Flight Center is highlighting some of the "first ladies" of Marshall – women who are the first in their role at the center. From engineers to attorneys, these women are helping NASA fulfill its mission to explore our universe for the benefit of all. Shelia Nash-Stevenson is the Science Projects Manager at Marshall Space Flight Center.	0
2021 04 14	NASA's Marshall Space Flight Center	https://youtu.be/H8Ro3KRUPhQ	Marshall Celebrates Women's History Month 'First Ladies' of Marshall, June Malone	During the month of March, NASA celebrates the many women who have played an essential role in shaping the history of space exploration at the agency. This year, Marshall Space Flight Center is highlighting some of the "first ladies" of Marshall – women who are the first in their role at the center. From engineers to attorneys, these women are helping NASA fulfill its mission to explore our universe for the benefit of all. June Malone is Director of the Office of Strategic Analysis and Communications at Marshall Space Flight Center.	0

2021 04 14	NASA's Marshall Space Flight Center	https://youtu.be/INEYIKONPTM	Marshall Celebrates Women's History Month 'First Ladies' of Marshall, Jody Singer	During the month of March, NASA celebrates the many women who have played an essential role in shaping the history of space exploration at the agency. This year, Marshall Space Flight Center is highlighting some of the "first ladies" of Marshall – women who are the first in their role at the center. From engineers to attorneys, these women are helping NASA fulfill its mission to explore our universe for the benefit of all. Jody Singer is the Director of Marshall Space Flight Center.	0
2021 04 12	NASA's Marshall Space Flight Center	https://youtu.be/SphQ0hOXsYA	NASA Technology Demonstration Missions Overview	High level overview of Technology Demonstration Missions Portfolio.	Transcript Link
2021 03 24	NASA's Marshall Space Flight Center	https://youtu.be/gL6vUL_95hU	Watch Technicians Weld Rocket Stage Adapter for First Crewed Artemis Flight	This video shows engineers at NASA's Marshall Space Flight Center in Huntsville, Alabama, completing the welds to form the launch vehicle stage adapter (LVSA) for NASA's Space Launch System (SLS) rocket. The launch vehicle stage adapter in this video will fly on Artemis II, the first crewed mission of NASA's Artemis program. Upon stacking the upper and lower cones, technicians use advanced robotic tooling and an innovative process called friction stir welding, to join the cones of the LVSA to form one structure. The next step in the manufacturing process is the installation of the pneumatically actuated frangible joint which sits atop the LVSA and helps separate the core stage and LVSA from the Interim Cryogenic Propulsion Stage (ICPS) during flight. After the core stage launches the rocket, the ICPS provides the power to send the Orion spacecraft and its crew to the Moon. The LVSA flight hardware is produced at NASA's Marshall Space Flight Center by Teledyne Brown Engineering in Huntsville, Alabama. (NASA/Sam Lott)	0
2021 03 12	NASA's Marshall Space Flight Center	https://youtu.be/I3Zjf6ngjz8	Rocket Science in 60 Seconds What Is SLS Green Run Test for NASA's Moon Rocket	Rocket Science in 60 Seconds gives you an inside look at work being done at NASA to explore deep space. Chandler Scheuermann is the cryogenic tanks subsystem element manager for the Space Launch System (SLS) rocket at NASA's Michoud Assembly Facility in New Orleans. In this episode, he explains how the rocket's core stage is tested and validated for missions to the Moon and, ultimately, Mars in an test series called "Green Run" at NASA's Stennis Space Center near Bay St. Louis, Mississippi. For more information about Green Run, visit http://www.nasa.gov/greenrun.	0

2021 03 10	NASA's Marshall Space Flight Center	https://youtu.be/0xxM13nPyyA	Behind-The-Scenes How Marshall Makes Science Happen in Space	In their own words, hear how our payload flight controllers help astronauts conduct hundreds of science experiments every year on the International Space Station. NASA relies on a diverse team of highly-qualified STEM experts inside the Payload Operations Integration Center – or POIC, the heartbeat for science research on the ISS – at NASA's Marshall Space Flight Center in Huntsville, Alabama. Staffed 24/7 since 2001, our team plays a critical role assisting astronauts and scientists around the world in researching life sciences, biology, physiology, and space science. Such research seeks to benefit humanity by improving our quality of life on earth, as well as to best prepare humans for future exploration missions to the moon, Mars, and other deep-space destinations. In addition, they coordinate all U.S., European, Japanese, and Canadian scientific and commercial experiments on the station, synchronizes payload activities of international partners, and directs communications between station crewmembers and researchers around the world with onboard experiments. To learn more about the POIC, or the ISS, please visit: https://www.nasa.gov/centers/marshall/earthorbit/ops.html	Transcript Link
2021 03 04	NASA's Marshall Space Flight Center	https://youtu.be/29zQsCvH110	Marshall 2020 Agency-Level Honor Awards Ceremony, March 4, 2021	The 2020 Agency-Level Honor Awards Ceremony celebrates the Marshall Space Flight Center employees being honored for NASA's Agency Awards in 2020. These are some of the highest awards in the agency.	Transcript Link
2021 03 04	NASA's Marshall Space Flight Center	https://youtu.be/EAZr3MqEq3M	Marshall 2020 Center-Level Virtual Honor Awards Ceremony, January 19, 2021	The 2020 Center-Level Virtual Honor Awards Ceremony highlights Center award winners and includes congratulatory remarks from Center Director Jody Singer, Deputy Center Director Paul McConnaughey and Associate Center Director Steve Miley and a keynote address from Clayton Turner, Director, Langley Research Center.	0

2021 03 02	NASA's Marshall Space Flight Center	https://youtu.be/es4CpOY3Xuk	NASA Cooks Up Something Special with Deep Space Food Challenge	NASA and the Canadian Space Agency have coordinated to open Phase 2 of the Deep Space Food Challenge, targeted at developing novel food production system technologies for long-duration deep space missions. The challenge incentivizes the public to develop novel food system solutions for long duration space missions. Step into the kitchen with celebrity chef Alton Brown to learn more. For more information, go to: https://www.deepspacefoodchallenge.org/	Transcript Link
2021 02 24	NASA's Marshall Space Flight Center	https://youtu.be/9n3FzaWbDwo	Marshall Celebrates Black History Month Together We Achieve – Tawnya Laughinghouse	Marshall Space Flight Center is proud to celebrate Black History Month, highlighting the work and contributions of team members across the center. Whether supporting our astronauts aboard the International Space Station, testing flight hardware or developing and implementing the technologies of tomorrow, the values of unity, diversity and inclusion are of great importance to the Marshall community. Each of the Marshall team members highlighted fully embodies this year's Marshall Black History Month celebration theme - Representation, Identity and Diversity: Together We Achieve. Tawnya Laughinghouse is the program manager for NASA's Technology Demonstration Missions.	0
2021 02 24	NASA's Marshall Space Flight Center	https://youtu.be/-r36lLBvTmA	Marshall Celebrates Black History Month Together We Achieve – Dwight Mosby	Marshall Space Flight Center is proud to celebrate Black History Month, highlighting the work and contributions of team members across the center. Whether supporting our astronauts aboard the International Space Station, testing flight hardware or developing and implementing the technologies of tomorrow, the values of unity, diversity and inclusion are of great importance to the Marshall community. Each of the Marshall team members highlighted fully embodies this year's Marshall Black History Month celebration theme - Representation, Identity and Diversity: Together We Achieve. Dwight Mosby is the Payload Mission Operations Division Manager for the International Space Station.	0
2021 02 24	NASA's Marshall Space Flight Center	https://youtu.be/6d_0taR4dBg	Marshall Celebrates Black History Month Together We Achieve – Ron Burwell	Marshall Space Flight Center is proud to celebrate Black History Month, highlighting the work and contributions of team members across the center. Whether supporting our astronauts aboard the International Space Station, testing flight hardware or developing and implementing the technologies of tomorrow, the values of unity, diversity and inclusion are of great importance to the Marshall community. Each of the Marshall team members highlighted fully embodies this year's Marshall Black History Month celebration theme - Representation, Identity and Diversity: Together We Achieve. Ron Burwell is a senior vibration test engineer at Marshall Space Flight Center with more than 30 years at NASA.	0

2021 02 24	NASA's Marshall Space Flight Center	https://youtu.be/mWLLIoaR-wA	Marshall Celebrates Black History Month Together We Achieve – Emil Charrington	Marshall Space Flight Center is proud to celebrate Black History Month, highlighting the work and contributions of team members across the center. Whether supporting our astronauts aboard the International Space Station, testing flight hardware or developing and implementing the technologies of tomorrow, the values of unity, diversity and inclusion are of great importance to the Marshall community. Each of the Marshall team members highlighted fully embodies this year's Marshall Black History Month celebration theme - Representation, Identity and Diversity: Together We Achieve. Emil Cherrington is the West Africa Regional Science Coordination Lead for NASA's SERVIR program.	0
2021 02 01	NASA's Marshall Space Flight Center	https://youtu.be/QzqF7WsQuwk	NASA Marshall 360° Tour Flight Hardware Development Facility	From clean welds on NASA's Space Launch System to clean air and water on the International Space Station, get a 360° look around two of the high bay facilities that make human space exploration possible at NASA's Marshall Space Flight Center in Huntsville, Alabama. 0:07 — Here at the Advanced Weld Facility, you can catch a glimpse of two segments of the launch vehicle stage adapter--one of three pieces at the top of the rocket that support the Orion spacecraft--we're building for the Artemis II mission. 0:23 —Our welding and manufacturing team has long pioneered welding techniques and holds many patents. Check out the back wall for a closer look at some of their work. 0:29 — Across the hall, researchers are responsible for the space station's air and water recycling system known as the Environmental Control and Life Support System. The oxygen generation rack and two water filtration racks that you see were developed here. Some of the materials used in wastewater filtration and liquid samples are also on display. 0:47 — The ECLSS development lab houses modules and equipment that simulate the space station environment, including the machinery that turns astronauts' urine into clean drinking water. 1:00 — The two modules connected by a node is actual flight hardware that was never launched. It's now used for testing and refining interior life support system hardware. Learn more about ECLSS at	Transcript Link

2021 02 01	NASA's Marshall Space Flight Center	https://youtu.be/b1u-57zKmC0	NASA Marshall 360° Tour ISS Payload Operations Integration Center	Science on the International Space Station? We coordinate that here! Take a 360° look behind the scenes of NASA's 24/7 command post for space station science at Marshall Space Flight Center in Huntsville, Alabama. 0:15 — In Payload Control Area-1, our dedicated team of flight controllers interacts with astronauts on the space station as they conduct experiments and demonstrate new technologies that help us explore, expand what we know, and make life better on Earth. 1:01 — The Laboratory Training Complex houses a full-size mock-up of the interior ISS U.S. National Laboratory that gives flight controllers hands-on experience with laboratory facilities and experiments. Learn more about the Payload Operations Integration Center at https://www.nasa.gov/centers/marshall/living_in_space.html Learn more about NASA's Marshall Space Flight Center at https://www.nasa.gov/centers/marshall/home/index.html This is a 360° video, so move your mobile phone around and catch the total 360° experience. On a tablet or desktop? Use your finger or mouse to change your view. Credit: NASA/Mick Speer	Transcript Link
2021 02 01	NASA's Marshall Space Flight Center	https://youtu.be/wzGDtNROZI8	NASA Marshall 360° Tour Propulsion Research & Development Laboratory	Like rockets? Take a 360° look around three labs inside NASA's hub for advanced propulsion research and technology development at Marshall Space Flight Center in Huntsville, Alabama. 00:10 — Our Thrust Vector Control Lab tests the systems that steer rockets. When NASA’s Space Launch System rocket flies, thrust vector control actuators can move the rocket's RS-25 engines and solid rocket booster nozzles to point their thrust in a different direction. 00:41 — The System Integration Lab and Software Integration and Test Facility mirror the "brains" of the Space Launch System--its avionics and guidance software--and checks them out by flying thousands of simulated real-time flights in virtual environments. 00:58 — Researchers use the furnace you see here--the Nuclear Thermal Rocket Element Environmental Simulator--to figure out how prototype fuel elements would hold up inside a nuclear thermal reactor--but without the radiation. Nuclear thermal engines could help astronauts reach far out planets like Mars and Jupiter faster. Learn more about Marshall’s propulsion activities at https://www.nasa.gov/centers/marshall/propulsion.html Learn more about NASA's Space Launch System at https://www.nasa.gov/exploration/systems/sls/index.html	Transcript Link

2021 01 28	NASA's Marshall Space Flight Center	https://youtu.be/NTSwn_8Hmxk	Day of Remembrance 2021 NASA Marshall Space Flight Center	Each January, NASA honors members of the NASA family who lost their lives while furthering the cause of exploration and discovery, including the crews of Apollo 1 and space shuttles Challenger and Columbia, during the agency's annual Day of Remembrance. As we remember them today, their bravery and dedication continue to inspire us. We carry the lessons they taught us forward as we pursue our mission to the Moon and beyond. This year's virtual observance includes Marshall Center Director Jody Singer, astronaut Butch Wilmore, and Bill Hill, Director of Marshall's Office of Safety & Mission Assurance.	Transcript Link
2021 01 22	NASA's Marshall Space Flight Center	https://youtu.be/mbazQ5jUXF8	NASA Marshall Space Flight Center 2020 Year-In-Review	2020 was a year unlike any other—but NASA's Marshall Space Flight Center continued to move NASA's Artemis Program forward, while studying the far reaches of the universe and teaching the next generation of scientists and explorers back on Earth.	Transcript Link
2021 01 15	NASA's Marshall Space Flight Center	https://youtu.be/Om6zyUS1330	How NASA Will Test Its SLS Rocket's Core Stage	Before NASA's Space Launch System (SLS) rocket launches NASA's Artemis missions to the Moon, its massive core stage must pass Green Run testing at NASA's Stennis Space Center near Bay St. Louis, Mississippi. This video explains how the core stage is brought to life to complete the test. The SLS rocket's core stage is the world's largest rocket stage, stretching 212 feet from end to end with two huge propellant tanks, four RS-25 engines, and miles of cabling and avionics systems. The SLS core stage Green Run test series is designed to verify the core stage is ready for the first and future Artemis missions. Each of the eight tests brings the stage to life for the first time, cumulating in an exciting "hot fire" as all four RS-25 engines fire simultaneously and all those systems operate together. NASA is targeting the SLS Green Run hot fire for March 18, 2021 and will broadcast the test live on NASA TV. Testing the SLS rocket's core stage is a combined effort for NASA and its industry partners, Boeing, the core stage lead contractor, and Aerojet Rocketdyne, the RS-25 engines lead contractor. For more information about SLS and Green Run, visit https://www.nasa.gov/greenrun	Transcript Link

2021 01 15	NASA's Marshall Space Flight Center	https://youtu.be/jNq_N87D1iQ	NASA Marshall Space Flight Center 2020 Year-In-Review	2020 was a year unlike any other—but NASA's Marshall Space Flight Center continued to move NASA's Artemis Program forward, while studying the far reaches of the universe and teaching the next generation of scientists and explorers back on Earth.	Transcript Link
2021 01 14	NASA's Marshall Space Flight Center	https://youtu.be/B0714Ol8PzI	Don't Miss the Green Run Hot Fire of NASA's Moon Rocket	The date is set. NASA and its partners, Boeing and Aerojet Rocketdyne, will conduct a "hot fire" of the core stage for NASA's Space Launch System (SLS) rocket on Jan. 16 at the agency's Stennis Space Center near Bay St. Louis, Mississippi. The hot fire test is the eighth and final test of the SLS Green Run test series. Together with the previously completed structural test campaign and RS-25 test series, Green Run testing verifies the core stage and the engines are ready for NASA's Artemis missions to the Moon. NASA will broadcast the Green Run Hot Fire test live on NASA TV and the agency's website. For more information about SLS and Green Run, visit https://www.nasa.gov/greenrun	Transcript Link
2021 01 14	NASA's Marshall Space Flight Center	https://youtu.be/E96q0Br21mE	NASA Prepares for Space Launch System Green Run Hot Fire	Teams at NASA's Stennis Space Center near Bay St. Louis, Mississippi, are preparing for the last test of the eight-part Green Run test series for the core stage of NASA's Space Launch System (SLS) rocket. The 212-foot-tall core stage is the largest rocket stage NASA has ever produced and will provide more than 2.2 million pounds of thrust to launch NASA's Artemis missions to the Moon. The comprehensive test series, or run, steadily brings the new, or "green," core stage flight hardware to life for the first time. Green Run cumulates with a hot fire when all four RS-25 engines fire simultaneously. NASA is targeting the hot fire for as early as Jan. 16. For more information about SLS and Green Run, visit https://www.nasa.gov/greenrun	Transcript Link

2021 01 12	NASA's Marshall Space Flight Center	https://youtu.be/yZsmo9hZGrY	NASA Stages Manager Discusses Space Launch System Green Run Hot Fire Testing	What does it take to test the largest rocket stage NASA has ever produced? As teams prepare for the upcoming hot fire test, Julie Bassler, manager of the Space Launch System Stages Office at NASA's Marshall Space Flight Center in Huntsville, Alabama, discusses Green Run testing. In this video, Bassler speaks with NASA communications specialist Kristen Hill inside the Systems Integration Lab at Marshall about the software and avionics testing and other tests conducted at Marshall that made the Green Run test possible. Each of the eight tests in the SLS Green Run test series is designed to gradually bring the SLS core stage to life for the first time. The test campaign cumulates with a hot fire test with all four RS-25 engines firing simultaneously. The 212-foot-tall core stage was installed into the B-2 Test Stand at NASA's Stennis Space Center near Bay St. Louis, Mississippi, for Green Run testing on Jan. 22, 2020. Green Run testing is a combined effort for NASA and its industry partners, Boeing, the prime contractor for the core stage, and Aerojet Rocketdyne, the lead contractor for the RS-25 engines. Prior tests in the Green Run test series evaluated the stage's avionics, propulsion, and hydraulic systems. Together with the four RS-25 engines and its twin solid rocket boosters, the SLS rocket produces 8.8 million pounds of thrust to send NASA's Orion spacecraft, astronauts, and supplies beyond Earth's orbit to the Moon. Offering more payload mass, volume capacity, and energy to speed missions through space, the SLS rocket -- along with NASA's Gateway in lunar orbit, the human landing system, and Orion -- is part of NASA's architecture for deep	0
2021 01 12	NASA's Marshall Space Flight Center	https://youtu.be/SHvLaUVU9pg	NASA Deep Space Food Challenge Offers Prizes for Sprouting Astronaut Food Systems	NASA and the Canadian Space Agency have coordinated to open the Deep Space Food Challenge, targeted at developing novel food system technologies for long-duration deep space missions. For more information, go to: https://www.deepspacefoodchallenge.org/	0
2021 01 11	NASA's Marshall Space Flight Center	https://youtu.be/ErD6rAzJ0P4	Watch Crews Build the Launch Vehicle Stage Adapter for Artemis II	This video shows how crews at NASA's Marshall Space Flight Center in Huntsville, Alabama, are manufacturing and assembling the launch vehicle stage adapter (LVSA) for the second flight of NASA's Space Launch System (SLS) rocket. The launch vehicle stage adapter in this video will be used for Artemis II, the first crewed mission of NASA's Artemis program. The launch vehicle stage adapter is a cone-shaped piece of hardware that connects the rocket's upper and lower stages. The LVSA is welded together as two unique cones, then stacked on top of one another. Technicians recently moved the aft cone to begin welding the LVSA at Marshall. While the larger stages of the SLS rocket are manufactured at other NASA facilities, the LVSA flight hardware is produced exclusively at Marshall by Teledyne Brown Engineering in Huntsville. For more information about SLS, visit https://www.nasa.gov/exploration/systems/sls/index.html.	Transcript Link

2021 01 05	NASA's Marshall Space Flight Center	https://youtu.be/UKgNlKFR9fg	NASA SLS Core Stage Proceeds to Green Run Hot Fire	NASA completed the wet dress rehearsal, the seventh test of the Space Launch System (SLS) rocket core stage Green Run test series at the agency's Stennis Space Center near Bay St. Louis, Mississippi, on Dec. 20. During the test, 733,000 gallons filled the liquid hydrogen and liquid oxygen tank. A key part of the test was to load the propellant and the replenish it to keep the tanks full as the gas naturally boils off. The mist around the stage in this video is actually the propellant boiling off during the test. The wet dress rehearsal test is one of the most extensive tests of the entire series and marks the first time that the rocket stage is filled and drained of liquid propellant. The next time the propellant tanks are filled, NASA will be moving toward Green Run hot fire testing targeted for Jan. 17, 2021. (NASA)	Transcript Link
2020 11 30	NASA's Marshall Space Flight Center	https://youtu.be/DtymxN67eEE	Crab Nebula Sonification	The Crab Nebula has been studied by people since it first appeared in Earth's sky in 1054 A.D. Modern telescopes have captured its enduring engine powered by a quickly spinning neutron star that formed when a massive star collapsed. The combination of rapid rotation and a strong magnetic field generates jets of matter and anti-matter flowing away from its poles, and winds outward from its equator. For the translation of these data into sound, which also pans left to right, each wavelength of light has been paired with a different family of instruments. X-rays from Chandra X-ray Observatory (blue and white) are brass, optical light data from Hubble Space Telescope (purple) are strings, and infrared data from Spitzer (pink) can be heard in the woodwinds. In each case, light received towards the top of the image is played as higher pitched notes and brighter light is played louder. (NASA/CXC/SAO/K.Arcand, SYSTEM Sounds (M. Russo, A. Santaguida))	Transcript Link
2020 11 30	NASA's Marshall Space Flight Center	https://youtu.be/t7rMtVctvag	Supernova 1987A Sonification	On February 24, 1987, observers in the southern hemisphere saw a new object in the Large Magellanic Cloud, a small satellite galaxy to the Milky Way. This was one of the brightest supernova explosions in centuries and soon became known as Supernova 1987A (SN 87A). This time lapse shows a series of Chandra X-ray Observatory (blue) and Hubble Space Telescope (orange and red) observations taken between 1999 and 2013. This shows a dense ring of gas, which was ejected by the star before it went supernova, begins to glow brighter as the supernova shockwave passes through. As the focus sweeps around the image, the data are converted into the sound of a crystal singing bowl, with brighter light being heard as higher and louder notes. The optical data are converted to a higher range of notes than the X-ray data so both wavelengths of light can be heard simultaneously. (NASA/CXC/SAO/K.Arcand, SYSTEM Sounds (M. Russo, A. Santaguida))	Transcript Link

2020 11 30	NASA's Marshall Space Flight Center	https://youtu.be/J7STY_H0BEk	Bullet Cluster Sonification	This image of the Bullet Cluster (officially known as 1E 0657-56) provided the first direct proof of dark matter, the mysterious unseen substance that makes up the vast majority of matter in the Universe. X-rays from Chandra (pink) show where the hot gas in two merging galaxy clusters has been wrenched away from dark matter, seen through a process known as "gravitational lensing" in data from Hubble Space Telescope (blue) and ground-based telescopes. In converting this into sound, the data pan left to right, and each layer of data was limited to a specific frequency range. Data showing dark matter are represented by the lowest frequencies, while X-rays are assigned to the highest frequencies. The galaxies in the image revealed by Hubble data, many of which are in the cluster, are in mid-range frequencies. Then, within each layer, the pitch is set to increase from the bottom of the image to the top so that objects towards the top produce higher tones. (Credit: NASA/CXC/SAO/K.Arcand, SYSTEM Sounds (M. Russo, A. Santaguida))	Transcript Link
2020 11 18	NASA's Marshall Space Flight Center	https://youtu.be/wXS0uCLisu8	NASA’s Break the Ice Challenge	From garage inventors to university students and entrepreneurs, NASA is looking for ideas on how to excavate the Moon’s icy regolith, or dirt, and deliver it to a hypothetical processing plant at the lunar South Pole. The NASA Break the Ice Lunar Challenge, a NASA Centennial Challenge, is now open for registration. The competition will take place over two phases and will reward new ideas and approaches for a system architecture capable of excavating and moving icy regolith and water on the lunar surface. (NASA/NASA360) Learn more: https://www.nasa.gov/directorates/spacetech/centennial_challenges/break-the-ice/launch.html https://www.nasa.gov/breaktheice	Transcript Link
2020 09 30	NASA's Marshall Space Flight Center	https://youtu.be/KqyWQ2P_s7Y	Artemis I Rocket to Launch with NASA Worm Logo	This animation shows NASA’s Space Launch System (SLS) rocket soaring off the Mobile Launcher at the agency’s Kennedy Space Center in Florida on the Artemis I mission. The super heavy-lift rocket will power NASA’s next-generation Moon missions through the agency’s Artemis program. NASA’s iconic “Worm” logo is depicted on the side of each of the SLS rocket’s solid rocket boosters. The letters are 8.3 feet tall with the entire worm logo stretching 28.7 feet from end to end on the boosters, which are taller than the Statue of Liberty. The simple, red logo was first introduced to the public in 1975. The original NASA insignia — nicknamed “the meatball” — rides to space on the top of the SLS rocket. The worm marking also appears on the Orion spacecraft riding atop the SLS rocket. NASA is working to land the first woman and the next man on the Moon by 2024. SLS and Orion, along with the human landing system and the Gateway in orbit around the Moon, are NASA’s backbone for deep space exploration. SLS is the only rocket that can send Orion, astronauts, and supplies to the Moon in a single mission. (NASA/Terry White)	Transcript Link

2020 09 25	NASA's Marshall Space Flight Center	https://youtu.be/m-yAcTujeRI	NASA Seeks Ideas from the Public for Powering Exploration on the Moon	NASA’s Watts on the Moon Challenge, opened Sept. 25, 2020, seeks solutions for energy distribution, management, and/or storage that address NASA technology gaps and can be further developed for space flight and future operation on the lunar surface. Not only could novel solutions make a difference in lunar and space exploration, but technologies discovered during NASA’s Watts on the Moon competition could help facilitate new power options on Earth. (NASA)	Transcript Link
2020 09 22	NASA's Marshall Space Flight Center	https://youtu.be/3N9RnmwIWbA	Sounds from Around the Milky Way	A new project using sonification turns astronomical images from NASA's Chandra X-Ray Observatory and other telescopes into sound. This allows users to "listen" to the center of the Milky Way as observed in X-ray, optical, and infrared light. As the cursor moves across the image, sounds represent the position and brightness of the sources. Credit: X-ray: NASA/CXC/SAO; Optical: NASA/STScI; IR: Spitzer NASA/JPL-Caltech	Transcript Link
2020 09 11	NASA's Marshall Space Flight Center	https://youtu.be/_JHqdVU9Ebo	Large-Scale 3D Printing for Rocket Engines	NASA engineers are exploring a new way to 3D print rocket engine parts using metal powder and lasers. The method, called blown powder directed energy deposition, is faster and more affordable than conventional fabrication methods. The development is part of NASA’s Rapid Analysis and Manufacturing Propulsion Technology, or RAMPT, project. Credits: NASA	Transcript Link

2020 09 09	NASA's Marshall Space Flight Center	https://youtu.be/mWzx8LGP9K8	Booster Test for Future Space Launch System Flights	Watch this video, filmed with a remotely piloted aircraft, to see the first solid rocket booster test for Space Launch System (SLS) missions beyond Artemis III during a two-minute hot fire test, Wednesday, September 2, 2020, at the T-97 Northrop Grumman test facility in Promontory, Utah. The flight support booster is structurally identical to each of the five-segment solid rocket boosters on the SLS rocket and produce more than 75 percent of the rocket's thrust capability. The flight support booster test builds on prior tests and will allow NASA and Northrop Grumman, the SLS booster lead contractor, to evaluate the motor's performance using potential new materials and processes for future booster performance. NASA is working to land the first woman and next man on the Moon by 2024. The SLS rocket, Orion spacecraft, Gateway, and Human Landing System are part of NASA's backbone for deep space exploration. The Artemis program is the next step in human space exploration. It's part of America's broader Moon to Mars exploration approach, in which astronauts will explore the Moon. Experience gained there will enable humanity's next giant leap: sending humans to Mars. SLS is the only rocket that can send Orion, astronauts and supplies to the Moon in a single mission.	Transcript Link
2020 09 01	NASA's Marshall Space Flight Center	https://youtu.be/mQgUg3N-yOk	Watch Crews Install SLS Rocket Flight Support Booster into Test Stand	This video shows how crews in Promontory, Utah, transported and installed the Flight Support Booster (FSB-1) for NASA's Space Launch System rocket into Test Stand T-97 ahead of a full-scale test on Sept. 2. The Flight Support Booster is structurally identical to each of the five-segment solid rocket boosters on SLS. Unlike previous booster tests, this Flight Support Booster test will ensure the boosters can be improved and sustained for SLS rockets needed to power Artemis missions following Artemis III when the first woman and next man land on the Moon in 2024. The FSB-1 booster will produce more than 3 million pounds of thrust during the test. Engineers with NASA and Northrop Grumman, the SLS booster lead contractor, will use the data from the test to evaluate new materials and processes for boosters used for future flights of the SLS rocket through NASA's Artemis program. (Northrop Grumman)	Transcript Link
2020 08 27	NASA's Marshall Space Flight Center	https://youtu.be/oqRwrlJbjOg	Rocket Science in 60 Seconds What Are the SLS Boosters	Rocket Science in 60 Seconds gives you an inside look at the work being done at NASA to explore deep space. NASA's powerful Space Launch System rocket will launch NASA's Artemis missions to the Moon. Its two, five-segment solid rocket boosters provide more than 75% of that thrust power during launch and flight. In this episode of Rocket Science in 60 Seconds, SLS booster subsystem manager Julia Khodabandeh explains how the boosters are designed, manufactured, and assembled to help power NASA's next-generation Moon missions. For more information about SLS, visit https://www.nasa.gov/exploration/systems/sls/index.html For the latest version of this video, visit https://youtu.be/lCYJkhvsnsE	Transcript Link

2020 08 21	NASA's Marshall Space Flight Center	https://youtu.be/ciz7fcdssBc	Mission Complete NASA Names Human Exploration Rover Challenge Winners	NASA announced the winners of the 2020 NASA Human Exploration Rover Challenge during a virtual awards ceremony posted Aug. 21. The Rover Challenge tasks U.S. and international student teams to design, engineer, and test a human-powered rover on a course that simulates the terrain found on rocky bodies in the solar system. The teams also must perform mission tasks while negotiating the course, including sample retrievals and spectrographic analysis. Despite the cancellation of on-site competition activities at the U.S. Space & Rocket Center near NASA's Marshall Space Flight Center in Huntsville, Alabama, due to the global COVID-19 pandemic, the high school and college teams competed in multiple design, documentation, and presentation categories, and were recognized for their successful efforts.	0
2020 08 19	NASA's Marshall Space Flight Center	https://youtu.be/a6d_vBXrGXg	Chandra Watches Kepler's Supernova Remnant Over Time	A new sequence of Chandra images, taken over nearly a decade and a half, captures motion in Kepler's supernova remnant. Pieces of this debris field are still moving at about 23 million miles per hour over 400 years after the explosion was spotted by early astronomers. Scientists are still trying to determine whether an extremely powerful explosion or an unusual environment around it is responsible for these high speeds so long after the explosion. The Kepler supernova was triggered by a white dwarf that reached a critical mass after interacting with a companion star and exploded.	Transcript Link
2020 08 07	NASA's Marshall Space Flight Center	https://youtu.be/QX4amTUfd0o	Space Launch System Rocket Small-Scale Booster Test	A Space Launch System (SLS) rocket small-scale solid rocket booster roared to life during a 22-second test on Aug. 6 at NASA's Marshall Space Flight Center in Huntsville, Alabama. The test with a 24-inch booster will help engineers evaluate a new material for booster nozzle cleaning that may be used on future SLS rocket boosters. (NASA/Tyson Eason)	Transcript Link
2020 07 31	NASA's Marshall Space Flight Center	https://youtu.be/hNkqT9-o1pU	NEA Scout to Study Nearby Asteroid, Test Solar Sail	Watch this video to see how NEA Scout, 1 of 13 shoebox-sized CubeSats riding aboard Artemis I, will perform its mission and unfurl a solar sail the size of a school bus to propel to a near-Earth asteroid.	Transcript Link

2020 07 30	NASA's Marshall Space Flight Center	https://youtu.be/fOhyZEIhZ78	Space Launch System Carries CubeSat Explorers During First Mission	The Space Launch System (SLS) and Orion spacecraft will not only take people on the most distant journeys to date but also open new frontiers for science and technology missions to deep space destinations. This animation shows how the SLS will transport CubeSats as secondary payloads on the Orion stage adapter during its first mission. For more information on SLS secondary payloads: https://www.nasa.gov/launching-science-and-technology.html (Video: NASA/MSFC)	Transcript Link
2020 07 29	NASA's Marshall Space Flight Center	https://youtu.be/fQ8m5Ph7ZOc	NASA's Centennial Challenges Celebrates Marshall's 60th Anniversary	NASA's Marshall Space Flight Center has been home to NASA's Centennial Challenges program since 2010. As Marshall celebrates 60 years as a center, Centennial Challenges would like to thank the center and its employees for their support. Together, Marshall and Centennial Challenges have inspired members of the public, industry, and academia to join the agency in developing new technologies furthering space exploration.	Transcript Link
2020 07 24	NASA's Marshall Space Flight Center	https://youtu.be/NE5zd_F8heY	2020 Student Launch Awards Ceremony	This year, we recognize our #StudentLaunch teams through a virtual awards ceremony. While we hate we can't see you in person, we are proud of what the #Artemis Generation accomplished!	Transcript Link
2020 07 23	NASA's Marshall Space Flight Center	https://youtu.be/abSc5PTw1XM	2020 Student Launch Awards Ceremony - Rookie Award, Judges Choice, and Top 3 Overall	From stellar rookies, to the ingenuity of middle, high school, and college students, this year's #StudentLaunch was a year to remember. We are proud to present the Rookie Award, the Judge's Choice Award, and announce the top 3 college division teams. Congratulations, #Artemis Generation!	0

2020 07 23	NASA's Marshall Space Flight Center	https://youtu.be/FM7VELB8TaQ	2020 Student Launch Awards Ceremony - Best Looking Rocket and Best Team Spirit Awards	Our #StudentLaunch teams bring their A-game when it comes to cool paint jobs on their rockets and their team spirit. The Best Looking Rocket and Best Team Spirit awards are voted on and decided by the #Artemis Generation students.	0
2020 07 23	NASA's Marshall Space Flight Center	https://youtu.be/jwv2jbbS0ew	2020 Student Launch Awards Ceremony - Social Media and Altitude Awards	Our #StudentLaunch teams predicted weeks in advance just how high their rockets would fly, while telling their unique stories on social media. The teams that launched closest to their predictions and best used social media won the Social Media and Altitude awards.	0
2020 07 23	NASA's Marshall Space Flight Center	https://youtu.be/FWh7YSChA2o	2020 Student Launch Awards Ceremony - Project Review and STEM Engagement Awards	While designing and building their rockets, our #Artemis Generation #StudentLaunch teams prepare written reports and give presentations to NASA rocketry experts. They must also teach and inspire the next generation. For those efforts, we present the Project Review Award and the STEM Engagement Award.	0
2020 07 23	NASA's Marshall Space Flight Center	https://youtu.be/tpvOlRBk6WM	2020 Student Launch Awards Ceremony - Payload Design Award and Safety Award	Every rocket needs a payload, and it needs to complete its mission safely. We recognize our #Artemis Generation #StudentLaunch teams with Payload Design and Safety awards for creating innovative payloads and maintaining the highest levels of safety.	0

2020 07 23	NASA's Marshall Space Flight Center	https://youtu.be/7BaISNuS11I	2020 Student Launch Awards Ceremony Opening and Vehicle Design Award	Our #Artemis Generation #StudentLaunch teams have put in months of hard work. Northrop Grumman Corporation delivers the opening and Vehicle Design Award presented to the team with the most innovative rocket design for their payload.	Transcript Link
2020 07 22	NASA's Marshall Space Flight Center	https://youtu.be/JvTBFH98VWw	NASA Building SLS Rocket Core Stage for Artemis II	Teams at NASA's Michoud Assembly Facility in New Orleans are building the core stage of NASA's Space Launch System rocket for Artemis II, the first crewed mission to the Moon in NASA's Artemis program. The SLS rocket's 212-foot-tall core stage provides more than 2 million pounds of thrust to help send astronauts aboard NASA's Orion spacecraft around the Moon. Because each of the five structures that make up the core stage are so large, the elements are built separately then connected together to form one stage. This video shows completed work Michoud teams have made since January 2020. For more information about SLS, visit https://www.nasa.gov/exploration/systems/sls/index.html.	Transcript Link
2020 07 15	NASA's Marshall Space Flight Center	https://youtu.be/-P_anHwhdBM	NASA Prepares Artemis I Rocket Hardware for Kennedy	Teams at NASA's Marshall Space Flight Center in Huntsville, Alabama, are preparing to ship a key piece of hardware to NASA's Kennedy Space Center in Florida in preparation for the first Artemis launch to the Moon. The launch vehicle stage adapter (LVSA) connects the upper stage and core stage of the agency's Space Launch System (SLS) rocket. While the larger stages of the SLS rocket are manufactured at other NASA facilities, the LVSA flight hardware is produced exclusively at Marshall by Teledyne Brown Engineering in Huntsville. For more information about SLS, visit https://www.nasa.gov/exploration/systems/sls/index.html.	Transcript Link
2020 07 02	NASA's Marshall Space Flight Center	https://youtu.be/r7vBSRUCsz0	Rocket Science in 60 Seconds What Is NASA's Rocket Train	Rocket Science in 60 Seconds gives you an inside look at the work being done at NASA to explore deep space. The booster segments for NASA's Space Launch System rocket arrived at NASA's Kennedy Space Center for stacking on June 15. The booster segments will help launch Artemis I, the first lunar mission of NASA's Artemis program. In this episode of Rocket Science in 60 Seconds, Northrop Grumman logistics specialist Jeff Bitner offers a closer look at the train that transports the rocket motors across America on their 2,800-mile journey from the manufacturing facilities in Utah to the launch facilities in Florida. for launch preparations at Kennedy. For more information about SLS, visit https://www.nasa.gov/exploration/systems/sls/index.html	Transcript Link

2020 07 01	NASA's Marshall Space Flight Center	https://youtu.be/OL5PnGybtUA	NASA Completes Structural Test Campaign for SLS Rocket	NASA has completed the structural test campaign for NASA's Space Launch System (SLS) rocket at the agency's Marshall Space Flight Center in Huntsville, Alabama. A test version of the rocket's liquid oxygen tank was purposely pushed to its limits on June 22. Engineers in Marshall's test lab worked with the SLS team to test four of the structures that make up most of the rocket's 212-foot core stage and also the structures that make up the entire upper part of the rocket. The final test concludes a nearly three-year structural test series that qualified the structural design of these multiple hardware elements for the rocket that will launch NASA's Artemis missions and astronauts to the Moon. For more information, visit https://www.nasa.gov/exploration/systems/sls/nasa-completes-artemis-sls-structural-testing-campaign.html	Transcript Link
2020 06 30	NASA's Marshall Space Flight Center	https://youtu.be/J-RT-5EqRnE	No Small Steps The Brains of NASA's SLS Rocket	In this episode of No Small Steps, host Stephen Granade takes you inside the Systems Integration Lab at NASA's Marshall Space Flight Center in Huntsville, Alabama, for a close-up look at the brains of NASA's powerful Space Launch System rocket. Inside the lab, the SLS team has flight computers and avionics that replicate those inside the rocket's core stage and solid rocket boosters. This lab allows them to test these systems with the flight software. The SLS rocket produces more than 8.8 million pounds of thrust power to launch NASA's Artemis missions to the Moon. The SLS rocket's avionics systems and flight computers harness that power to steer, track and guide the rocket on its journey to the Moon. For more information about SLS, visit https://www.nasa.gov/exploration/systems/sls/index.html.	Transcript Link
2020 06 25	NASA's Marshall Space Flight Center	https://youtu.be/sSEh_oKLCAw	Water Gushes From SLS Rocket Propellant Tank As Engineers Break It On Purpose	To complete the structural qualification test campaign for NASA's Space Launch System (SLS) rocket, the liquid oxygen structural test article was pushed beyond its limits until it broke and water gushed from the tank. The tank is a test article that is part of the SLS core stage that will produce 2 million pounds of thrust to help launch the rocket. The tank was bolted into a massive steel ring at the base of Marshall's Test Stand 4697. Hydraulic cylinders were then calibrated and positioned along the tank to apply millions of pounds of crippling force from all sides while engineers measured and recorded the effects of the launch and flight forces. For the test on June 24, water used to simulate the liquid oxygen flows out of the tank after it ruptures. The structural test campaign was conducted on the rocket to ensure the SLS rocket's structure can endure the rigors of launch and safely send astronauts to the Moon on the Artemis missions. For more information, view the web feature: https://www.nasa.gov/exploration/systems/sls/nasa-completes-artemis-sls-structural-testing-campaign.html (NASA/David Olive)	0

2020 06 25	NASA's Marshall Space Flight Center	https://youtu.be/4rikDNzGJck	The Hardware for NASA's Artemis I Mission Comes Together	NASA's powerful Space Launch System (SLS) rocket and Orion spacecraft are making progress to the pad for the first Artemis mission to the Moon. Over the course of their development, the rocket and spacecraft for Artemis I have moved from design and manufacturing to the final stages of testing and assembly. As the completed hardware is delivered to NASA's Kennedy Space Center in Florida, teams will integrate the various elements to prepare for launch. Along with the Gateway in lunar orbit and the human landing system, SLS and Orion create the backbone for the agency's Artemis missions to the Moon that will land astronauts on the lunar surface by 2024. From the top to the bottom, you can take a look at the completed flight hardware for SLS and Orion for the first flight, Artemis I, in this latest video. For more information about Artemis, https://www.nasa.gov/artemis. (NASA)	Transcript Link
2020 06 19	NASA's Marshall Space Flight Center	https://youtu.be/jAUGjUPuJ7I	Families Fuel Success at NASA's Rocket Factory	At NASA's Rocket Factory, success is fueled by families. This Father's Day, NASA's Michoud Assembly Facility in New Orleans partnered with multigenerational families of the workforce to recognize the fathers working on NASA's powerful Space Launch System (SLS). The rocket, along with NASA's Orion spacecraft and the human landing system, is part of NASA's backbone for deep space exploration to create a sustainable presence on the Moon. Through NASA's Artemis program, NASA will land the first woman and the next man on the Moon by 2024, and the SLS rocket will launch the lunar missions. The families featured in this video work alongside each other on the SLS rocket and Orion spacecraft at Michoud. Their work is helping to pave the way for the future success of the Artemis lunar program. For more on NASA's Michoud Assembly Facility, visit: https://www.nasa.gov/centers/marshall/michoud/index.html	Transcript Link
2020 06 16	NASA's Marshall Space Flight Center	https://youtu.be/NAeful7UD1U	Rocket Science in 60 Seconds How and Why Are the SLS Rocket Boosters Insulated	Rocket Science in 60 Seconds gives you an inside look at the work being done at NASA to explore deep space. Chelsea Walker is a Northrop Grumman materials and process design engineer for NASA's Space Launch System solid rocket boosters in Utah. These boosters will help launch the SLS when it takes off on the Artemis missions to the Moon. In this episode, she explains why the two solid rocket boosters are insulated to protect them from the extreme heat they'll experience during launch and flight and how that insulation is produced. For more information about SLS, visit https://www.nasa.gov/exploration/systems/sls/index.html	0

2020 06 11	NASA's Marshall Space Flight Center	https://youtu.be/wllfpS1-0PU	Marshall Space Flight Center Director Congratulates Class of 2020 Graduates	Marshall Space Flight Center Director Jody Singer congratulates the graduates of the Class of 2020, who are the Artemis Generation.	0
2020 05 26	NASA's Marshall Space Flight Center	https://youtu.be/Fi2S-sQDF1Q	How NASA Marshall Prepares to #LaunchAmerica!	How are you getting ready to #LaunchAmerica? After months of preparation, the NASA Marshall team is excited to see Crew Dragon take off on Wednesday's historic mission to the International Space Station. Join NASA (virtually) for the launch! https://www.nasa.gov/specials/virtual-guest/index.html	Transcript Link
2020 05 21	NASA's Marshall Space Flight Center	https://youtu.be/mI0rzY1TeDY	University Team to Test Technology in Space via NASA Competition	After winning NASA’s Cube Quest Centennial Challenge ground competition in 2017, team Cislunar Explorers from Cornell University in Ithaca, New York, was one of three teams awarded the opportunity to launch their CubeSat on Artemis I, NASA’s first test flight of the Space Launch System rocket and Orion spacecraft. Once deployed, the team will test their water electrolysis propulsion technology in space — something that could revolutionize how we explore our solar system. Explore more about this NASA competition: http://www.nasa.gov/cubequest	Transcript Link
2020 05 12	NASA's Marshall Space Flight Center	https://youtu.be/ewnrAmjLakQ	3, 2, 1... Lift-Off of the Artemis 1 Mission to the Moon	Hear the countdown and see how NASA’s Space Launch System (SLS), the world’s most powerful rocket, will send the Orion spacecraft to the Moon on the Artemis 1 Mission. This video takes you through the pre-launch sequence at NASA’s Kennedy Space Center in Florida and through all the flight operations as SLS launches Orion and sends it on to lunar orbit. For more information: https://www.nasa.gov/artemis-1	Transcript Link

2020 05 12	NASA's Marshall Space Flight Center	https://youtu.be/L7-wE0IoW48	Built to Explore NASA's Deep-Space Rocket, the Space Launch System	NASA's Space Launch System, the world's most powerful rocket, will enable a new era of exploration. With NASA's Orion spacecraft, SLS will launch astronauts on missions to the Moon, Mars and beyond. Exploration Mission-1, the first integrated flight of SLS and an uncrewed Orion, will be the first in a series of increasingly complex missions that will provide the foundation for human deep-space exploration and demonstrate NASA's commitment and capability to extend human existence beyond low-Earth orbit. Launching from NASA's Kennedy Space Center in Florida, the nation's premier multi-user spaceport, SLS will be the only rocket capable of sending crew and large cargo to the Moon in a single launch. (NASA/MSFC)	Transcript Link
2020 05 07	NASA's Marshall Space Flight Center	https://youtu.be/wa54Hym83AU	NASA Celebrates Mothers of Michoud in Honor of Mother's Day	In celebration of Mother's Day, NASA's Michoud Assembly Facility in New Orleans partnered with children of the workforce to recognize the women working on the mother of all rockets, NASA's powerful Space Launch System (SLS). The rocket, along with NASA's Orion spacecraft and a human landing system, is part of NASA's backbone for deep space exploration to create a sustainable presence on the Moon. Through the Artemis program, NASA will land the first woman and the next man on the Moon by 2024, and the SLS rocket will launch the lunar missions. The deep space rocket's core stage, the powerhouse of the rocket that produces more than 2 million pounds of thrust, is manufactured at Michoud. The women featured in this video are helping to pave the way for the future success of the Artemis program. For more on the work being done at NASA's Michoud Assembly Facility, click here: https://www.nasa.gov/centers/marshall/michoud/index.html	Transcript Link
2020 03 16	NASA's Marshall Space Flight Center	https://youtu.be/6LSJ4geYDRE	NASA Competition Winners Form Small Business to Launch CubeSats into Deep Space	After meeting at an expo in Florida, these technology innovators came together to form Team Miles as a privately owned corporation to compete in NASA's Cube Quest Centennial Challenge. Their innovative, ionic plasma propulsion technology will fly to deep space on Artemis I, the first integrated test flight of NASA's Space Launch System and Orion spacecraft. Once in space, Team Miles's goal is to win the Deep Space Derby, a segment in the final phase of the Cube Quest Challenge. To win, teams must demonstrate communications capabilities from a range of at least 4 million kilometers from Earth – more than 10 times the distance to the Moon. Explore more about this NASA competition: http://www.nasa.gov/cubequest	0
2020 02 13	NASA's Marshall Space Flight Center	https://youtu.be/t45mQX4fgBg	Core Stage Arrives and Is Installed in Stennis B-2 Test Stand	The core stage for NASA's new Space Launch System (SLS) rocket arrived at Stennis Space Center in Mississippi on Jan. 12. The stage was manufactured at NASA's Michoud Assembly Facility in New Orleans. It was rolled out from the Pegasus barge and on Jan. 22, NASA installed the core stage, which will provide power for the Artemis I lunar mission in the B-2 Test Stand. The stage will undergo a series of Green Run tests over the coming months. Green Run represents the first top-to-bottom integrated testing of its systems prior to its maiden Artemis I test flight.	Transcript Link

2020 01 29	NASA's Marshall Space Flight Center	https://youtu.be/q1W0H6VElV8	Rocket Science in 60 Seconds What Has NASA Learned from Building the First SLS Rocket Core Stage	With the assembly of the first core stage for NASA's Space Launch System rocket complete and delivered to the agency's Stennis Space Center near Bay St. Louis, Mississippi, for Green Run testing, NASA is s focusing its efforts on building the core stages for the second and third #Artemis lunar missions. For this episode of Rocket Science in 60 Seconds, Boeing production superintendent Eric Sturgeon takes you inside NASA's Michoud Assembly Facility in New Orleans where the SLS rocket core stages are manufactured. In this episode, he'll explain how NASA and Boeing evaluate each rocket's construction and what they've learned from building the first rocket stage. For more information about SLS, visit https://www.nasa.gov/exploration/systems/sls/	0
2020 01 23	NASA's Marshall Space Flight Center	https://youtu.be/1lwxOfpRXEc	NASA's Cube Quest Challenge Crowdsources Ideas for Deep Space CubeSats	Pushing the boundaries of space technology, NASA's first in-space competition invites the public to design, build and launch small satellites capable of advanced operations near and beyond the Moon. Three winners from the ground competition, completed in 2017, are readying their CubeSats for launch on Artemis I, the first uncrewed flight of NASA's Space Launch System (SLS) rocket and the Orion spacecraft. Want to get in on the action? Additional teams can compete in the Deep Space Derby and Lunar Derby by securing their own launch opportunity. Explore more about NASA's Cube Quest Centennial Challenge: http://www.nasa.gov/cubequest	0
2020 01 17	NASA's Marshall Space Flight Center	https://youtu.be/NZvI1aefDsw	Core Stage Arrival at Stennis	NASA's Pegasus barge transported the first flight core stage for NASA's Space Launch System rocket from the agency's Michoud Assembly Facility in New Orleans to Stennis Space Center in Mississippi on January 12. The stage which will be used for the first Artemis mission to the Moon rolled out from the Pegasus barge at the B-2 Test Stand. Once lifted and installed on the stand, the stage will undergo a series of integrated tests prior to its Artemis I flight. For a downloadable version of the video, go to https://images.nasa.gov/details-Core%20Stage%20Arrival%20at%20Stennis	Transcript Link
2020 01 10	NASA's Marshall Space Flight Center	https://youtu.be/5AAp3cCcdMo	NASA Rolls Out Space Launch System Rocket's Core Stage from Michoud Factory	The first core stage that will help launch NASA's Space Launch System rocket to the Moon for the agency's first Artemis mission has been rolled onto the Pegasus barge at NASA's Michoud Assembly Facility in New Orleans. NASA Deputy Administrator Jim Morhard joined NASA, Boeing, Aerojet Rocketdyne and other employees to mark the historic milestone when NASA and Boeing teams transported the stage from the factory to the barge on Jan. 8. Pegasus, which was modified to ferry SLS rocket hardware, will transport the core stage more than 40 miles from Michoud to NASA's Stennis Space Center near Bay St. Louis, Mississippi, for the comprehensive core stage Green Run test series. For more information about SLS, visit https://www.nasa.gov/exploration/systems/sls/index.html.	0

2019 12 11	NASA's Marshall Space Flight Center	https://youtu.be/-W5EXElmqC4	Space Launch System Liquid Hydrogen Tank Test	Engineers at NASA’s Marshall Space Flight Center in Huntsville, Alabama tested NASA's Space Launch System liquid hydrogen test article tank to failure. The tank withstood more than 260% of expected flight loads before buckling and rupturing. The test version of the tank aced earlier tests, withstanding forces expected at engine thrust levels planned for Artemis lunar missions, showing no signs of cracks, buckling or breaking. The test on Dec. 5 -- conducted using a combination of gaseous nitrogen for pressurization and hydraulics for loads -- pushed the tank to the limits by exposing it to higher forces that caused it to break as engineers predicted. Earlier tests at Marshall certified the tank for both the current version of the SLS -- called Block 1, which will use an upper stage called the Interim Cryogenic Propulsion Stage -- and the Block 1B version that will replace the ICPS with the more powerful Exploration Upper Stage.	Transcript Link
2019 12 06	NASA's Marshall Space Flight Center	https://youtu.be/xUPyVWTs1kY	See the Space Launch System’s Core Stage Come Together	The core stage that will help launch NASA’s Space Launch System rocket to the Moon for NASA’s first Artemis mission is fully assembled, and you can see how teams at NASA’s Michoud Assembly Facility in New Orleans made it happen in our latest video. With two giant tanks holding a combined 733,000 gallons of propellant and four RS-25 engines, the core stage is the powerhouse of the rocket. Technicians attached the five structures in three phases, or joins, before individually adding each of the four RS-25 engines to the stage. Once the stage passes final check-outs, NASA’s Pegasus barge will ferry it to NASA’s Stennis Space Center near Bay St. Louis, Mississippi, for the Green Run test series. For more information about SLS, visit https://www.nasa.gov/exploration/systems/sls/index.html.	Transcript Link
2019 12 06	NASA's Marshall Space Flight Center	https://youtu.be/cjxaJKkmx-o	Rocket Science in 60 Seconds How Does the SLS Rocket’s Core Stage Come Together	Rocket Science in 60 Seconds gives you an inside look at work being done at NASA to explore deep space. Amanda Gertjejansen is the senior production manager with Boeing Company for NASA’s Space Launch System (SLS) rocket at NASA’s Michoud Assembly Facility in New Orleans. In this episode, join Amanda inside the Michoud factory for a close-up look at the fully assembled core stage that will help power NASA’s Artemis missions to the Moon. She’ll explain how crews connected the five main structures plus what tools they use to get the job done. For more information about SLS, visit https://www.nasa.gov/exploration/systems/sls/index.html.	0

2019 11 18	NASA's Marshall Space Flight Center	https://youtu.be/-Y7ZAUbcyYg	Hinode Watches from Orbit as Mercury Crosses the Sun	The international Hinode solar-observing satellite captured the transit of Mercury as it passed between Earth and the Sun on Nov. 11, 2019. Transits like this can be used to measure the distance between Earth and the Sun. Hinode is a joint endeavor by the Japan Aerospace Exploration Agency (JAXA), National Astronomical Observatory of Japan (NAOJ), European Space Agency, United Kingdom Space Agency and NASA. These images were taken with Hinode's X-Ray Telescope (XRT), which observes the solar atmosphere at millions of degrees. Additional movies from the XRT are available from the Harvard-Smithsonian Center for Astrophysics and JAXA. Image credit: JAXA/NASA/SAO/Montana State University/NAOJ	Transcript Link
2019 11 14	NASA's Marshall Space Flight Center	https://youtu.be/7yK8E7TjC9U	NASA Attaches All Four RS-25 Engines to Artemis I Rocket Stage	Engineers and technicians at NASA's Michoud Assembly Facility in New Orleans have attached all four RS-25 engines to the core stage for NASA's Space Launch System (SLS) rocket that will help power the first Artemis mission to the Moon. To complete assembly of the rocket stage, crews are now integrating the propulsion and electrical systems within the structure. The completed core stage with all four RS-25 engines attached is the largest rocket stage NASA has built since the Saturn V stages for the Apollo Program that first sent Americans to the Moon. Engineers and technicians at Michoud attached the fourth RS-25 engine to the rocket stage Nov. 6 just one day after structurally mating the third engine. The first two RS-25 engines were structurally mated to the stage in October. Integration of the RS-25 engines to the recently attached engine section is a collaborative, multistep process for NASA and its partners Boeing, the core stage lead contractor, and Aerojet Rocketdyne, the RS-25 engines lead contractor. The four RS-25 engines, which are each roughly the size of a compact car, will together provide the SLS rocket 2 million of its 8.8 million pounds of maximum thrust. For more information about SLS, visit https://www.nasa.gov/sls. (NASA)	Transcript Link
2019 11 08	NASA's Marshall Space Flight Center	https://youtu.be/f4iNB6GdoCE	Rocket Science in 60 Seconds What Is the NASA SLS Rocket's Exploration Upper Stage	Rocket Science in 60 Seconds gives you an inside look at work being done at NASA to explore deep space. Kent Chojnacki is the associate manager for the Stages Office for NASA's Space Launch System (SLS) rocket at NASA's Marshall Space Flight Center in Huntsville, Alabama. In this episode, Kent explains how the exploration upper stage will make the SLS rocket even more powerful and allow more cargo to be sent to the Moon on Artemis lunar missions and later on missions to Mars. For more information about SLS, visit https://www.nasa.gov/exploration/systems/sls/index.html.	0

2019 11 08	NASA's Marshall Space Flight Center	https://youtu.be/zWbGOkYTCPw	NASA Competition Winners Develop Artificial Intelligence for Future Rovers	Before humans can live and work on Mars, it's important to learn as much as we can about the Red Planet. What better way to do that then collect a Martian sample and return it to Earth? A group of NASA competition winners from West Virginia University is building upon technology they developed for NASA's Sample Return Robot Centennial Challenge to create an artificially intelligent rover capable of Mars sample retrieval. Explore NASA's Centennial Challenges to see how you can get involved: www.nasa.gov/winit	0
2019 11 04	NASA's Marshall Space Flight Center	https://youtu.be/ttafuAkfHeU	NASA Engineer Sara Rengifo Fulfills Childhood Dream of Working for Space Program	Born and raised in Medellin, Colombia, Sara Rengifo always dreamed of being a scientist or engineer. Today, she is a tribology and metrology engineer at NASA's Marshall Space Flight Center in Huntsville, Alabama, working to provide data and analysis on NASA hardware. Tribology is the study of lubrication, friction and wear, and goes hand-in-hand with metrology, the study of measurement. She earned a degree in mechanical engineering from the Universidad Escuela de Administración y Finanzas y Tecnologías in Medillin, and her master's degree at Florida International University in Miami. She began her NASA career in 2016, and was awarded the agency's Trailblazer Award in 2019, which recognizes employees for excellence during the first seven years of their career with the agency. Her work on NASA hardware plays a vital role in helping us return to the Moon in 2024. Rengifo lives in Huntsville with her husband and two children.	0
2019 10 29	NASA's Marshall Space Flight Center	https://youtu.be/6UZDi-B5BZk	CubeSats to the Moon and Beyond NASA Challenge Winners to Hitch a Ride on Artemis I	Winners of NASA's Cube Quest Challenge are preparing their small satellites to launch on the first Artemis mission, aboard NASA's Space Launch System rocket. Once in space, these three CubeSats will travel to or beyond the Moon to show us what they're made of, as they take small satellite technology to a new level. Explore more about this NASA competition: http://www.nasa.gov/cubequest	0
2019 10 11	NASA's Marshall Space Flight Center	https://youtu.be/hCiSBnbHy0c	Rocket Science in 60 Seconds What Are the SLS Avionics	Rocket Science in 60 Seconds gives you an inside look at work being done at NASA to explore deep space. Alex Matras is a software developer for NASA's Space Launch System (SLS) rocket at NASA's Marshall Space Flight Center in Huntsville, Alabama. In this episode, join Alex inside the Space Launch System rocket's Systems Integration Lab as he explains how the rocket's flight computers and avionics help steer, fly, track and guide the powerful rocket through launch and flight to the Moon. For more information about SLS, visit https://www.nasa.gov/exploration/systems/sls/index.html.	Transcript Link

2019 10 07	NASA's Marshall Space Flight Center	https://youtu.be/ohl_u3vUknI	Neuropathy Experience Wellness Project	The Brand NEW (Neuropathy Experience Wellness) project was funded through the “Tech Tank” seed money investment program at MSFC. The project began in 2018 with the goal of using NASA technology to analyze the gait of people experiencing peripheral pain (neuropathy) and to use that data to develop shoes or inserts that will help alleviate that pain.	Transcript Link
2019 09 26	NASA's Marshall Space Flight Center	https://youtu.be/n1KKyrF0FYE	NASA Connects Last of 5 Structures to SLS Rocket Core Stage	NASA finished assembling and joining the five main structural components for the agency’s Space Launch System (SLS) rocket core stage at NASA’s Michoud Assembly Facility in New Orleans on Sept. 19. NASA and Boeing, the core stage lead contractor, technicians bolted the engine section to the stage’s liquid hydrogen propellant tank that will help send Artemis I, the first flight of SLS and NASA’s Orion spacecraft, to the Moon. The engine section, located at the bottom of the 212-foot-tall stage, is one of the most complicated pieces of hardware for the SLS rocket, and it is the attachment point for the four RS-25 engines and two solid rocket boosters that produce a combined 8.8 million pounds of thrust. This fall, NASA will work with Boeing and Aerojet Rocketdyne, the RS-25 engine lead contractor, to attach the four RS-25 engines to the stage and connect them to the main propulsion systems inside the engine section. For more information about SLS, visit https://www.nasa.gov/sls.	Transcript Link
2019 09 19	NASA's Marshall Space Flight Center	https://youtu.be/C1xaP3ZGsG4	NASA Challenges the Public to Convert CO2 into Sugar	Future human explorers on Mars are going to need to live off the land. That means making things like food and medicine using Martian resources. Our CO2 Conversion Challenge aims to find a way to turn CO2 on Mars into the essentials future astronauts will need to survive. The challenge, open for registration until Nov. 30, seeks to develop technologies that use carbon dioxide to generate molecules (glucose is desired) that can be used in microbial bioreactors, essentially taking the role of what plants do on Earth. If we can do this, we can then create all sorts of other products from the glucose. Get the details: www.co2conversionchallenge.org	Transcript Link
2019 09 09	NASA's Marshall Space Flight Center	https://youtu.be/Gdu1ROHLDrk	The Hardware For NASA’s Artemis I Mission Comes Together	NASA’s powerful Space Launch System rocket and NASA’s Orion spacecraft are making progress to the pad. Over the course of their development, the rocket and spacecraft have moved from design and manufacturing to testing and assembly and integration. Some of the hardware has even been delivered to the launch pad at NASA’s Kennedy Space Center in Florida. Along with the Gateway in lunar orbit and a new human landing system, SLS and Orion create the backbone for the agency’s Artemis missions to the Moon that will land astronauts on the lunar surface by 2024 From the top to the bottom, you can take a look at the completed flight hardware for SLS and Orion for the first flight, Artemis I, in this latest video. For more information about Artemis, https://www.nasa.gov/artemis. (NASA)	Transcript Link

2019 09 09	NASA's Marshall Space Flight Center	https://youtu.be/fqP_9yr8aGo	Polymeric Materials for Advanced Environmental Control and Life Support	Capturing excess carbon dioxide in the atmosphere of the cabin of a crew vehicle is critical to maintaining human health on long duration missions. Additionally, any way of capturing and re-using oxygen is helpful in creating an optimal environment for the crew. Researchers at NASA's Marshall Space Flight Center are using a Bosch reactor system to generate water and elemental carbon. The carbon, in conjunction with other materials, is being tested as a material for 3D printing.	0
2019 08 05	NASA's Marshall Space Flight Center	https://youtu.be/7TQZHk6xB5o	An Additive Manufacturing Technique for the Production of Electronic Circuits	Morningbird Media Corporation, in conjunction with Alabama A&M University, was awarded a Phase II STTR contract to develop a technique to 3D print electronic components. They have developed a proprietary mixture of filaments and the accompanying software that will allow a user to print a functional electronic device. This technology is very close to becoming commercially available worldwide.	0
2019 08 02	NASA's Marshall Space Flight Center	https://youtu.be/6rSsMtRyV70	Rocket Science in 60 Seconds What Is the SLS Green Run Test	Rocket Science in 60 Seconds gives you an inside look at work being done at NASA to explore deep space. Chandler Scheuermann is the cryogenic tanks subsystem element manager for the Space Launch System (SLS) rocket at NASA's Michoud Assembly Facility in New Orleans. In this episode, he explains how the rocket's core stage will be tested and certified fit for flight to the Moon and, ultimately, Mars in an acceptance test series called "Green Run." For more information about SLS, visit https://www.nasa.gov/exploration/systems/sls/green-run-test-paves-way-for-nasa-moon-missions.html. For an updated version of this video, visit https://youtu.be/I3Zjf6ngjz8	Transcript Link
2019 07 31	NASA's Marshall Space Flight Center	https://youtu.be/GV9wK6g4mzo	Marshall Remembers Apollo Lowell Zoller	This Marshall Remembers Apollo series conducted as part of the Apollo 11 50th anniversary celebration consists of edited oral history interviews with former and current NASA employees related to their experience working at Marshall Space Flight Center during the years of the Saturn Program. In this video former NASA employee Lowell Zoller discusses the development of the Saturn rockets for the Apollo program. Included in this discussion are advancements in materials, welding processes, and the work conducted for the Saturn I and IB programs.	Transcript Link

2019 07 18	NASA's Marshall Space Flight Center	https://youtu.be/Co6QCMP1Ykg	Watch as Crews Load Final SLS Test Article into Marshall Test Stand	This video shows how crews lifted the liquid oxygen (LOX) tank structural test article for NASA's Space Launch System (SLS) rocket into Test Stand 4697 on July 10, 2019, at NASA's Marshall Space Center in Huntsville, Alabama. Engineers from Marshall's Center Operations team moved the test article from NASA's Pegasus barge on July 9. The barge delivered the test article from the Michoud Assembly Facility in New Orleans, where it was manufactured. The test article is structurally identical to the flight version of the propellant tank, which will hold 196,000 gallons cryogenic liquid oxygen. Hydraulic cylinders within the test stand will push and pull the tank, subjecting it to the same stresses and loads it will face during liftoff and flight, to certify it fit for flight. The tank is one of two propellant tanks in the SLS core stage that will help power the rocket and NASA's Orion spacecraft to the Moon on the Artemis missions. Video Credit: NASA/Tyler Martin	Transcript Link
2019 07 15	NASA's Marshall Space Flight Center	https://youtu.be/WlqJukYRAuo	Marshall Remembers Apollo Carolyn Griner	This Marshall Remembers Apollo series conducted as part of the Apollo 11 50th anniversary celebration consists of edited oral history interviews with former and current NASA employees related to their experience working at Marshall Space Flight Center during the years of the Saturn Program. In this video former NASA employee Carolyn Griner discusses her time as a Co-op student during Apollo as well as her experience with later programs.	Transcript Link
2019 07 12	NASA's Marshall Space Flight Center	https://youtu.be/RK9jGGcV1DA	Rocket Science in 60 Seconds How many centers work on the NASA Artemis Program	Rocket Science in 60 Seconds gives you an inside look at work being done at NASA to explore deep space. Dawn Stanley is the deputy director for cross program system integrations for the Space Launch System (SLS) rocket at NASA's Marshall Space Flight Center in Huntsville, Alabama. In this episode, she explains how each of the NASA centers works together on the agency's Artemis program to help send American astronauts to the Moon — and on to Mars. For more information about SLS, visit https://www.nasa.gov/exploration/systems/sls/index.html.	0
2019 07 02	NASA's Marshall Space Flight Center	https://youtu.be/vOOWPBwHx1o	Marshall Remembers Apollo Armis Len Worlund	This Marshall Remembers Apollo series conducted as part of the Apollo 11 50th anniversary celebration consists of edited oral history interviews with former and current NASA employees related to their experience working at Marshall Space Flight Center during the years of the Saturn Program. In this video former NASA employee Armis Len Worlund discusses his time working at NASA during the Apollo program including developing a solution to the issue of Pogo experienced during the flight of Apollo 6.	Transcript Link

2019 07 02	NASA's Marshall Space Flight Center	https://youtu.be/7KDYLZdiL10	Marshall Remembers Apollo Dr. J. Wayne Littles	This Marshall Remembers Apollo series conducted as part of the Apollo 11 50th anniversary celebration consists of edited oral history interviews with former and current NASA employees related to their experience working at Marshall Space Flight Center during the years of the Saturn Program. In this video former NASA employee Dr. J Wayne Littles discusses his time working on the Apollo program, both at Rocketdyne and at Marshall Space Flight Center. Littles also discusses the evolution of Marshall beyond the Apollo years.	Transcript Link
2019 06 27	NASA's Marshall Space Flight Center	https://youtu.be/KZwC6aSDufg	In-Situ Production of Cementitious Material from Martian Resources	Establishing a permanent human presence on the Moon or Mars will require the development of new construction techniques. This video discusses efforts to development concrete formulations suitable for 3D printing using in situ resources.	Transcript Link
2019 06 17	NASA's Marshall Space Flight Center	https://youtu.be/EBnZZw3Ko7c	Marshall Remembers Apollo Jay Foster	This Marshall Remembers Apollo series conducted as part of the Apollo 11 50th anniversary celebration consists of edited oral history interviews with former and current NASA employees related to their experience working at Marshall Space Flight Center during the years of the Saturn Program. In this video former NASA employee Jay Foster discusses working in Marshall Administration during the Saturn program and the experience watching the launch of Apollo 11. He also discusses planning for space exploration in the aftermath of Apollo 11.	Transcript Link
2019 06 14	NASA's Marshall Space Flight Center	https://youtu.be/VfmHda5e4II	Rocket Science in 60 Seconds What Makes the SLS Rocket So Unique	Rocket Science in 60 Seconds gives you an inside look at work being done at NASA to explore deep space. Erika Alvarez is a lead systems engineer for the Space Launch System (SLS) rocket at NASA's Marshall Space Flight Center in Huntsville, Alabama. In this episode, she explains the unique capabilities of the SLS rocket and how she works with other engineers to ensure the rocket can meet the unique requirements for each Artemis mission to the Moon. For more information about SLS, visit https://www.nasa.gov/exploration/systems/sls/index.html.	Transcript Link

2019 06 10	NASA's Marshall Space Flight Center	https://youtu.be/azVqm3QYYQs	Marshall Remembers Apollo Nancy Guire	This Marshall Remembers Apollo series conducted as part of the Apollo 11 50th anniversary celebration consists of edited oral history interviews with former and current NASA employees related to their experience working at Marshall Space Flight Center during the years of the Saturn Program. In this video, former NASA employee Nancy Guire discusses her time as a secretary in the Marshall center director's office, Bonnie Holmes, and the experience working at Marshall during the Apollo program.	Transcript Link
2019 06 03	NASA's Marshall Space Flight Center	https://youtu.be/rREVXRbZYfg	Marshall Remembers Apollo Rein Ise	This Marshall Remembers Apollo series conducted as part of the Apollo 11 50th anniversary celebration consists of edited oral history interviews with former and current NASA employees related to their experience working at Marshall Space Flight Center during the years of the Saturn Program. In this video former NASA employee Rein Ise discusses the development of the Saturn V launch vehicle and the process of systems engineering during the Apollo program.	Transcript Link
2019 05 29	NASA's Marshall Space Flight Center	https://youtu.be/sU3WI6IYW1Q	NASA, Virgin Orbit Test 3D Printed Rocket Engine Combustion Chamber	Engineers at Marshall Space Flight Center record the test-firing of a 3D-printed combustion chamber. Researchers are exploring advanced additive manufacturing solutions, introducing higher-performing alloys and refined printing processes. Read the full story here: https://www.nasa.gov/centers/marshall/news/news/releases/2019/nasa-and-virgin-orbit-3d-print-test-rocket-combustion-chamber.html. (NASA/Virgin Orbit)	Transcript Link
2019 05 29	NASA's Marshall Space Flight Center	https://youtu.be/AsUHyJRHY7o	Marshall Remembers Apollo Phil Sumrall	This Marshall Remembers Apollo series conducted as part of the Apollo 11 50th anniversary celebration consists of edited oral history interviews with former and current NASA employees related to their experience working at Marshall Space Flight Center during the years of the Saturn Program. In this video former NASA employee Phil Sumrall discusses his work for the Saturn Program including dynamic testing and launches of the Saturn V as well as the growth of Huntsville during that time.	Transcript Link

2019 05 17	NASA's Marshall Space Flight Center	https://youtu.be/MLgYJh6OFbY	Rocket Science in 60 Seconds What Is the Space Launch System	Rocket Science in 60 Seconds gives you an inside look at work being done at NASA to explore deep space. Kathryn Crowe is a systems engineer at NASA's Marshall Space Flight Center in Huntsville, Alabama. In this episode, she explains what powers NASA's deep space rocket, the Space Launch System, and why it's the only rocket that can move astronauts forward to the Moon — to stay — in 2024. For more information about SLS, visit https://www.nasa.gov/exploration/systems/sls/index.html.	Transcript Link
2019 05 15	NASA's Marshall Space Flight Center	https://youtu.be/OmXuA5Wykf8	Frank Borman Visits Marshall Space Flight Center - April 1969 (No Sound)	This video follows an April 24, 1969 visit from Apollo 8 Commander Frank Borman to NASA's Marshall Space Flight Center. The video begins with Borman's landing at Huntsville International Airport. While at Marshall, Borman met with Marshall director, Dr. Wernher von Braun, addressed the Marshall workforce in Morris Auditorium, meet with local press, and toured the Marshall laboratories to see Skylab hardware.	0
2019 05 15	NASA's Marshall Space Flight Center	https://youtu.be/Ivvu3HT9gOo	Marshall Remembers Apollo Dr. William W. Vaughan	This Marshall Remembers Apollo series conducted as part of the Apollo 11 50th anniversary celebration consists of edited oral history interviews with former and current NASA employees related to their experience working at Marshall Space Flight Center during the years of the Saturn Program. In this video former NASA employee Dr. William W. Vaughan discusses his scientific role in the Saturn program examining the environmental conditions for Saturn launches from Cape Canaveral.	Transcript Link
2019 05 13	NASA's Marshall Space Flight Center	https://youtu.be/izZGnoNfbFc	Marshall Remembers Apollo Dr. Ann Whitaker	This Marshall Remembers Apollo series conducted as part of the Apollo 11 50th anniversary celebration consists of edited oral history interviews with former and current NASA employees related to their experience working at Marshall Space Flight Center during the years of the Saturn Program. In this video former NASA employee Dr. Ann Whitaker discusses her experience at Marshall during the Apollo program and beyond.	Transcript Link

2019 04 29	NASA's Marshall Space Flight Center	https://youtu.be/LxrD9NnEGKg	Marshall Remembers Apollo Ed Buckbee	This Marshall Remembers Apollo series conducted as part of the Apollo 11 50th anniversary celebration consists of edited oral history interviews with former and current NASA employees related to their experience working at Marshall Space Flight Center during the years of the Saturn Program. In this video former NASA employee Ed Buckbee discusses the early years of the space program, President Kennedy's lunar goal, and the development of the Saturn launch vehicles.	Transcript Link
2019 04 23	NASA's Marshall Space Flight Center	https://youtu.be/Cfwr7WrCnXM	Marshall Remembers Apollo Earnest C Smith	This Marshall Remembers Apollo series conducted as part of the Apollo 11 50th anniversary celebration consists of edited oral history interviews with former and current NASA employees related to their experience working at Marshall Space Flight Center during the years of the Saturn Program. In this video former NASA employee Earnest Smith remembers coming from Arkansas to Huntsville to work on the Saturn Program in the Astrionics Laboratory. Smith also discusses his role in the Lunar Roving Vehicle program.	Transcript Link
2019 04 22	NASA's Marshall Space Flight Center	https://youtu.be/LI3QcD11XO8	Rocket Science in 60 Seconds What Is the Engine Section	Rocket Science in 60 Seconds gives you an inside look at work being done at NASA to explore deep space. Jason Grow is a Boeing propulsion engineer for NASA’s Space Launch System core stage at NASA’s Michoud Assembly Facility in New Orleans. In this episode, he explains what the core stage’s engine section is and why it’s one of the most complicated parts of the entire rocket. For more information about SLS, visit https://www.nasa.gov/exploratin/systems/sls/index.html.	Transcript Link
2019 04 18	NASA's Marshall Space Flight Center	https://youtu.be/2EigkkcMSyo	Print Assisted Photovoltaic Assembly (PAPA)	MSFC center innovation funded project PAPA utilizing additive electronics manufacturing to automate and enable large scale production of thin-film solar arrays for spacecraft applications.	Transcript Link

2019 04 17	NASA's Marshall Space Flight Center	https://youtu.be/549KnKKHlQc	Production and Hot Hydrogen Testing of Molybdenum Matrix Cermet Fuels for Nuclear Thermal Production	The CIF Video Series features a new video each month, highlighting different technology development projects funded by the Marshall Center Chief Technologist's Office. This month's video tells the story of the production and testing of specialized fuels for nuclear thermal propulsion engines – one option for spacecraft propulsion once beyond Earth's orbit.	0
2019 04 15	NASA's Marshall Space Flight Center	https://youtu.be/nw3w-KvQgY4	Marshall Remembers Apollo Saverio Sonny Morea	This Marshall Remembers Apollo series conducted as part of the Apollo 11 50th anniversary celebration consists of edited oral history interviews with former and current NASA employees related to their experience working at Marshall Space Flight Center during the years of the Saturn Program. In this video former NASA employee Saverio "Sonny" Morea discusses his career at Marshall and work for the Saturn Program including solving problems related to the F-1 and J-2 engines and the development of the Lunar Roving Vehicle.	Transcript Link
2019 04 03	NASA's Marshall Space Flight Center	https://youtu.be/05Txlxrsx2Y	Marshall Remembers Apollo Otha Skeet Vaughan	This Marshall Remembers Apollo series conducted as part of the Apollo 11 50th anniversary celebration consists of edited oral history interviews with former and current NASA employees related to their experience working at Marshall Space Flight Center during the years of the Saturn Program. In this video NASA Retiree Otha 'Skeet' Vaughan remembers his time working at Redstone Arsenal for the Army and NASA. Vaughan recounts efforts to understand the geology of the Moon's surface through the Surveyor Program and the development of the Lunar Roving Vehicle.	Transcript Link
2019 04 03	NASA's Marshall Space Flight Center	https://youtu.be/LyEdJv3jNl4	Marshall Remembers Apollo Jan Monk	This Marshall Remembers Apollo series conducted as part of the Apollo 11 50th anniversary celebration consists of edited oral history interviews with former and current NASA employees related to their experience working at Marshall Space Flight Center during the years of the Saturn Program. In this video NASA Retiree Jan Monk remembers his time working on the Saturn Program at Marshall Space Flight Center.	Transcript Link

2019 03 27	NASA's Marshall Space Flight Center	https://youtu.be/nHxO-zmqdLM	Mars Incubator - Phase 3 Level 4 of NASA's 3D-Printed Habitat Challenge	Team Mars Incubator of New Haven, Connecticut, won third place in Phase 3: Level 4 in NASA's 3D-Printed Habitat Challenge. Their design consists of four spaces – a vestibule, a primary living space, a multi-use space and a bio-generation area for plant growth. The competition for this stage challenged teams to use modeling software to create a full-scale habitat design. This level built upon an earlier stage that required 60 percent design completion; for this round, submissions were 100 percent complete. Entries were scored on architectural layout, programming, efficient use of interior space, and the 3D-printing scalability and constructability of the habitat. Teams also prepared short videos providing insight into their design as well as miniature 3D-printed models that came apart to showcase the interior design. Points were also awarded for aesthetic representation and realism. NASA's 3D-Printed Habitat Challenge aims to further the progression of sustainable shelters that will someday occupy the Moon, Mars or beyond by pushing citizen inventors to develop new technologies capable of additively manufacturing a habitat using indigenous resources with, or without, recyclable materials. The 3D-Printed Habitat Challenge is managed through a partnership with NASA's Centennial Challenges Program and Bradley University. Bradley has partnered with sponsors Caterpillar, Bechtel and Brick & Mortar Ventures to administer the competition. NASA's Centennial Challenges program is part of the agency's Space Technology Mission Directorate, and is managed at NASA's Marshall Space Flight Center in Huntsville, Alabama. For information about the 3D-Printed Habitat Challenge, visit: http://www.nasa.gov/3DPHab	0
2019 03 27	NASA's Marshall Space Flight Center	https://youtu.be/2TLnCOCVicE	Team Zopherus - Phase 3 Level 4 of NASA's 3D-Printed Habitat Challenge	Team Zopherus from Rogers, Arkansas, is the second-place winner of Phase 3: Level 4 of NASA's 3D-Printed Habitat Challenge. The team's design includes using a moving printer that deploys rovers to retrieve local materials. The competition for this stage challenged teams to use modeling software to create a full-scale habitat design. This level built upon an earlier stage that required 60 percent design completion; for this round, submissions were 100 percent complete. Entries were scored on architectural layout, programming, efficient use of interior space, and the 3D-printing scalability and constructability of the habitat. Teams also prepared short videos providing insight into their design as well as miniature 3D-printed models that came apart to showcase the interior design. Points were also awarded for aesthetic representation and realism. NASA's 3D-Printed Habitat Challenge aims to further the progression of sustainable shelters that will someday occupy the Moon, Mars or beyond by pushing citizen inventors to develop new technologies capable of additively manufacturing a habitat using indigenous resources with, or without, recyclable materials. The 3D-Printed Habitat Challenge is managed through a partnership with NASA's Centennial Challenges Program and Bradley University. Bradley has partnered with sponsors Caterpillar, Bechtel and Brick & Mortar Ventures to administer the competition. NASA's Centennial Challenges program is part of the agency's Space Technology Mission Directorate, and is managed at NASA's Marshall Space Flight Center in Huntsville, Alabama. For information about the 3D-Printed Habitat Challenge, visit: http://www.nasa.gov/3DPHab	0

2019 03 27	NASA's Marshall Space Flight Center	https://youtu.be/W4pxp5AGeNE	SEArch+ Apis Cor - Phase 3 Level 4 of NASA's 3D-Printed Habitat Challenge	SEArch+/Apis Cor of New York won first place in Phase 3: Level 4 in NASA's 3D-Printed Habitat Challenge. This team focuses on regolith construction to provide radiation shielding and physical protection. The competition for this stage challenged teams to use modeling software to create a full-scale habitat design. This level built upon an earlier stage that required 60 percent design completion; for this round, submissions were 100 percent complete. Entries were scored on architectural layout, programming, efficient use of interior space, and the 3D-printing scalability and constructability of the habitat. Teams also prepared short videos providing insight into their design as well as miniature 3D-printed models that came apart to showcase the interior design. Points were also awarded for aesthetic representation and realism. NASA's 3D-Printed Habitat Challenge aims to further the progression of sustainable shelters that will someday occupy the Moon, Mars or beyond by pushing citizen inventors to develop new technologies capable of additively manufacturing a habitat using indigenous resources with, or without, recyclable materials. The 3D-Printed Habitat Challenge is managed through a partnership with NASA's Centennial Challenges Program and Bradley University. Bradley has partnered with sponsors Caterpillar, Bechtel and Brick & Mortar Ventures to administer the competition. NASA's Centennial Challenges program is part of the agency's Space Technology Mission Directorate, and is managed at NASA's Marshall Space Flight Center in Huntsville, Alabama. For information about the 3D-Printed Habitat Challenge, visit: http://www.nasa.gov/3DPHab	0
2019 03 25	NASA's Marshall Space Flight Center	https://youtu.be/vhHMym_gTM	Marshall Remembers Apollo Spike Field	This Marshall Remembers Apollo series conducted as part of the Apollo 11 50th anniversary celebration consists of edited oral history interviews with former and current NASA employees related to their experience working at Marshall Space Flight Center during the years of the Saturn Program. In this video former NASA employee Spike Field discusses the development of the Saturn launch vehicles developed as part of the Apollo Program.	Transcript Link
2019 03 12	NASA's Marshall Space Flight Center	https://youtu.be/wdt0ib226g	Marshall Remembers Apollo Dr. Margrit von Braun	This Marshall Remembers Apollo series conducted as part of the Apollo 11 50th anniversary celebration consists of edited oral history interviews with former and current NASA employees related to their experience working at Marshall Space Flight Center during the years of the Saturn Program. In this video Dr. Margrit von Braun, daughter of former Marshall center director Dr. Wernher von Braun, discusses growing up in Huntsville as well as life with her famous father.	Transcript Link

2019 03 08	NASA's Marshall Space Flight Center	https://youtu.be/-ul447u0ZCs	Rocket Science in 60 Seconds Why Testing Matters	Rocket Science in 60 Seconds gives you an inside look at work being done at NASA to explore deep space. Mike Roberts is the team lead for structural testing for NASA's Space Launch System core stage at NASA's Marshall Space Flight Center in Huntsville, Alabama. In this episode, he explains what structural testing is and why testing the various structures for SLS is so important to the success of the mission and its astronauts as the agency sets out to explore Moon, Mars and beyond. For more information about SLS, visit https://www.nasa.gov/exploratin/systems/sls/index.html.	Transcript Link
2019 03 07	NASA's Marshall Space Flight Center	https://youtu.be/Ff4qXfcYi4A	Marshall Remembers Apollo Bill Sneed	This Marshall Remembers Apollo series conducted as part of the Apollo 11 50th anniversary celebration consists of edited oral history interviews with former and current NASA employees related to their experience working at Marshall Space Flight Center during the years of the Saturn Program. In this video former NASA employee Bill Sneed reflects on the development of the Saturn family of launch vehicles during the Apollo program.	Transcript Link
2019 03 01	NASA's Marshall Space Flight Center	https://youtu.be/7EuqVPpjl2M	Marshall Remembers Apollo James Jennings	This Marshall Remembers Apollo series conducted as part of the Apollo 11 50th anniversary celebration consists of edited oral history interviews with former and current NASA employees related to their experience working at Marshall Space Flight Center during the years of the Saturn Program. In this video, former NASA employee James Jennings discusses his experience working as in the Marshall Computation Laboratory as well as progress of equal employment opportunity at the center during the Saturn era.	Transcript Link
2019 02 25	NASA's Marshall Space Flight Center	https://youtu.be/Nbnvr72Cats	Marshall Remembers Apollo Billie Robertson	This Marshall Remembers Apollo series conducted as part of the Apollo 11 50th anniversary celebration consists of edited oral history interviews with former and current NASA employees related to their experience working at Marshall Space Flight Center during the years of the Saturn Program. In this video former NASA employee Billie Robertson discusses her experience working as a mathematician for both the Army and NASA from the early 1950s to the mid-1970s.	Transcript Link

2019 02 22	NASA's Marshall Space Flight Center	https://youtu.be/BnVys5y89DA	Watch the Top Part of the SLS Core Stage Come Together	This video animation shows how the forward join — or upper part — of the core stage was assembled for NASA's Space Launch System (SLS), America's new deep space rocket. The forward join connects three structures: the liquid oxygen tank, intertank and forward skirt. The forward join is the first of three major assembly jobs required by NASA and Boeing, the SLS prime contractor, to complete the massive, 212-foot-tall SLS core stage. Assembly of the stage, which will be the largest rocket stage ever produced, takes place at NASA's Michoud Assembly Facility in New Orleans.	Transcript Link
2019 02 15	NASA's Marshall Space Flight Center	https://youtu.be/hGZRb6yO--M	Rocket Science in 60 Seconds Getting to the Core of It All	Rocket Science in 60 Seconds gives you an inside look at work being done at NASA to explore deep space. Chad Bryant is the core stage manager for NASA's Space Launch System core stage at NASA's Marshall Space Flight Center in Huntsville, Alabama. In this episode, he explains what the massive, 212-foot-tall core stage is and how its five main structures will be outfitted and joined together before it is loaded onto NASA's barge Pegasus and transported to NASA's Stennis Space Center in Bay St. Louis, Mississippi, for final testing. For more information about SLS, visit https://www.nasa.gov/exploration/systems/sls/index.html	Transcript Link
2019 02 07	NASA's Marshall Space Flight Center	https://youtu.be/hdxK8_5Yy-s	Learn How Engineers Connected the Top of the SLS Core Stage.	This video animation shows how engineers at NASA's Michoud Assembly Facility in New Orleans connected the liquid oxygen tank with the intertank and the forward skirt to complete the forward join – or the forward part – of the core stage of NASA's Space Launch System, America's first deep space rocket to take humans beyond the Moon. Altogether, the structure makes up 66 feet of the total 212-foot-tall core stage. The completion of the forward join marks the beginning of the integration and the assembly of the SLS core stage by NASA and Boeing, the SLS prime contractor. For more information on SLS, visit: https://www.nasa.gov/sls	Transcript Link
2019 02 01	NASA's Marshall Space Flight Center	https://youtu.be/4jX5AHg_cGU	Watch as Crews Lift the SLS Liquid Hydrogen Tank Test Article in Test Stand	To ensure NASA's Space Launch System rocket is ready for Exploration Mission-1, the first integrated flight that will send the Orion spacecraft beyond the Moon, engineers are performing a series of tests at NASA's Marshall Space Flight Center in Huntsville, Alabama. Crews loaded the 149-foot liquid hydrogen tank structural test article, the largest piece of structural test hardware for the core stage of SLS, into Test Stand 4693 Jan. 14. Dozens of hydraulic cylinders in the test stand will push and pull on the tank to simulate the stresses and loads it will endure during liftoff and flight. Test Stand 4693 is one of the newest test stands at Marshall, and the liquid hydrogen structural test article is the first piece of hardware to be tested in the stand. Learn more here: https://www.nasa.gov/exploration/systems/sls/index.html Video credit: NASA/Tyler Martin	0

2018 12 21	NASA's Marshall Space Flight Center	https://youtu.be/f7HvgEvl8yk	Marshall Leads the Way to a New Era of Deep Space Exploration	In 2018, NASA's Marshall Space Flight Center in Huntsville, Alabama, continued to lay the groundwork for our nation’s future in space. Discoveries in space exploration, science and technology at Marshall are transforming our understanding of ourselves, our planet, our solar system and our universe. Flight hardware was completed and major components were tested for NASA's Space Launch System, built to carry astronauts and cargo to the Moon, Mars and beyond. For the first time, Marshall's Payload Operation Integration Center team exceeded 100 hours of science research in a single week. Through our partnerships with government and industry, Marshall helped the agency accomplish missions to places once thought impossible for mankind to reach. In 2018, Marshall continued to innovate and advance the technologies to take us to these deep space destinations while inspiring and engaging the next generation of engineers and scientists. Follow along in 2019 as Marshall continues to advance space exploration: https://www.nasa.gov/centers/marshall/home/index.html	Transcript Link
2018 12 14	NASA's Marshall Space Flight Center	https://youtu.be/7kp_JjwbGfg	Rocket Science in 60 Seconds Building an Engine that Roars	Rocket Science in 60 Seconds gives you an inside look at work being done at NASA to explore deep space. Jonathan Pahed, component product engineer for Aerojet Rocketdyne working on NASA’s Space Launch System (SLS) rocket, shares improvements being made to the assembly process of the RS-25 engine that will be used to launch the SLS rocket off the pad. For more information about SLS, visit: https://www.nasa.gov/exploration/systems/sls/index.html.	Transcript Link
2018 12 06	NASA's Marshall Space Flight Center	https://youtu.be/o_sr-Ncc3FU	2018 Geminid shower	This composite video shows meteors observed in the skies over Daytona Beach, Florida, during the 2018 Geminid shower.	Transcript Link

2018 11 09	NASA's Marshall Space Flight Center	https://youtu.be/0VB9aI3xVFs	Rocket Science in 60 Seconds EM-1 and the Power Needed to Get to the Moon	Rocket Science in 60 Seconds gives you an inside look at work being done at NASA to explore deep space. Rob Stough, payload utilization manager for NASA's Space Launch System (SLS), determines how to get maximum performance from the rocket so SLS can send payloads to a variety of deep space destinations. In this episode, he outlines Exploration Mission-1 (EM-1), the first integrated flight of SLS and NASA's Orion spacecraft, and gives an overview of the power needed to boost the rocket into space and send Orion to the Moon. For more information about SLS, visit https://www.nasa.gov/exploration/systems/sls/index.html.	0
2018 10 19	NASA's Marshall Space Flight Center	https://youtu.be/xwcFPmgeXts	Rocket Science in 60 Seconds Ins and Outs of the SLS Launch Vehicle Stage Adapter	Rocket Science in 60 Seconds gives you an inside look at work being done at NASA to explore deep space. In this episode, Jennifer Takeshita shows you the ins and outs of the launch vehicle stage adapter for NASA's Space Launch System rocket. Step inside NASA's Marshall Space Flight Center in Huntsville, Alabama, and learn about flight hardware in under a minute. For more information about SLS, visit https://www.nasa.gov/exploration/systems/sls/index.html	0
2018 10 18	NASA's Marshall Space Flight Center	https://youtu.be/AOj3n0HfobU	No Small Steps State of the SLS Rocket	NASA's deep space rocket, the Space Launch System, is being built by more than 1,100 companies right here on Earth. The complex parts that make up the rocket are nearing completion. In this latest installment of "No Small Steps," host Stephen Granade takes a look at the "state of the rocket" and progress being made to get to the launchpad. Critical parts, including the interim cryogenic propulsion stage and the first four, powerful engines, are complete. The massive core stage is being outfitted for Exploration Mission-1 (EM-1), the first flight of SLS and NASA's Orion spacecraft. During EM-1, SLS and Orion will demonstrate the critical capabilities needed to send humans to the Moon and beyond, on a variety of missions with increasing complexity. For more information on SLS, visit www.nasa.gov/sls.	Transcript Link

2018 10 11	NASA's Marshall Space Flight Center	https://youtu.be/UO8D235ywys	Apollo 7 Mission	This excerpt from a Saturn Quarterly Film Report covers the October 11, 1968 launch of Apollo 7. The mission was successful in every respect. All spacecraft systems operated satisfactorily, and all but one of the detailed test objectives were met. As an engineering test flight, Apollo 7 demonstrated the performance of the orbital safing experiment, the adequacy of attitude control in both the manual and automatic modes, and that the vehicle systems could perform for extended periods in orbit. For the first time, a mixed cabin atmosphere consisting of 65 percent oxygen and 35 percent nitrogen was used aboard an American piloted spacecraft. All previous flights had used 100 percent oxygen, a procedure changed as a result of recommendations made by the Apollo 1 fire investigation board. Another “first” was the availability of hot and cold drinking water for the crew as a by-product of the service module fuel cells, an important element for piloted lunar excursions. Consumables usage was maintained at safe levels, and permitted the introduction of additional flight activities toward the end of the mission.The Saturn IB launch vehicle was developed by the NASA Marshall Space Flight Center in Huntsville, Alabama.	Transcript Link
2018 10 11	NASA's Marshall Space Flight Center	https://youtu.be/ccum_DuC5is	Apollo 7 Engineering Film - No Sound (Archival Film)	This video documents the October 11, 1968 launch of Apollo 7. The Apollo 7 mission was successful in every respect. All spacecraft systems operated satisfactorily, and all but one of the detailed test objectives were met. As an engineering test flight, Apollo 7 demonstrated the performance of the orbital safing experiment, the adequacy of attitude control in both the manual and automatic modes, and that the vehicle systems could perform for extended periods in orbit. For the first time, a mixed cabin atmosphere consisting of 65 percent oxygen and 35 percent nitrogen was used aboard an American piloted spacecraft. All previous flights had used 100 percent oxygen, a procedure changed as a result of recommendations made by the Apollo 1 fire investigation board. Another “first” was the availability of hot and cold drinking water for the crew as a by-product of the service module fuel cells, an important element for piloted lunar excursions. Consumables usage was maintained at safe levels, and permitted the introduction of additional flight activities toward the end of the mission.The Saturn IB launch vehicle was developed by the NASA Marshall Space Flight Center in Huntsville, Alabama.	Transcript Link
2018 09 14	NASA's Marshall Space Flight Center	https://youtu.be/rckWwf_3dgA	Rocket Science in 60 Seconds A Look Inside the SLS Support Center	Rocket Science in 60 Seconds gives you an inside look at work being done at NASA to explore deep space. In this episode, Jennifer Vollmer takes you inside the Space Launch System Engineering Support Center located in the Huntsville Operations Support Center at NASA's Marshall Space Flight Center in Huntsville, Alabama. You'll learn more about flight operations and how SLS experts will support the first launch from remote locations all over the United States. For more information about SLS, visit https://www.nasa.gov/exploration/systems/sls/index.html.	Transcript Link

2018 08 22	NASA's Marshall Space Flight Center	https://youtu.be/JAOKLcrs6-g	Team SEArch+ Apis Cor - Phase 3 Level 2 of NASA's 3D-Printed Habitat Challenge	Team SEArch+/Apis Cor of New York is the first-place winner of Phase 3: Level 2 of NASA's 3D-Printed Habitat Challenge. This phase of the competition has five sub-levels. For this level of the competition teams had to additively construct a foundation slab without human intervention. The slabs were evaluated and scored based on multiple criteria, including strength, durability and material composition. To test their strength, a standard Olympic shot put was dropped on each slab three times to simulate a meteor strike. For durability, each slab was subjected to freeze/thaw tests, enduring temperature extremes such as those it would face on the Moon or Mars. The teams earned prize money based on scores assigned by a panel of subject matter experts from NASA, academia and industry. NASA's 3D-Printed Habitat Challenge aims to further the progression of sustainable shelters that will someday occupy the Moon, Mars or beyond by pushing citizen inventors to develop new technologies capable of additively manufacturing a habitat using indigenous resources with, or without, recyclable materials. The 3D-Printed Habitat Challenge is managed through a partnership with NASA's Centennial Challenges Program and Bradley University. Bradley has partnered with sponsors Caterpillar, Bechtel and Brick & Mortar Ventures to administer the competition. NASA's Centennial Challenges program is part of the agency's Space Technology Mission Directorate, and is managed at NASA's Marshall Space Flight Center in Huntsville, Alabama. For information about the 3D-Printed Habitat Challenge, visit: http://www.nasa.gov/3DPHab.	0
2018 08 22	NASA's Marshall Space Flight Center	https://youtu.be/jBlZPLwz1Fs	Pennsylvania State University - Phase 3 Level 2 of NASA's 3D-Printed Habitat Challenge	Pennsylvania State University of State College, Pennsylvania, is the second-place winner of Phase 3: Level 2 of NASA's 3D-Printed Habitat Challenge. This phase of the competition has five sub-levels. For this level of the competition teams had to additively construct a foundation slab without human intervention. The slabs were evaluated and scored based on multiple criteria, including strength, durability and material composition. To test their strength, a standard Olympic shot put was dropped on each slab three times to simulate a meteor strike. For durability, each slab was subjected to freeze/thaw tests, enduring temperature extremes such as those it would face on the Moon or Mars. The teams earned prize money based on scores assigned by a panel of subject matter experts from NASA, academia and industry. NASA's 3D-Printed Habitat Challenge aims to further the progression of sustainable shelters that will someday occupy the Moon, Mars or beyond by pushing citizen inventors to develop new technologies capable of additively manufacturing a habitat using indigenous resources with, or without, recyclable materials. The 3D-Printed Habitat Challenge is managed through a partnership with NASA's Centennial Challenges Program and Bradley University. Bradley has partnered with sponsors Caterpillar, Bechtel and Brick & Mortar Ventures to administer the competition. NASA's Centennial Challenges program is part of the agency's Space Technology Mission Directorate, and is managed at NASA's Marshall Space Flight Center in Huntsville, Alabama. For information about the 3D-Printed Habitat Challenge, visit: http://www.nasa.gov/3DPHab.	0

2018 08 22	NASA's Marshall Space Flight Center	https://youtu.be/ysWvWJHYJ4Y	FormForge Austin Industries WPM - Phase 3 Level 2 of NASA's 3D-Printed Habitat Challenge	FormForge|Austin Industries|WPM of Austin, Texas, is the third-place winner of Phase 3: Level 2 of NASA's 3D-Printed Habitat Challenge. This phase of the competition has five sub-levels. For this level of the competition teams had to additively construct a foundation slab without human intervention. The slabs were evaluated and scored based on multiple criteria, including strength, durability and material composition. To test their strength, a standard Olympic shot put was dropped on each slab three times to simulate a meteor strike. For durability, each slab was subjected to freeze/thaw tests, enduring temperature extremes such as those it would face on the Moon or Mars. The teams earned prize money based on scores assigned by a panel of subject matter experts from NASA, academia and industry. NASA's 3D-Printed Habitat Challenge aims to further the progression of sustainable shelters that will someday occupy the Moon, Mars or beyond by pushing citizen inventors to develop new technologies capable of additively manufacturing a habitat using indigenous resources with, or without, recyclable materials. The 3D-Printed Habitat Challenge is managed through a partnership with NASA's Centennial Challenges Program and Bradley University. Bradley has partnered with sponsors Caterpillar, Bechtel and Brick & Mortar Ventures to administer the competition. NASA's Centennial Challenges program is part of the agency's Space Technology Mission Directorate, and is managed at NASA's Marshall Space Flight Center in Huntsville, Alabama. For information about the 3D-Printed Habitat Challenge, visit: http://www.nasa.gov/3DPHab.	0
2018 08 15	NASA's Marshall Space Flight Center	https://youtu.be/-rP6k18DVdg	Saturn V S IC Static Firing (archival film)	This film provides an overview of testing of the Saturn V first stage, the S-IC stage at NASA's Marshall Space Flight Center during the Apollo Program. The five F-1 engines which made up the stage generated a combined seven and a half million pounds of thrust.	Transcript Link
2018 08 10	NASA's Marshall Space Flight Center	https://youtu.be/YefGK-Oyi_M	Rocket Science in 60 Seconds A Ride on NASA's Barge Pegasus	Rocket Science in 60 Seconds gives you an inside look at work being done at NASA to explore deep space like never before on Exploration Mission-1, the first flight of NASA's Space Launch System rocket and Orion spacecraft. The agency's barge Pegasus has been expanded to transport massive SLS hardware between centers for testing and launches. In this episode, barge captains Alan Murphy and Terry Fitzgerald take you on a tour of the boat that shares a name with a mythical creature. For more information about SLS and Pegasus, visit https://www.nasa.gov/exploration/systems/sls/index.html.	Transcript Link

2018 08 07	NASA's Marshall Space Flight Center	https://youtu.be/bcnLIicUoW8	Step Inside NASA's Rocket Factory The Michoud Assembly Facility	Take a tour of NASA's Michoud Assembly Facility in New Orleans where NASA is building the world's most powerful rocket, the Space Launch System, designed to send astronauts to the Moon and beyond. To make big rockets, you need a big space. The Michoud rocket factory could hold 31 football fields. Inside the factory, engineers use modern robotic welding tools to manufacture the 212-foot-tall core stage structure, which will soon be assembled for the first integrated flight of SLS and Orion: Exploration Mission-1. SLS and Orion flight hardware as well as critical test articles have been built at Michoud. Some large pieces of hardware are transported for testing and launch on NASA's barge Pegasus, which had to be modified to carry the largest rocket stage being build today. To learn more about Michoud: https://www.nasa.gov/centers/marshall/michoud/	Transcript Link
2018 07 23	NASA's Marshall Space Flight Center	https://youtu.be/a_BN_xJZMOk	Kahn Yates - Phase 3 Level 1 of NASA's 3D-Printed Habitat Challenge	Team Kahn-Yates from Jackson, Mississippi, won third place in Phase 3: Level 1 of NASA's 3D-Printed Habitat Challenge. The team virtually designed a Mars habitat specifically suited to withstand dust storms and harsh climates on the red planet. NASA's 3D-Printed Habitat Challenge aims to further the progression of sustainable shelters that will someday occupy the Moon, Mars or beyond by pushing citizen inventors to develop new technologies capable of additively manufacturing a habitat using indigenous resources with, or without, recyclable materials. The 3D-Printed Habitat Challenge is managed through a partnership with NASA's Centennial Challenges Program and Bradley University. Bradley has partnered with sponsors Caterpillar, Bechtel and Brick & Mortar Ventures to administer the competition. NASA's Centennial Challenges program is part of the agency's Space Technology Mission Directorate, and is managed at NASA's Marshall Space Flight Center in Huntsville, Alabama. For information about the 3D-Printed Habitat Challenge, visit: http://www.nasa.gov/3DPHab	Transcript Link

2018 07 23	NASA's Marshall Space Flight Center	https://youtu.be/mxzoO9ADqOE	Northwestern University - Phase 3 Level 1 of NASA's 3D-Printed Habitat Challenge	Team Northwestern University from Evanston, Illinois, won fifth place in Phase 3: Level 1 of NASA's 3D-Printed Habitat Challenge. The team's design features a unique spherical shell and outer parabolic dome. NASA's 3D-Printed Habitat Challenge aims to further the progression of sustainable shelters that will someday occupy the Moon, Mars or beyond by pushing citizen inventors to develop new technologies capable of additively manufacturing a habitat using indigenous resources with, or without, recyclable materials. The 3D-Printed Habitat Challenge is managed through a partnership with NASA's Centennial Challenges Program and Bradley University. Bradley has partnered with sponsors Caterpillar, Bechtel and Brick & Mortar Ventures to administer the competition. NASA's Centennial Challenges program is part of the agency's Space Technology Mission Directorate, and is managed at NASA's Marshall Space Flight Center in Huntsville, Alabama. For information about the 3D-Printed Habitat Challenge, visit: http://www.nasa.gov/3DPHab	0
2018 07 23	NASA's Marshall Space Flight Center	https://youtu.be/Lxogs18BOoE	SEArch+ Apis Cor - Phase 3 Level 1 of NASA's 3D-Printed Habitat Challenge	SEArch+/Apis Cor of New York won fourth place in Phase 3: Level 1 in NASA's 3D-Printed Habitat Challenge. This team focuses on regolith construction to provide radiation shielding and physical protection. NASA's 3D-Printed Habitat Challenge aims to further the progression of sustainable shelters that will someday occupy the Moon, Mars or beyond by pushing citizen inventors to develop new technologies capable of additively manufacturing a habitat using indigenous resources with, or without, recyclable materials. The 3D-Printed Habitat Challenge is managed through a partnership with NASA's Centennial Challenges Program and Bradley University. Bradley has partnered with sponsors Caterpillar, Bechtel and Brick & Mortar Ventures to administer the competition. NASA's Centennial Challenges program is part of the agency's Space Technology Mission Directorate, and is managed at NASA's Marshall Space Flight Center in Huntsville, Alabama. For information about the 3D-Printed Habitat Challenge, visit: http://www.nasa.gov/3DPHab	0

2018 07 23	NASA's Marshall Space Flight Center	https://youtu.be/CZEUYKePV_0	Team Zopherus - Phase 3 Level 1 of NASA's 3D-Printed Habitat Challenge	Team Zopherus from Rogers, Arkansas, is the first-place winner of Phase 3: Level 1 of NASA's 3D-Printed Habitat Challenge. The team's design includes using a moving printer that deploys rovers to retrieve local materials. NASA's 3D-Printed Habitat Challenge aims to further the progression of sustainable shelters that will someday occupy the Moon, Mars or beyond by pushing citizen inventors to develop new technologies capable of additively manufacturing a habitat using indigenous resources with, or without, recyclable materials. The 3D-Printed Habitat Challenge is managed through a partnership with NASA's Centennial Challenges Program and Bradley University. Bradley has partnered with sponsors Caterpillar, Bechtel and Brick & Mortar Ventures to administer the competition. NASA's Centennial Challenges program is part of the agency's Space Technology Mission Directorate, and is managed at NASA's Marshall Space Flight Center in Huntsville, Alabama. For information about the 3D-Printed Habitat Challenge, visit: http://www.nasa.gov/3DPHab	0
2018 07 13	NASA's Marshall Space Flight Center	https://youtu.be/XH2dYKxpzW4	Rocket Science in 60 Seconds What Is Exploration Mission-1	Rocket Science in 60 Seconds gives you an inside look at work being done at NASA to explore deep space like never before on Exploration Mission-1 (EM-1), the first flight of NASA's Space Launch System rocket and Orion spacecraft. Mike Sarafin, the EM-1 mission manager, explains how this mission beyond the Moon will unfold and what we will learn. For more information about Exploration Mission-1, visit https://www.nasa.gov/content/exploration-mission-1.	Transcript Link
2018 06 22	NASA's Marshall Space Flight Center	https://youtu.be/7WIqz3troDo	Remembering Apollo Thomas 'Jack' Lee (1994)	These interviews were conducted in 1994 as part of the Apollo 11 25th Anniversary celebrations in Huntsville. The interviewees are NASA Marshall Space Flight Center former or current employees. The interviews include individual memories, challenges, and long-term legacy of the Apollo Program.	Transcript Link

2018 06 21	NASA's Marshall Space Flight Center	https://youtu.be/IHCleFC2sRU	Remembering Apollo Lee James (1994)	These interviews were conducted in 1994 as part of the Apollo 11 25th Anniversary celebrations in Huntsville. The interviewees are NASA Marshall Space Flight Center former or current employees. The interviews include individual memories, challenges, and long-term legacy of the Apollo Program.	Transcript Link
2018 06 20	NASA's Marshall Space Flight Center	https://youtu.be/l-h0XfcpqS8	Remembering Apollo John Taylor (1994)	These interviews were conducted in 1994 as part of the Apollo 11 25th Anniversary celebrations in Huntsville. The interviewees are NASA Marshall Space Flight Center former or current employees. The interviews include individual memories, challenges, and long-term legacy of the Apollo Program.	Transcript Link
2018 06 20	NASA's Marshall Space Flight Center	https://youtu.be/wYkIUp49pPw	Remembering Apollo Paul Artis (1994)	These interviews were conducted in 1994 as part of the Apollo 11 25th Anniversary celebrations in Huntsville. The interviewees are NASA Marshall Space Flight Center former or current employees. The interviews include individual memories, challenges, and long-term legacy of the Apollo Program.	Transcript Link
2018 06 19	NASA's Marshall Space Flight Center	https://youtu.be/NswUemu4AbQ	Remembering Apollo Dr. Ernst Stuhlinger (1994)	These interviews were conducted in 1994 as part of the Apollo 11 25th Anniversary celebrations in Huntsville. The interviewees are NASA Marshall Space Flight Center former or current employees. The interviews include individual memories, challenges, and long-term legacy of the Apollo Program.	Transcript Link

2018 06 15	NASA's Marshall Space Flight Center	https://youtu.be/KI3WiYYjzME	SLS Trivia Making America's Rocket Safe for Astronauts	Join host Kaitlin Rogers for the fourth installment of SLS Trivia with three questions about how NASA is building the Space Launch System rocket to the highest safety standards possible to protect the most important cargo -- our astronauts. Make sure you let us know how you do in the comments below.	Transcript Link
2018 06 15	NASA's Marshall Space Flight Center	https://youtu.be/QSZ0xBIBXlc	Remembering Apollo Alex McCool (1994)	These interviews were conducted in 1994 as part of the Apollo 11 25th Anniversary celebrations in Huntsville. The interviewees are NASA Marshall Space Flight Center former or current employees. The interviews include individual memories, challenges, and long-term legacy of the Apollo Program.	Transcript Link
2018 06 14	NASA's Marshall Space Flight Center	https://youtu.be/xDYzKYNr2Os	Remembering Apollo Dr. Donald Frazier (1994)	These interviews were conducted in 1994 as part of the Apollo 11 25th Anniversary celebrations in Huntsville. The interviewees are NASA Marshall Space Flight Center former or current employees. The interviews include individual memories, challenges, and long-term legacy of the Apollo Program.	Transcript Link
2018 06 14	NASA's Marshall Space Flight Center	https://youtu.be/je_1jL2aH1o	Remembering Apollo James Odom (1994)	These interviews were conducted in 1994 as part of the Apollo 11 25th Anniversary celebrations in Huntsville. The interviewees are NASA Marshall Space Flight Center former or current employees. The interviews include individual memories, challenges, and long-term legacy of the Apollo Program.	Transcript Link

2018 06 12	NASA's Marshall Space Flight Center	https://youtu.be/AO8FNunGcQs	No Small Steps NASA Builds the Space Launch System for Human Exploration Missions	NASA is building the Space Launch System, the world's most powerful rocket capable of sending the Orion spacecraft, astronauts and supplies on deep space exploration missions to the Moon, Mars and beyond. In the latest installment of "No Small Steps," host Stephen Granade explains the steps NASA takes to build and test a rocket that can safely send humans on deep space missions. The rocket's core stage manufacturing, assembly and testing is used as an example to show how NASA ensures every single part can operate in the extreme environment of space and be as safe as possible for human explorers. For more information on SLS, visit www.nasa.gov/sls.	0
2018 06 12	NASA's Marshall Space Flight Center	https://youtu.be/O3hudRA3yL8	Remembering Apollo F. Brooks Moore (1994)	These interviews were conducted in 1994 as part of the Apollo 11 25th Anniversary celebrations in Huntsville. The interviewees are NASA Marshall Space Flight Center former or current employees. The interviews include individual memories, challenges, and long-term legacy of the Apollo Program.	Transcript Link
2018 06 12	NASA's Marshall Space Flight Center	https://youtu.be/E_eYOmyLjSE	Remembering Apollo Carolyn Griner (1994)	These interviews were conducted in 1994 as part of the Apollo 11 25th Anniversary celebrations in Huntsville. The interviewees are NASA Marshall Space Flight Center former or current employees. The interviews include individual memories, challenges, and long-term legacy of the Apollo Program.	Transcript Link
2018 06 12	NASA's Marshall Space Flight Center	https://youtu.be/HK2UWFFyv2s	Remembering Apollo Dr. Georg von Tiesenhausen (1994)	These interviews were conducted in 1994 as part of the Apollo 11 25th Anniversary celebrations in Huntsville. The interviewees are NASA Marshall Space Flight Center former or current employees. The interviews include individual memories, challenges, and long-term legacy of the Apollo Program.	Transcript Link

2018 06 11	NASA's Marshall Space Flight Center	https://youtu.be/IEE39lOJz4I	Remembering Apollo Joesph 'Woody' Bethay (1994)	These interviews were conducted in 1994 as part of the Apollo 11 25th Anniversary celebrations in Huntsville. The interviewees are NASA Marshall Space Flight Center former or current employees. The interviews include individual memories, challenges, and long-term legacy of the Apollo Program.	Transcript Link
2018 06 11	NASA's Marshall Space Flight Center	https://youtu.be/YmNGswJZAtU	Remembering Apollo Konrad Dannenberg (1994)	These interviews were conducted in 1994 as part of the Apollo 11 25th Anniversary celebrations in Huntsville. The interviewees are NASA Marshall Space Flight Center former or current employees. The interviews include individual memories, challenges, and long-term legacy of the Apollo Program.	Transcript Link
2018 06 08	NASA's Marshall Space Flight Center	https://youtu.be/84WvlSUywm0	Rocket Science in 60 Seconds SLS and Planetary Science Collide	Rocket Science in 60 Seconds gives you an inside look at work being done at NASA to explore deep space like never before. In this episode, Debra Needham, a planetary scientist at NASA's Marshall Space Flight Center in Huntsville, Alabama, talks about how planetary science and NASA's Space Launch System go hand in hand for deep space exploration. For more information about SLS, visit nasa.gov/sls.	Transcript Link
2018 05 25	NASA's Marshall Space Flight Center	https://youtu.be/VPYIXujNsb4	SLS Trivia Launching to Deep Space	Join host Kevin O'Brien for the third installment of SLS Trivia with three questions about how NASA's Space Launch System will enable a new era of deep-space exploration.	Transcript Link

2018 05 21	NASA's Marshall Space Flight Center	https://youtu.be/YIisHSs8T8c	Skylab and the Sun (archival film, poor audio)	This film provides an overview of solar science associated with the Skylab program. Skylab orbited the Earth from 1973 to 1979. The 169,950-pound space station included a workshop, a solar observatory, a multiple docking adapter and systems to allow three crews to spend up to 84 days in space. While the space station lifted off unpiloted as Skylab 1 atop a Saturn V launch vehicle, the astronaut crews were launched to orbit by Saturn 1B rockets.	Transcript Link
2018 05 21	NASA's Marshall Space Flight Center	https://youtu.be/iBVjV960PRk	Flight of Apollo Saturn V (archival film)	This film provides an overview of the early development of the Saturn V launch vehicle during the Apollo program of the 1960s. The 363-foot tall, three-stage launch vehicle produced as much power as 85 Hoover Dams.Together the five F-1 engines in the Saturn V first stage produced 7.5 million pounds of thrust. The vehicle weighed more than six million pounds at liftoff.	Transcript Link
2018 05 21	NASA's Marshall Space Flight Center	https://youtu.be/Yc_ltJk58rQ	Overview of Apollo Soyuz Test Project (ASTP) Scientific Experiments (archival film)	This film provides an overview of the seven experiments included on the Apollo Soyuz Test Project conducted in July 1975. Designed to test the compatibility of rendezvous and docking systems and the possibility of an international space rescue, the nine-day Apollo-Soyuz mission brought together two former spaceflight rivals: the United States and the Soviet Union.	0
2018 05 21	NASA's Marshall Space Flight Center	https://youtu.be/A6CgmN-aSE4	Apollo 4 Pre-Launch Activities (archival film)	This film provides an overview to activities leading up to the launch of the uncrewed Apollo 4 (AS-501), the first launch of a Saturn V, on November 9, 1967. The mission was designed to test all aspects of the Saturn V launch vehicle and also returned pictures of Earth taken by the automatic Command Module apogee camera from about one hour before to one hour after apogee.	Transcript Link

2018 05 21	NASA's Marshall Space Flight Center	https://youtu.be/P0W4EFsKMn4	Measuring Roundness of Quartz Gyro Rotor at MSFC (Gravity Probe B) (archival film, no sound)	This film presents a demonstration of measuring a quartz gyro rotor during the early years of the Gravity Probe B program. NASA's Gravity Probe B (GP-B) mission has confirmed two key predictions derived from Albert Einstein's general theory of relativity, which the spacecraft was designed to test. The experiment, launched in 2004, used four ultra-precise gyroscopes to measure the hypothesized geodetic effect, the warping of space and time around a gravitational body, and frame-dragging, the amount a spinning object pulls space and time with it as it rotates. GP-B determined both effects with unprecedented precision by pointing at a single star, IM Pegasi, while in a polar orbit around Earth.	0
2018 05 21	NASA's Marshall Space Flight Center	https://youtu.be/yqGamoZXeqs	Engineering Surveillance Optical Coverage Saturn Vehicle SA 7 (archival film, no sound)	This film includes footage of the launch of Saturn I (SA-7) launch vehicle on September 18, 1964. The Saturn 1 (SA-7) vehicle demonstrated launch vehicle/spacecraft compatibility and tested the launch escape system. It carried a boilerplate model command module and service module and an instrument unit to Earth orbit.	0
2018 05 21	NASA's Marshall Space Flight Center	https://youtu.be/QDtgmWS80_I	Engineering Surveillance Camera Coverage Saturn Vehicle SA 5, version one (archival film, no sound)	This film (no sound) covers the launch of the Saturn I SA-5 during NASA's Apollo program on January 26, 1964. This Saturn I was used for a launch vehicle development test. It was the fifth flight of a Saturn rocket and the first of the Block II Saturn. It was also the first live flight of the LOX/LH2 fueled second stage (S-IV). More than 11,000 measurements were taken.	0
2018 05 21	NASA's Marshall Space Flight Center	https://youtu.be/Ghg_2k-4I04	Engineering Surveillance Camera Coverage Saturn Vehicle SA 5 - version two (archival film, no sound)	This film (no sound) covers the launch of the Saturn I SA-5 during NASA's Apollo program on January 26, 1964. This Saturn I was used for a launch vehicle development test. It was the fifth flight of a Saturn rocket and the first of the Block II Saturn. It was also the first live flight of the LOX/LH2 fueled second stage (S-IV). More than 11,000 measurements were taken.	0

2018 05 21	NASA's Marshall Space Flight Center	https://youtu.be/OpDlhoMQPzo	Apollo 8 Engineering Report (archival film - no sound)	This film covers the December 21, 1968 launch of Apollo 8 from Kennedy Space Center. The mission objectives for Apollo 8 included a coordinated performance of the crew, the command and service module, or CSM, and the support facilities. The mission also was to demonstrate translunar injection; CSM navigation, communications and midcourse corrections; consumable assessment; and passive thermal control. The detailed test objectives were to refine the systems and procedures relating to future lunar operations.	Transcript Link
2018 05 21	NASA's Marshall Space Flight Center	https://youtu.be/Se1rPUmLD5Q	Apollo 11 Engineering Report (archival film - no sound)	This film is an engineering report for the Apollo 11 mission which launched from Kennedy Space Center on July 16, 1965. The primary objective of Apollo 11 was to complete a national goal set by President John F. Kennedy on May 25, 1961: perform a crewed lunar landing and return to Earth. Additional flight objectives included scientific exploration by the lunar module, or LM, crew; deployment of a television camera to transmit signals to Earth; and deployment of a solar wind composition experiment, seismic experiment package and a Laser Ranging Retroreflector. During the exploration, the two astronauts were to gather samples of lunar-surface materials for return to Earth. They also were to extensively photograph the lunar terrain, the deployed scientific equipment, the LM spacecraft, and each other, both with still and motion picture cameras. This was to be the last Apollo mission to fly a "free-return" trajectory, which would enable a return to Earth with no engine firing, providing a ready abort of the mission at any time prior to lunar orbit insertion.	Transcript Link
2018 05 21	NASA's Marshall Space Flight Center	https://youtu.be/j8AfE4ggWBM	Saturn V S-IC Bulkhead Tooling and Fabrication (archival film)	This film surveys tooling and fabrication processes for adding insulation to the S-IC stage tanks.	Transcript Link

2018 05 21	NASA's Marshall Space Flight Center	https://youtu.be/ZUPTgpBhhBI	J 2 Engine Semi-Annual Film Report - August 1968 (archival film)	These Saturn Quarterly Film Reports were intended as updates to progress made on launch vehicle hardware development and testing. This report covers progress made on the J-2 engine through August 1968.	Transcript Link
2018 05 18	NASA's Marshall Space Flight Center	https://youtu.be/zGtU3vnNeEk	Saturn V Quarterly Film Report Number Eight - November 1964 (archival film)	These Saturn Quarterly Film Reports were intended as updates to progress made on launch vehicle hardware development and testing. This report covers progress made on the Saturn launch vehicle through November 1964.	0
2018 05 18	NASA's Marshall Space Flight Center	https://youtu.be/9pzWTW0_5QA	Saturn V Quarterly Film Report Number Twenty - February 1968 (archival film)	These Saturn Quarterly Film Reports were intended as updates to progress made on launch vehicle hardware development and testing. This report covers progress made on the Saturn launch vehicle through February 1968.	0
2018 05 18	NASA's Marshall Space Flight Center	https://youtu.be/0p5EFI5my0Y	Saturn V Quarterly Film Report Number Nineteen - November 1967 (archival film)	These Saturn Quarterly Film Reports were intended as updates to progress made on launch vehicle hardware development and testing. This report covers progress made on the Saturn launch vehicle through November 1967.	0

2018 05 18	NASA's Marshall Space Flight Center	https://youtu.be/8kqqf7znIEc	Saturn V Quarterly Film Report Number Seventeen - February 1967 (archival film)	These Saturn Quarterly Film Reports were intended as updates to progress made on launch vehicle hardware development and testing. This report covers progress made on the Saturn launch vehicle through February 1967.	0
2018 05 18	NASA's Marshall Space Flight Center	https://youtu.be/Viv9gjsfLWs	Saturn V Quarterly Film Report Number Sixteen - November 1966 (archival film)	These Saturn Quarterly Film Reports were intended as updates to progress made on launch vehicle hardware development and testing. This report covers progress made on the Saturn launch vehicle through November 1966.	0
2018 05 18	NASA's Marshall Space Flight Center	https://youtu.be/lM-Q4KML8a4	Saturn V Quarterly Film Report Number Fourteen - May 1966 (archival film)	These Saturn Quarterly Film Reports were intended as updates to progress made on launch vehicle hardware development and testing. This report covers progress made on the Saturn launch vehicle through May 1966.	0
2018 05 18	NASA's Marshall Space Flight Center	https://youtu.be/_4Jb5I4QW7Q	Saturn V Quarterly Film Report Number Thirteen - February 1966 (archival film)	These Saturn Quarterly Film Reports were intended as updates to progress made on launch vehicle hardware development and testing. This report covers progress made on the Saturn launch vehicle through February 1966.	0

2018 05 18	NASA's Marshall Space Flight Center	https://youtu.be/StyHp6ItCV8	Saturn V Quarterly Film Report Number Twelve - November 1965 (archival film)	These Saturn Quarterly Film Reports were intended as updates to progress made on launch vehicle hardware development and testing. This report covers progress made on the Saturn launch vehicle through November 1965.	0
2018 05 18	NASA's Marshall Space Flight Center	https://youtu.be/Lqdsq7LQbOA	Saturn V Quarterly Film Report Number Eleven - August 1965 (archival film poor quality)	These Saturn Quarterly Film Reports were intended as updates to progress made on launch vehicle hardware development and testing. This report covers progress made on the Saturn launch vehicle through August 1965.	0
2018 05 18	NASA's Marshall Space Flight Center	https://youtu.be/Vrm6BVvLVQk	Saturn V Quarterly Film Report Number Ten - May 1965	These Saturn Quarterly Film Reports were intended as updates to progress made on launch vehicle hardware development and testing. This report covers progress made on the Saturn launch vehicle through May 1965.	Transcript Link
2018 05 18	NASA's Marshall Space Flight Center	https://youtu.be/5lwc5tRfBS0	Saturn V Quarterly Film Report Number Nine - February 1965	These Saturn Quarterly Film Reports were intended as updates to progress made on launch vehicle hardware development and testing. This report covers progress made on the Saturn launch vehicle through February 1965.	Transcript Link

2018 05 14	NASA's Marshall Space Flight Center	https://youtu.be/gnEA3l-rHYE	Saturn IB Quarterly Film Report Number Twenty-Seven - March 1966 (archival films)	These Saturn Quarterly Film Reports were intended as updates to progress made on launch vehicle hardware development and testing. This report covers progress made on the Saturn launch vehicle through March 1966.	0
2018 05 14	NASA's Marshall Space Flight Center	https://youtu.be/yg3KSM25jwY	Saturn V Quarterly Film Report Number Two - April 1963 (archival film)	These Saturn Quarterly Film Reports were intended as updates to progress made on launch vehicle hardware development and testing. This report covers progress made on the Saturn launch vehicle through April 1963.	0
2018 05 14	NASA's Marshall Space Flight Center	https://youtu.be/OcGohDrefRs	Saturn V Quarterly Film Report Number Seven - August 1964 (archival film)	These Saturn Quarterly Film Reports were intended as updates to progress made on launch vehicle hardware development and testing. This report covers progress made on the Saturn launch vehicle through August 1964.	0
2018 05 14	NASA's Marshall Space Flight Center	https://youtu.be/AectSq99o1g	Saturn V Quarterly Film Report Number Three - August 1963 (archival film)	These Saturn Quarterly Film Reports were intended as updates to progress made on launch vehicle hardware development and testing. This report covers progress made on the Saturn launch vehicle through August 1963.	0

2018 05 14	NASA's Marshall Space Flight Center	https://youtu.be/6-a-YyDpe18	Saturn IB Quarterly Film Report Number Thirty-Five - March 1968	These Saturn Quarterly Film Reports were intended as updates to progress made on launch vehicle hardware development and testing. This report covers progress made on the Saturn launch vehicle through March 1968.	Transcript Link
2018 05 14	NASA's Marshall Space Flight Center	https://youtu.be/I_CP_vuuOOk	Saturn I IB Quarterly Film Report Number Twenty-Four - June 1965 (archival film)	These Saturn Quarterly Film Reports were intended as updates to progress made on launch vehicle hardware development and testing. This report covers progress made on the Saturn launch vehicle through June 1965.	0
2018 05 14	NASA's Marshall Space Flight Center	https://youtu.be/vDPHXzItC14	Saturn V Quarterly Film Report Number Four - November 1963 (archival film)	These Saturn Quarterly Film Reports were intended as updates to progress made on launch vehicle hardware development and testing. This report covers progress made on the Saturn launch vehicle through November 1963.	0
2018 05 14	NASA's Marshall Space Flight Center	https://youtu.be/MWZHp9DFxG0	Saturn V Quarterly Film Report Number Six - May 1964 (archival filim)	These Saturn Quarterly Film Reports were intended as updates to progress made on launch vehicle hardware development and testing. This report covers progress made on the Saturn launch vehicle through May 1964.	Transcript Link

2018 05 14	NASA's Marshall Space Flight Center	https://youtu.be/-ARLIKtXvZI	Saturn V Quarterly Film Report Number Five - February 1964 (archival film)	These Saturn Quarterly Film Reports were intended as updates to progress made on launch vehicle hardware development and testing. This report covers progress made on the Saturn launch vehicle through February 1964.	0
2018 05 14	NASA's Marshall Space Flight Center	https://youtu.be/_Hm4taLUCmw	Saturn V Quarterly Film Report Number One - January 1963 (archival film)	These Saturn Quarterly Film Reports were intended as updates to progress made on launch vehicle hardware development and testing. This report covers progress made on the Saturn launch vehicle through January 1963.	0
2018 05 14	NASA's Marshall Space Flight Center	https://youtu.be/pwOF57LidFM	Saturn IB Story (archival film)	This film covers the development history of the Saturn IB launch vehicle, the second in the Saturn development program.	Transcript Link
2018 05 14	NASA's Marshall Space Flight Center	https://youtu.be/gVKF7hRoCak	Saturn I IB Quarterly Film Report Number Eighteen - December 1963 (archival film)	These Saturn Quarterly Film Reports were intended as updates to progress made on launch vehicle hardware development and testing. This report covers progress made on the Saturn launch vehicle through December 1963.	0

2018 05 14	NASA's Marshall Space Flight Center	https://youtu.be/kNFZMI8kkZI	Saturn IB Quarterly Film Report Number Twenty-Nine - September 1966 (archival film)	These Saturn Quarterly Film Reports were intended as updates to progress made on launch vehicle hardware development and testing. This report covers progress made on the Saturn launch vehicle through September 1966.	0
2018 05 14	NASA's Marshall Space Flight Center	https://youtu.be/R0DqrEJpRqM	Saturn IB Quarterly Film Report Number Thirty-Four - December 1967 (archival film)	These Saturn Quarterly Film Reports were intended as updates to progress made on launch vehicle hardware development and testing. This report covers progress made on the Saturn launch vehicle through December 1967.	0
2018 05 14	NASA's Marshall Space Flight Center	https://youtu.be/xD93j0B2-x0	Saturn IB Quarterly Film Report Number Forty-One - December 1969	These Saturn Quarterly Film Reports were intended as updates to progress made on launch vehicle hardware development and testing. This report covers progress made on the Saturn launch vehicle through December 1968.	Transcript Link
2018 05 14	NASA's Marshall Space Flight Center	https://youtu.be/bWdq25zEAGc	Saturn IB Quarterly Film Report Number Thirty-Three - September 1967 (archival film)	These Saturn Quarterly Film Reports were intended as updates to progress made on launch vehicle hardware development and testing. This report covers progress made on the Saturn launch vehicle through September 1967.	0

2018 05 14	NASA's Marshall Space Flight Center	https://youtu.be/DQUWzaa4mVY	Saturn IB Quarterly Film Report Number Twenty-Six - December 1965	These Saturn Quarterly Film Reports were intended as updates to progress made on launch vehicle hardware development and testing. This report covers progress made on the Saturn launch vehicle through December 1965.	Transcript Link
2018 05 14	NASA's Marshall Space Flight Center	https://youtu.be/LwfukXJEn4c	Saturn IB Quarterly Film Report Number Twenty-Five - September 1965 (archival film)	These Saturn Quarterly Film Reports were intended as updates to progress made on launch vehicle hardware development and testing. This report covers progress made on the Saturn launch vehicle through September 1965.	0
2018 05 14	NASA's Marshall Space Flight Center	https://youtu.be/6EKWY2IIYMI	Saturn IB Quarterly Film Report Number Twenty-Three - March 1965 (archival film)	These Saturn Quarterly Film Reports were intended as updates to progress made on launch vehicle hardware development and testing. This report covers progress made on the Saturn launch vehicle through March 1965.	0
2018 05 14	NASA's Marshall Space Flight Center	https://youtu.be/tMyZTAM6Q3g	Saturn I IB Quarterly Film Report Number Twenty - June 1964 (archival film)	These Saturn Quarterly Film Reports were intended as updates to progress made on launch vehicle hardware development and testing. This report covers progress made on the Saturn launch vehicle through June 1964.	0

2018 05 14	NASA's Marshall Space Flight Center	https://youtu.be/lAPHFtwtJNo	Saturn I IB Quarterly Film Report Number Twenty-Two - December 1964 (archival film)	These Saturn Quarterly Film Reports were intended as updates to progress made on launch vehicle hardware development and testing. This report covers progress made on the Saturn launch vehicle through December 1964.	0
2018 05 14	NASA's Marshall Space Flight Center	https://youtu.be/7hR8lC0jfPg	Saturn I IB Quarterly Film Report Number Twenty-One - September 1964 (archival film)	These Saturn Quarterly Film Reports were intended as updates to progress made on launch vehicle hardware development and testing. This report covers progress made on the Saturn launch vehicle through September 1964.	0
2018 05 14	NASA's Marshall Space Flight Center	https://youtu.be/auQJ6vSKIWA	Saturn I IB Quarterly Film Report Number Nineteen - March 1964 (archival film)	These Saturn Quarterly Film Reports were intended as updates to progress made on launch vehicle hardware development and testing. This report covers progress made on the Saturn launch vehicle through March 1964.	0
2018 05 14	NASA's Marshall Space Flight Center	https://youtu.be/HXEUB9MSmsw	Saturn I IB Quarterly Film Report Number Seventeen - September 1963 (archival film)	These Saturn Quarterly Film Reports were intended as updates to progress made on launch vehicle hardware development and testing. This report covers progress made on the Saturn launch vehicle through September 1963.	0

2018 05 14	NASA's Marshall Space Flight Center	https://youtu.be/-YisHb7IHAA	Saturn I IB Quarterly Film Report Number Sixteen - June 1963 (archival film)	These Saturn Quarterly Film Reports were intended as updates to progress made on launch vehicle hardware development and testing. This report covers progress made on the Saturn launch vehicle through June 1963.	0
2018 05 14	NASA's Marshall Space Flight Center	https://youtu.be/SoNhnSzV0bo	Saturn I IB Quarterly Film Report Number Fifteen - March 1963 (archival film)	These Saturn Quarterly Film Reports were intended as updates to progress made on launch vehicle hardware development and testing. This report covers progress made on the Saturn launch vehicle through March 1963.	0
2018 05 14	NASA's Marshall Space Flight Center	https://youtu.be/NnPFDoEV3p4	Saturn V Quarterly Film Report Number Fifteen - August 1966 (archival film)	These Saturn Quarterly Film Reports were intended as updates to progress made on launch vehicle hardware development and testing. This report covers progress made on the Saturn launch vehicle through August 1966.	0
2018 05 14	NASA's Marshall Space Flight Center	https://youtu.be/NJsQrMUqGwo	Saturn I Quarterly Film Report Number Thirty-One - March 1967 (archival film)	These Saturn Quarterly Film Reports were intended as updates to progress made on launch vehicle hardware development and testing. This report covers progress made on the Saturn launch vehicle through March 1967.	0

2018 05 14	NASA's Marshall Space Flight Center	https://youtu.be/yB8rCsFSoIU	Saturn I IB Quarterly Film Report Number Thirty - December 1966 (archival film)	These Saturn Quarterly Film Reports were intended as updates to progress made on launch vehicle hardware development and testing. This report covers progress made on the Saturn launch vehicle through December 1966.	0
2018 05 11	NASA's Marshall Space Flight Center	https://youtu.be/mQVvbQGaoF8	Saturn I IB Quarterly Film Report Number Twenty-Eight - June 1966 (archival film)	These Saturn Quarterly Film Reports were intended as updates to progress made on launch vehicle hardware development and testing. This report covers progress made on the Saturn launch vehicle through June 1966.	0
2018 05 11	NASA's Marshall Space Flight Center	https://youtu.be/hO3c0VtejIw	Saturn Quarterly Film Report Number Thirty-Seven - September 1968 (archival film)	These Saturn Quarterly Film Reports were intended as updates to progress made on launch vehicle hardware development and testing. This report covers progress made on the Saturn launch vehicle through September 1968.	0

2018 05 11	NASA's Marshall Space Flight Center	https://youtu.be/FfeP4BVTsps	Low Cost Upper Stage-Class Propulsion project (LCUSP)	NASA is breaking ground in the world of additive manufacturing with the Low Cost Upper Stage-Class Propulsion project. Recently, NASA's Marshall Space Flight Center successfully hot-fire tested a 3-D printed copper combustion chamber liner with an E-Beam Free Form Fabrication manufactured nickel-alloy jacket. The project is a joint effort by three NASA centers – Glenn Research Center in Cleveland, Ohio, Langley Research Center in Hampton, Virginia, and Marshall. The agency successfully printed the first, full-scale 3-D printed copper combustion chamber liner in 2015 at Marshall using a powdered copper alloy created by material scientists at Glenn. The liner was then sent to Langley where E-Beam Free Form Fabrication Technology, a layer-additive process that uses an electron beam and wire to fabricate metallic structures, was used to deposit a nickel-alloy onto the liner to form the chamber jacket. The Low Cost Upper Stage-Class Propulsion Project is funded by NASA's Space Technology Mission Directorate's Game Changing Development Program, which seeks to identify and rapidly mature innovative technologies that may lead to entirely new approaches for future space missions.	Transcript Link
2018 05 11	NASA's Marshall Space Flight Center	https://youtu.be/puBRnJeqgQk	First Lady, Lady Bird Johnson Visits Marshall Space Flight Center (archival film)	This film includes footage of a visit by First Lady Lady Bird Johnson to Marshall Space Flight Center on March 24, 1964. While at Marshall, she addressed center employees, toured facilities and witnessed test firings of a Saturn I first stage and an F-1 engine.	0
2018 05 11	NASA's Marshall Space Flight Center	https://youtu.be/plfwPwd9Pac	Saturn Quarterly Film Report Number Thirty-Eight - December 1968 (archival film)	These Saturn Quarterly Film Reports were intended as updates to progress made on launch vehicle hardware development and testing. This report covers progress made on the Saturn launch vehicle through December 1968.	0

2018 05 11	NASA's Marshall Space Flight Center	https://youtu.be/1A_B6z49Gyg	Saturn Quarterly Film Report Number Thirty-Six - June 1968 (archival film)	These Saturn Quarterly Film Reports were intended as updates to progress made on launch vehicle hardware development and testing. This report covers progress made on the Saturn launch vehicle through June 1968.	0
2018 05 11	NASA's Marshall Space Flight Center	https://youtu.be/QUfo2RsLAMo	Saturn I IB Quarterly Film Report Number Fourteen - December 1962 (archival film)	These Saturn Quarterly Film Reports were intended as updates to progress made on launch vehicle hardware development and testing. This report covers progress made on the Saturn launch vehicle through	0
2018 05 11	NASA's Marshall Space Flight Center	https://youtu.be/nI0Lmov08Gs	Saturn Quarterly Film Report Number Twelve - June 1962 (archival film)	These Saturn Quarterly Film Reports were intended as updates to progress made on launch vehicle hardware development and testing. This report covers progress made on the Saturn launch vehicle through June 1962.	0
2018 05 11	NASA's Marshall Space Flight Center	https://youtu.be/UpLW-U8ZkYU	Rocket Science in 60 Seconds Secondary Payloads Hitching a Ride on SLS	Rocket Science in 60 Seconds gives you an inside look at work being done at NASA to explore deep space like never before. In this episode, Kimberly Robinson, Secondary Payloads Manager at NASA's Marshall Space Flight Center in Huntsville, Alabama, lets you in on the world of secondary payloads and the ride they'll be taking on the first flight of NASA's Space Launch System rocket. For more information about SLS, visit nasa.gov/sls.	0

2018 05 07	NASA's Marshall Space Flight Center	https://youtu.be/mLckuVnGgKM	Saturn Quarterly Film Report Number Eleven - March 1962 (archival film)	These Saturn Quarterly Film Reports were intended as updates to progress made on launch vehicle hardware development and testing. This report covers progress made on the Saturn launch vehicle through March 1962.	0
2018 05 07	NASA's Marshall Space Flight Center	https://youtu.be/MOVgOEu3-E0	Saturn Quarterly Film Report Number Ten - December 1961 (archival film)	These Saturn Quarterly Film Reports were intended as updates to progress made on launch vehicle hardware development and testing. This report covers progress made on the Saturn launch vehicle through December 1961.	0
2018 05 07	NASA's Marshall Space Flight Center	https://youtu.be/d76XNlEMNeU	Saturn Quarterly Film Report Number Nine - September 1961 (archival film)	These Saturn Quarterly Film Reports were intended as updates to progress made on launch vehicle hardware development and testing. This report covers progress made on the Saturn launch vehicle through September 1961.	0
2018 05 07	NASA's Marshall Space Flight Center	https://youtu.be/MHfuBRQX0TI	Saturn Quarterly Film Report Number Eight - June 1961 (archival film)	These Saturn Quarterly Film Reports were intended as updates to progress made on launch vehicle hardware development and testing. This report covers progress made on the Saturn launch vehicle through June 1961.	Transcript Link

2018 05 07	NASA's Marshall Space Flight Center	https://youtu.be/ej-0uB7JuC8	Saturn Quarterly Film Report Number Seven - March 1961 (archival film)	These Saturn Quarterly Film Reports were intended as updates to progress made on launch vehicle hardware development and testing. This report covers progress made on the Saturn launch vehicle through March 1961.	0
2018 05 07	NASA's Marshall Space Flight Center	https://youtu.be/pwCFsF1PoS8	Project Saturn Quarterly Report Number Six - December 1960 (archival film)	These Saturn Quarterly Film Reports were intended as updates to progress made on launch vehicle hardware development and testing. This report covers progress made on the Saturn launch vehicle through December 1960.	0
2018 05 07	NASA's Marshall Space Flight Center	https://youtu.be/kWDfStOQciY	Project Saturn Report Number Five - October 1960 (archival film)	These Saturn Quarterly Film Reports were intended as updates to progress made on launch vehicle hardware development and testing. This report covers progress made on the Saturn launch vehicle to October 1960.	Transcript Link
2018 05 07	NASA's Marshall Space Flight Center	https://youtu.be/aT4aSU67Kzc	President Lyndon Johnson at Michoud Assembly Facility Pt. II No Sound (archival film)	This video consists of footage from a visit by President Lyndon B. Johnson to NASA's Michoud Assembly Facility located outside New Orleans, Louisiana on December 13, 1967.	0

2018 05 07	NASA's Marshall Space Flight Center	https://youtu.be/VUCKMKsqfqo	President Lyndon B. Johnson at Michoud Assembly Facility Pt. 1 No Sound (archival film)	This video consists of footage from a visit by President Lyndon B. Johnson to NASA's Michoud Assembly Facility located outside New Orleans, Louisiana on December 13, 1967.	0
2018 05 07	NASA's Marshall Space Flight Center	https://youtu.be/mcmjTTx7W20	Saturn I First Stage Test Firing - Undated with No Sound (archival film)	This video is of the firing of the Saturn I first stage at NASA's Marshall Space Flight Center. The Saturn I first stage, or S-IB, consisted of eight tanks, each 70 inches in diameter, clustered around a central tank, 105 inches in diameter. Four of the external tanks were fuel tanks for the RP-1 (kerosene) fuel. The other four, spaced alternately with the fuel tanks, were liquid oxygen tanks, as was the large center tank. All fuel tanks and liquid oxygen tanks drained at the same rates respectively. The thrust for the stage came from eight H-1 engines, each producing a thrust of 165,000 pounds, for a total thrust of over 1,300,000 pounds. The engines were arranged in a double pattern. Four engines, located inboard, were fixed in a square pattern around the stage axis and canted outward slightly, while the remaining four engines were located outboard in a larger square pattern offset 40 degrees from the inner pattern.	0
2018 05 07	NASA's Marshall Space Flight Center	https://youtu.be/z4dOJGY5a7I	NASA H-1 Engine Film Report 1965 (archival film)	These Saturn Quarterly Film Reports were intended as updates to progress made on launch vehicle hardware development and testing. This report covers progress made on the H-1 engine during the quarter from February to April 1965.	Transcript Link
2018 05 07	NASA's Marshall Space Flight Center	https://youtu.be/LkSaovJIgxk	Skylab Experiment S073 Dr Jerry Weinberg	Skylab experiment S073 was designed to measure the surface brightness and polarization associated with zodiacal light, background starlight, and spacecraft corona during each of the Skylab missions using a 10-color photoelectric polarimeter. The polarimeter and a 16 mm camera were mounted in parallel on a scanning platform at the end of an extension mechanism which could be deployed up to a distance of 5.5 m beyond the spacecraft through scientific airlocks (SAL's) in either the solar or antisolar directions. This video includes Dr. Jerry Weinberg describing the experiment.	Transcript Link

2018 05 07	NASA's Marshall Space Flight Center	https://youtu.be/x3vrzMr1aK8	A New Generation Spacelab Mission One (archival film)	This flight carried first Spacelab mission and first astronaut to represent the European Space Agency (ESA), Ulf Merbold of Germany. ESA and NASA jointly sponsored the Spacelab-1 and conducted investigations which demonstrated the capability for advanced research in space. Spacelab is an orbital laboratory and contains an observations platform composed of cylindrical pressurized modules and U-shaped unpressurized pallets which remain in the orbiter's cargo bay during flight. Altogether 73 separate investigations were carried out in astronomy and physics, atmospheric physics, Earth observations, life sciences, materials sciences, space plasma physics and technology. This was the first time six persons were carried into space on a single vehicle. This video covers the early development and preparation for the first Spacelab mission.	Transcript Link
2018 05 04	NASA's Marshall Space Flight Center	https://youtu.be/zu0C6DcR-18	Hubble Space Telescope (archival film)	The Hubble Space Telescope (HST) provides a detailed view of the unimagined complexity and diversity of the universe, as well as its startling beauty. It has yielded numerous surprises and raised new questions. The unique power of the HST derives from its combination of extremely sharp images covering relatively wide fields of view in the sky with the ability to record very faint and very bright objects together in one image, the freedom from atmospheric distortions, and the sensitivity to different types of light from ultraviolet to near-infrared. This archival video provides an overview of the telescope during its development.	Transcript Link
2018 05 04	NASA's Marshall Space Flight Center	https://youtu.be/26oQ3m5EHrg	Spacecraft with Wheels The Lunar Roving Vehicle (archival film)	The Lunar Roving Vehicle (LRV) was an electric vehicle designed to operate in the low-gravity vacuum of the Moon and to be capable of traversing the lunar surface, allowing the Apollo astronauts to extend the range of their surface extravehicular activities. Three LRVs were driven on the Moon, one on Apollo 15 by astronauts David Scott and Jim Irwin, one on Apollo 16 by John Young and Charles Duke, and one on Apollo 17 by Gene Cernan and Harrison Schmitt. This archival video chronicles the early history of that program as well as its deployment as part of the Apollo 15 mission.	Transcript Link
2018 05 04	NASA's Marshall Space Flight Center	https://youtu.be/XXsFAbW7pvc	Marshall Celebrates Small Business Week	In honor of Small Business Week, Marshall Space Flight Center is celebrating the efforts of over 800 small business suppliers enlisted by NASA, with 45 of those suppliers found right here in Alabama. Today Marshall is working with over 260 small businesses to bring new ideas and help make space exploration more innovative and efficient. The nation’s space exploration objectives depend on heavy lift capabilities beyond Low Earth Orbit; to the Moon, Mars and even the outer planets! Marshall is tasked with developing the SLS rocket to meet that need and our small business partners are right there with us.	Transcript Link

2018 05 02	NASA's Marshall Space Flight Center	https://youtu.be/qPmJR3XSLjY	NASA's Marshall Space Flight Center 1960s Orientation Film (archival film)	On September 8, 1960, President Dwight David Eisenhower formally dedicated the George C. Marshall Space Flight Center in Huntsville, Alabama, as a new field installation of the National Aeronautics and Space Administration (NASA). President Eisenhower addressed guests and employees of the new NASA organization that had resulted from the Army transfer of 4,670 civil service employees and 1,840 acres of Redstone Arsenal property and facilities worth $100 million. The new NASA center was named for the late General George C. Marshall. Mrs. Marshall was among those who joined the President at the dedication. Dr. Wernher von Braun, who became the Center's first Director, also participated. The Marshall Center had been activated on July 1, 1960, as part of NASA, which had been established on October 1, 1958, by Congressional passage of the National Aeronautics and Space Act and charged with conducting the Nation's space exploration programs. The nucleus of NASA was the Advisory Committee for Aeronautics later named the National Advisory Committee for Aeronautics (NACA).	0
2018 05 02	NASA's Marshall Space Flight Center	https://youtu.be/4fasslw4MvE	NASA's Marshall Space Flight Center Dedication - September 8, 1960 (archival film)	On September 8, 1960, President Dwight David Eisenhower formally dedicated the George C. Marshall Space Flight Center in Huntsville, Alabama, as a new field installation of the National Aeronautics and Space Administration (NASA). President Eisenhower addressed guests and employees of the new NASA organization that had resulted from the Army transfer of 4,670 civil service employees and 1,840 acres of Redstone Arsenal property and facilities worth $100 million. The new NASA center was named for the late General George C. Marshall. Mrs. Marshall was among those who joined the President at the dedication. Dr. Wernher von Braun, who became the Center's first Director, also participated. The Marshall Center had been activated on July 1, 1960, as part of NASA, which had been established on October 1, 1958, by Congressional passage of the National Aeronautics and Space Act and charged with conducting the Nation's space exploration programs. The nucleus of NASA was the Advisory Committee for Aeronautics later named the National Advisory Committee for Aeronautics (NACA).	0
2018 04 30	NASA's Marshall Space Flight Center	https://youtu.be/hLtMbQRdLfo	President Eisenhower at Marshall Dedication B Roll 3 (No Sound)	This film contains B-Roll from President Dwight D. Eisenhower's dedication of NASA's Marshall Space Flight Center on September 8, 1960. The center was named in honor of Gen. George C. Marshall, Eisenhower's wartime colleague and the implementor of the Marshall Plan for European recovery after World War II.	Transcript Link

2018 04 30	NASA's Marshall Space Flight Center	https://youtu.be/-CBQYxmKx3w	President Eisenhower at Marshall Dedication B Roll 2 (No Sound)	This film contains B-Roll from President Dwight D. Eisenhower's dedication of NASA's Marshall Space Flight Center on September 8, 1960. The center was named in honor of Gen. George C. Marshall, Eisenhower's wartime colleague and the implementor of the Marshall Plan for European recovery after World War II.	Transcript Link
2018 04 30	NASA's Marshall Space Flight Center	https://youtu.be/kM1thMpGU_s	President Eisenhower at Marshall Dedication B Roll 1 (No Sound)	This film contains B-Roll from President Dwight D. Eisenhower's dedication of NASA's Marshall Space Flight Center on September 8, 1960. The center was named in honor of Gen. George C. Marshall, Eisenhower's wartime colleague and the implementor of the Marshall Plan for European recovery after World War II.	Transcript Link
2018 04 30	NASA's Marshall Space Flight Center	https://youtu.be/bvX75iy-Z8g	Saturn Super Rocket	This video describes the early development of the Saturn I launch vehicle at NASA's Marshall Space Flight Center. The Saturn I vehicle was the first in the line of Saturn vehicles which also included the Saturn IB and Saturn V. The Saturn I first stage was comprised of a cluster of eight H-1 engines capable of producing 1.5 million pounds of thrust.	Transcript Link
2018 04 27	NASA's Marshall Space Flight Center	https://youtu.be/Z-OhfVNbtqk	First Ten Lives of Saturn I	This film provides an overview of the Saturn Program through the launch of the ten Saturn I launch vehicles. The Saturn I was the first in a class of large booster dedicated to the peaceful exploration of space. The vehicle was developed by clustering together eight H-1 engines for the first stage (S-I stage) and a later second stage (S-IV stage) of six RL-10 engines. The program include the scientific payloads Project Pegasus and Project Highwater.	Transcript Link

2018 04 27	NASA's Marshall Space Flight Center	https://youtu.be/8rpKufDxREA	SLS Trivia Getting to Know NASA's Space Launch System Core Stage	Join host Kaitlin Rogers for the second installment of SLS Trivia with three questions about the SLS core stage -- the world's largest rocket stage. Make sure you let us know how you do in the comments below.	Transcript Link
2018 04 27	NASA's Marshall Space Flight Center	https://youtu.be/0Ggry9r6UGs	Building Big in the 'Big Easy'	At NASA's Rocket Factory, the Michoud Assembly Facility in New Orleans, engineers are building hardware for Exploration Mission-1 -- the first integrated flight of the Space Launch System and Orion spacecraft. They are manufacturing and assembling the rocket's 212-foot core stage, as well as building Orion pressure vessels that hold the crew. Together, SLS and Orion will enable a new era of exploration beyond Earth's orbit, launching astronauts on deep-space exploration missions to the Moon, Mars and beyond. For more information: https://www.nasa.gov/centers/marshall/michoud/	Transcript Link
2018 04 25	NASA's Marshall Space Flight Center	https://youtu.be/ml0Ax9sxsEc	F-1 The Mightiest Rocket Engine	Capable of generating 1.5 million pounds of thrust, the F-1 engine for the Saturn V launch vehicle first stage remains the most powerful single-nozzle, liquid fueled rocket engine ever developed. Each Saturn V launch vehicle included five F-1 engines which burned a mixture of kerosene (RP-1) and liquid oxygen at a combined rate of 15 metric tons per second for the entirety of its two and a half minutes of operation. The Rocketdyne developed engine pre-dated NASA itself, starting life as an Air Force project in 1955. Over the course of the Apollo program and Skylab mission, the F-1 engine represented a major success for the program with its consistent performance throughout.	Transcript Link
2018 04 25	NASA's Marshall Space Flight Center	https://youtu.be/Ys8ZN2XVlzo	Launch Preparations for Saturn Apollo-5 (SA-5)	Launched on January 29, 1964, SA-5 was the first two-stage (Block II) Saturn with orbital capability and performed the first test of Instrument Unit and successful stage separation. Block II vehicles had two live stages with the second stage, or S-IV stage, including six RL-10 A-3 liquid hydrogen burning engines capable of producing a combined 90,000 pounds of thrust. The Block II first stage also had eight fins added for greater aerodynamic stability in the lower atmosphere.	Transcript Link

2018 04 20	NASA's Marshall Space Flight Center	https://youtu.be/FD8xwkggXw4	How Well Do You Know NASA's Space Launch System	Join host Kevin O'Brien for the first installment of SLS Trivia with three questions about the "L" in SLS -- launch. Make sure you let us know how you do in the comments below.	Transcript Link
2018 04 13	NASA's Marshall Space Flight Center	https://youtu.be/XYMuC2MDbwo	Rocket Science in 60 Seconds NASA's New Deep-Space Exploration Rocket	Rocket Science in 60 Seconds gives you an inside look at work being done at NASA to explore deep space like never before. In this episode, NASA astronaut Butch Wilmore gives you the scoop on NASA's Space Launch System, the only rocket powerful enough to send Orion and astronauts on missions beyond the Moon. From safety to testing to the uniqueness of the SLS rocket, Butch explains why SLS is essential to human space exploration. For more information about SLS, visit nasa.gov/sls.	0
2018 03 30	NASA's Marshall Space Flight Center	https://youtu.be/RYT4YBB-Kgg	Hypersonic Inflatable Aerodynamic Decelerator (HIAD)	Technology to deliver people, and their associated large payloads, safely to Mars is being developed and tested right now. Engineers are working to overcome the challenges of landing heavier cargos than ever before on other planets, and as well as returning things to Earth, using a Hypersonic Inflatable Aerodynamic Decelerator (HIAD) technique. The Low-Earth Orbit Flight Test of an Inflatable Decelerator, or LOFTID, will demonstrate the next generation of HIAD technology. Learn more about the latest in NASA's cutting-edge entry, descent and landing technology in this episode of NASA X.	Transcript Link
2018 03 21	NASA's Marshall Space Flight Center	https://youtu.be/sfNSxn4MPos	Rocket Science in 60 Seconds NASA's Orion stage adapter for the Space Launch System	Rocket Science in 60 Seconds gives you an inside look at work being done at NASA to explore deep space like never before. In this episode, we go behind the scenes at the agency's Marshall Space Flight Center in Huntsville, Alabama, to see the Orion stage adapter for NASA's new rocket, the Space Launch System. The Orion stage adapter will connect the Orion spacecraft to the upper part of the rocket and will carry 13 small satellites. Brent Gaddes, the Orion stage adapter manager, tells us how the adapter was built and why it's so important! For more information about SLS, visit nasa.gov/sls.	0

2018 03 19	NASA's Marshall Space Flight Center	https://youtu.be/mHit46BXGkg	Channel Wall Nozzle Hot-fire Tests	A subscale channel wall nozzle is hot-fire tested in November 2017 at NASA's Marshall Space Flight Center. The nozzle was fabricated using three separate, state-of-the-art, advanced manufacturing technologies including a new process called Laser Wire Direct Closeout that was co-developed and advanced at Marshall.	Transcript Link
2018 03 09	NASA's Marshall Space Flight Center	https://youtu.be/-u_j3P6_47I	Green Propellant Infusion Mission	NASA's Green Propellant Infusion Mission will demonstrate a high-performance, non-toxic fuel alternative to conventional hydrazine. This innovative, low-toxicity propellant is expected to improve overall vehicle performance. Led by Ball Aerospace & Technologies Corp. of Boulder, Colo. (http://www.ballaerospace.com/), the Green Propellant Infusion Mission project includes co-investigators Aerojet Rocketdyne, NASA Glenn Research Center, NASA Kennedy Space Center and the U.S. Air Force Research Laboratory at Edwards Air Force Base, with additional mission support from the U.S. Air Force Space and Missile Systems Center at Kirkland Air Force Base. The GPIM payload is expected to fly to space aboard the Ball Configurable Platform (BCP) 100 (http://www.ballaerospace.com/page.jsp?page=95), a compact small satellite set to be launched in 2018.	Transcript Link
2018 03 08	NASA's Marshall Space Flight Center	https://youtu.be/Zb1e3N7mERI	Hardware for NASA's SLS Rocket Boards Pegasus For Trip to Marshall	A structural test version of the intertank for NASA's new exploration-class rocket, the Space Launch System, rolls out of the Vertical Assembly Center at NASA's Michoud Assembly Facility in New Orleans Feb. 22, before it is loaded on the agency's barge Pegasus and delivered to NASA's Marshall Space Flight Center in Huntsville, Alabama, for critical testing. The test version of the intertank is structurally identical to the flight intertank, which will connect the core stage's two colossal fuel tanks, serve as the upper-connection point for the two solid rocket boosters and house critical avionics and electronics. The test hardware will undergo extensive structural testing to verify the rocket can withstand the extreme forces expected during launch and flight, especially booster ignition and separation. Pegasus, originally used during the Space Shuttle Program, has been redesigned and extended to accommodate the SLS rocket's massive, 212-foot-long core stage -- the backbone of the rocket. The 310-foot-long barge will ferry the flight core stage from Michoud to other NASA centers for tests and launch. For more information about SLS, visit nasa.gov/sls.	Transcript Link

2018 02 28	NASA's Marshall Space Flight Center	https://youtu.be/UiumnT_nw08	African American History Month Video - Will Kirby, Payload Planning Team	In celebration of African American History Month, and recognizing one individual as part of NASA's inclusive workforce, meet Will Kirby - a member of the Payload Planning Team in NASA's Payload Operations Integration Center at NASA's Marshall Space Flight Center. Down to the minute, this team maps out six-month science expeditions on the International Space Station - scheduling occurs months before the crew arrives. See how these men and women map out science activity for the crew in space to support cutting-edge research benefitting life on Earth. To view more stories highlighting Marshall's diverse workforce, please visit: https://www.nasa.gov/centers/marshall/news/diversity/index.html For more on ISS science, visit: https://www.nasa.gov/mission_pages/station/research/index.html Or at: www.twitter.com/iss_research	0
2018 02 13	NASA's Marshall Space Flight Center	https://youtu.be/RO2onNNbovA	Inside SLS Outfitting The World's Most Powerful Rocket	Find out why NASA's new deep-space rocket, the Space Launch System (SLS) is more than just big and beautiful. For the world's most powerful rocket, it takes a lot of "guts." Engineers have built all the giant structures that will be assembled to form the first SLS rocket, and now they are busy installing and outfitting the rocket's insides with sensors, cables and other equipment. The rocket's insides including its incredible flight computers and batteries will ensure SLS can do the job of sending the Orion spacecraft out beyond the Moon farther than any human-rated space vehicle as ever ventured. Learn how the SLS core stage components are being outfitted for the first SLS mission, Exploration Mission-1. Find out more at https://www.nasa.gov/exploration/systems/sls/index.html	Transcript Link
2018 02 09	NASA's Marshall Space Flight Center	https://youtu.be/6kZ-lwkpYEc	Rocket Science in 60 Seconds Insulating NASA's New Deep-space Rocket	Rocket Science in 60 Seconds gives you an inside look at work being done at NASA to explore deep space like never before. In the first episode, we take a look at the thermal protection application on the launch vehicle stage adapter for the first flight of NASA's new rocket, the Space Launch System. Engineer Amy Buck takes us behind the scenes at Marshall Space Flight Center in Huntsville, Alabama, for a peek at how she is helping build the rocket and protect it as extreme hot and cold collide during launch! For the latest version of this video, visit https://youtu.be/cFtdeZv5ick For more information about SLS, visit nasa.gov/sls.	Transcript Link

2018 02 02	NASA's Marshall Space Flight Center	https://youtu.be/K_XyUUFUj6s	SLS Core Stage Engine Section Aces Testing	NASA’s heavy-lift rocket, the Space Launch System, moved a step closer to the launch pad by acing a test of its engine section, the part of the rocket that houses SLS’s four RS-25 engines. The structural qualification test simulated the millions of pounds of force that the engine section will experience during lift-off and flight. (NASA/MSFC/Tyler Martin)	Transcript Link
2018 01 18	NASA's Marshall Space Flight Center	https://youtu.be/F2nKIM3Mteg	Bright Fireball Spotted Over Michigan	The fireball was so bright that it was seen through clouds by our meteor camera located at Oberlin college in Ohio, about 120 miles away. (NASA/MEO)	Transcript Link
2018 01 08	NASA's Marshall Space Flight Center	https://youtu.be/WKvLu3oyXJk	NASA Hardware Flips for the First SLS Flight	Engineers flipped the Orion stage adapter -- flight hardware that will carry 13 small satellites on Exploration Mission-1 (EM-1), the first flight of NASA's Space Launch System (SLS) with the Orion Spacecraft. The Orion stage adapter flip made it possible to install the adapter's diaphragm, a barrier that separates SLS from Orion. The installation is one of the last steps in construction before delivery to NASA’s Kennedy Space Center in Cape Canaveral, Florida, to prepare for launch. The adapter built at NASA’s Marshall Space Flight Center in Huntsville, Alabama, will join Orion to the rocket's interim cryogenic propulsion stage -- a liquid oxygen/liquid hydrogen-based in-space stage that will give Orion and the small satellites the push needed to go to deep space. The in-space stage was delivered to Kennedy in 2017, and the stage adapter will soon head there by way of the NASA Guppy airplane. SLS will be the most powerful rocket ever built for human exploration of the Moon, Mars and beyond. It can also carry more cargo and science payloads to destinations across the solar system faster than any other rocket. For more information about SLS, visit nasa.gov/sls.	Transcript Link

2017 12 27	NASA's Marshall Space Flight Center	https://youtu.be/6XvWXAce50s	With Eyes on the Future, Marshall Leads the Way to Deep Space in 2017	NASA's Marshall Space Flight Center in Huntsville, Alabama, led the way in space exploration in 2017. Marshall's work is advancing how we explore space and preparing for deep-space missions to the Moon, Mars and beyond. Progress continued on NASA's Space Launch System that will enable missions beyond Earth's orbit, while flight controllers at "Science Central" for the International Space Station coordinated research and experiments with astronauts in orbit, learning how to live in space. At Marshall, 2017 was also marked with ground-breaking discoveries, innovations that will send us into deep space, and events that will inspire future generations of explorers. Follow along in 2018 as Marshall continues to advance space exploration: www.nasa.gov/marshall	Transcript Link
2017 12 19	NASA's Marshall Space Flight Center	https://youtu.be/zZ6L1Mm6vtI	The Big Picture Explorer I	This 1958 “The Big Picture” film covers the January 31, 1958 launching of Explorer I, the first satellite launched by the United States. The project was a collaboration that included the Army Ballistic Missile Agency in Huntsville, Alabama, the Jet Propulsion Laboratory, and Dr. James van Allen of the University of Iowa. This film focuses on the development, preparation and launching of the Army’s Jupiter-C launch vehicle. Explorer 1 was the US contribution to the International Geophysical Year 1957-1958. Explorer 1 revolved around Earth in a looping orbit that took it as close as 354 kilometers (220 miles) to Earth and as far as 2,515 kilometers (1,563 miles). It made one orbit every 114.8 minutes, or a total of 12.54 orbits per day. The satellite itself was 203 centimeters (80 inches) long and 15.9 centimeters (6.25 inches) in diameter. Explorer 1 made its final transmission on May 23, 1958. It entered Earth's atmosphere and burned up on March 31, 1970, after more than 58,000 orbits.	Transcript Link
2017 12 15	NASA's Marshall Space Flight Center	https://youtu.be/kpO4EAf9rC0	Launching of Explorer	This 1958 film covers the January 31, 1958 launching of Explorer, the first satellite launched by the United States. The project was a collaboration that included the Army Ballistic Missile Agency in Huntsville, Alabama, the Jet Propulsion Laboratory, and Dr. James van Allen of the University of Iowa. This film focuses on the development, preparation and launching of the Army’s Jupiter-C launch vehicle. Explorer was the US contribution to the International Geophysical Year 1957-1958. Explorer revolved around Earth in a looping orbit that took it as close as 354 kilometers (220 miles) to Earth and as far as 2,515 kilometers (1,563 miles). It made one orbit every 114.8 minutes, or a total of 12.54 orbits per day. The satellite itself was 203 centimeters (80 inches) long and 15.9 centimeters (6.25 inches) in diameter. Explorer 1 made its final transmission on May 23, 1958. It entered Earth's atmosphere and burned up on March 31, 1970, after more than 58,000 orbits.	Transcript Link

2017 11 06	NASA's Marshall Space Flight Center	https://youtu.be/u2nod-ek7ys	SLS Artemis I Launch Animation	Animation depicting NASA’s Space Launch System, the world's most powerful rocket for a new era of human exploration beyond Earth’s orbit. With its unprecedented capabilities, SLS will launch astronauts in the agency’s Orion spacecraft on missions to explore multiple, deep-space destinations, including Mars. Traveling to deep space requires a large vehicle that can carry huge payloads, and future evolutions of SLS with the exploration upper stage and advanced boosters will increase the rocket’s lift capability and flexibility for multiple types of mission needs. For more information on SLS, visit http://www.nasa.gov/exploration/systems/sls/index.html. (Nov 1, 2017)	Transcript Link
2017 10 19	NASA's Marshall Space Flight Center	https://youtu.be/YD4qgxDB6SU	Breaking Through (SLS Gets Fired Up With Rock Legends STYX's Gone Gone Gone)	Inspired by the music of STYX, NASA's Space Launch System is fired up and getting ready for the deep-space rocket's first flight. "Gone Gone Gone" is the debut single from STYX's Mars-inspired album, "The Mission." SLS, the world’s most powerful rocket, will send NASA’s Orion crew vehicle on bold missions beyond Earth’s orbit farther than humans have ever ventured before. For more information: http://www.nasa.gov/exploration/systems/sls/	0
2017 10 18	NASA's Marshall Space Flight Center	https://youtu.be/nfWKBo2i8Dk	An Ordinary Gamma-ray Burst with Extraordinary Consequences	On Aug. 17, the Gamma-ray Burst Monitor on NASA's Fermi Gamma-ray Space Telescope saw a short burst of gamma rays a smashup of neutron stars, marking the first-ever detection of light from a gravitational wave source. NASA scientists Colleen Wilson-Hodge and Tyson Littenberg explain what happened and what it means for science and discovery.	Transcript Link
2017 09 26	NASA's Marshall Space Flight Center	https://youtu.be/5WU9WW8VWJY	Hinode Takes an X-Ray of a Powerful Solar Flare	On Sept. 10, 2017, the Hinode satellite observed an enormous X-class flare burst from an active region on the western edge of the Sun. The video shows the high-energy flare as seen by Hinode's X-Ray Telescope. The emission was so bright that the initial blast caused the detector to saturate. The giant explosion sent a huge cloud of superhot plasma zooming into interplanetary space -- a phenomenon known as a coronal mass ejection. Studying large flares like this one with a variety of instruments is key to understanding exactly what causes these dramatic eruptions, and one day predicting them before they occur. (Credit: JAXA/NASA/Smithsonian Astrophysical Observatory/Montana State University)	Transcript Link

2017 08 29	NASA's Marshall Space Flight Center	https://youtu.be/S2-PKzdXg4Q	Space Launch System—New Exterior Markings (2017 Animation)	Animation depicting NASA’s Space Launch System, the world's most powerful rocket for a new era of human exploration in deep space. Black-and-white checkerboard targets on the exterior of the SLS heavy-lift rocket will enable photogrammetrists to measure critical distances during spaceflight, including booster separation from the core stage. With its unprecedented capabilities, SLS will launch astronauts in the agency’s Orion spacecraft on missions to explore multiple, deep-space destinations, including Mars. For more information on SLS, visit https://www.nasa.gov/exploration/systems/sls	Transcript Link
2017 08 03	NASA's Marshall Space Flight Center	https://youtu.be/e1qnoBaMseA	Joint NASA-Brazil ‘SPORT’ Cubesat Science Mission	In this artist's animation, the signal beamed to Earth by a generic satellite is disrupted by phenomena in Earth's ionosphere. Regions of comparatively low density called equatorial plasma bubbles, depicted here as a shifting blue band in the upper atmosphere, combine with scintillations, atmospheric fluctuations similar to the "twinkling" effect seen in starlight when optical frequencies are disrupted, to interrupt and disperse the satellite's signal. These phenomena -- which threaten satellite communications, put human space explorers at risk and often disrupt communications and navigation systems on the ground -- are the focus of the joint NASA-Brazilian Cubesat mission known as the Scintillation Prediction Observations Research Task, or SPORT mission. Funded by NASA's Science Mission Directorate in Washington and led by NASA's Marshall Space Flight Center in Huntsville, Alabama, SPORT will be launched in 2019 for a year-long data-gathering mission.	Transcript Link
2017 07 31	NASA's Marshall Space Flight Center	https://youtu.be/QOZklnl_9r8	Fly's Eye GLM Simulator	The Fly’s Eye GLM Simulator (FEGS) is an airborne array of multi-spectral radiometers optimized to measure the optical emission from lightning. The instrument was designed by the Lightning Group in the Earth Science Office at the Marshall Space Flight Center as part of the validation effort for the first Geostationary Lightning Mapper (GLM) onboard GOES-16. From March to May of 2017, FEGS was flown on the NASA Armstrong Flight Research Center ER-2 along with a payload of other instruments during the GOES-16 Validation Flight Campaign. Data collected during the campaign are being analyzed by scientists at NASA and collaborating institutions to test the accuracy of GLM and other GOES-16 instruments. FEGS adds the capability to investigate sub-millisecond lightning energetics to the NASA Airborne Earth Science program. When flown with its complimentary suite of instruments, the FEGS package observes lightning radiation signatures that span from radio frequencies to gamma-ray emission. Learn more about the GOES-16 Validation Flight Campaign here: https://www.youtube.com/watch?v=rCTIkSM2r44&t=240s	Transcript Link

2017 06 23	NASA's Marshall Space Flight Center	https://youtu.be/M4kFhX-AX98	SWEAT Water Recycling 101	Water is a limited resource in space, making the urine and sweat of astronauts a valuable resource for recycling. Jennifer Pruitt, an engineer at #NASAMarshall, puts the "P" in purification to advance human exploration aboard the International Space Station and beyond. Scientists and engineers continue to improve existing methods and develop new, future recycling capabilities. Current success and results from ongoing investigations may help in the development of more reliable lightweight, portable waste processing equipment that can be used on Earth, including for emergency use or in areas with poor sanitation or unsafe drinking water. FOLLOW US ON SOCIAL MEDIA Twitter: https://twitter.com/NASA_Marshall Facebook: https://www.facebook.com/nasamarshallcenter Instagram: https://www.instagram.com/nasa_marshall/	Transcript Link
2017 06 23	NASA's Marshall Space Flight Center	https://youtu.be/QF1tG6wb82g	URINE - Water Recycling 101	Water is a limited resource in space, making the urine and sweat of astronauts a valuable resource for recycling. Jennifer Pruitt, an engineer at #NASAMarshall, puts the "P" in purification to advance human exploration aboard the International Space Station and beyond. Scientists and engineers continue to improve existing methods and develop new, future recycling capabilities. Current success and results from ongoing investigations may help in the development of more reliable lightweight, portable waste processing equipment that can be used on Earth, including for emergency use or in areas with poor sanitation or unsafe drinking water. FOLLOW US ON SOCIAL MEDIA Twitter: https://twitter.com/NASA_Marshall Facebook: https://www.facebook.com/nasamarshallcenter Instagram: https://www.instagram.com/nasa_marshall/	Transcript Link
2017 05 16	NASA's Marshall Space Flight Center	https://youtu.be/vVFrFf-1gNE	360 Video of the Barge Pegasus!	The barge Pegasus, carrying a structural test version of the massive SLS rocket's engine section, arrived at NASA’s Marshall Space Flight Center on May 15 after a 1,240-mile voyage from NASA's Michoud Assembly Facility in New Orleans. The barge left Michoud on April 28. The delivery -- the first of major SLS hardware from Michoud to Marshall -- marks a critical milestone toward the first integrated flight of the SLS rocket and NASA's Orion spacecraft, and a step closer to sending humans to deep space destinations, including Mars. NASA modified Pegasus to accommodate the SLS rocket's core stage, increasing the barge's length and weight-carrying capacity. The SLS rocket's core stage is 50 feet longer than the space shuttle external tank.	Transcript Link

2017 05 16	NASA's Marshall Space Flight Center	https://youtu.be/9Dy1sve-Bk8	A Bird's-eye View SLS Core Stage Engine Section Loaded onto the Barge Pegasus	A drone captured this view as a structural test version of the core stage engine section for NASA's new heavy-lift rocket, the Space Launch System, was loaded onto the agency's barge Pegasus at NASA's Michoud Assembly Facility in New Orleans for transport to NASA's Marshall Space Flight Center in Huntsville, Alabama. At Marshall, engineers will push, pull, twist and bend the test article with millions of pounds of force to ensure the hardware can withstand the extreme forces of launch and ascent. The engine section, located at the bottom of the rocket's core stage, will house the four RS-25 engines and be an attachment point for the two solid rocket boosters. The engine section test article is the first of four core stage test articles manufactured at Michoud and is designed to the same specifications as the engine section that will fly on the first SLS mission with the Orion spacecraft.	0
2017 05 16	NASA's Marshall Space Flight Center	https://youtu.be/2xec55MAN4M	Meet the Crew of NASA's Barge Pegasus	The first Space Launch System hardware from NASA's Michoud Assembly Facility in New Orleans just arrived at NASA's Marshall Space Flight Center in Huntsville, Alabama. We take a minute to introduce you to the crew of NASA's barge Pegasus. The crew made an 18-day journey on the barge leaving New Orleans on April 28 and arriving at Marshall on May 15. The barge delivered a structural test version of the core stage engine section of SLS, NASA's new heavy-lift rocket. Pegasus will deliver four test articles of the rocket's core stage to Marshall for tests that will simulate the forces experienced during launch. Pegasus will later ferry the flight-ready core stage to NASA's Stennis Space Center near Bay St. Louis, Mississippi, for testing and then to NASA's Kennedy Space Center in Florida for integration of the SLS flight vehicle in the Vehicle Assembly Building.	Transcript Link
2017 05 01	NASA's Marshall Space Flight Center	https://youtu.be/f4XbHJTlNzw	No Small Steps Episode 5 Passing the Test	The fifth installment of this video series explores how testing on the ground prior to flight helps ensure that NASA's Space Launch System will be successful when it's time to launch. Host Stephen Granade explains why testing is important, and some of the many different types of tests that will be conducted before SLS flies. For more information on SLS, visit www.nasa.gov/sls.	Transcript Link
2017 04 21	NASA's Marshall Space Flight Center	https://youtu.be/fjaM2vnUK3w	Student Launch	Student Launch is a research-based, competitive, experiential exploration activity that allows middle, high school ,and college students the opportunity to design, build, and fly payloads or vehicle components on high-power rockets to an determined altitude. It strives to provide relevant, cost-effective research and development of rocket propulsion systems. This project offers multiple challenges reaching a broad audience of middle and high schools, colleges, and universities across the nation. This is a 360-video of the 2017 Student Launch and showcases what it is like to be up close and personal to student rocket as it launches!	Transcript Link

2017 04 21	NASA's Marshall Space Flight Center	https://youtu.be/gnb3fNM0hhg	Rover Challenge	NASA’s Rover Challenge focuses on NASA’s current plans to explore planets, moons, asteroids and comets -- all members of the solar system family. The NASA Human Exploration Rover Challenge was held March 30 - April 1, 2017, at the U.S. Space & Rocket Center. The challenge will focused on designing, constructing and testing technologies for mobility devices to perform in these different environments, and provided valuable experiences that engaged students in the technologies and concepts that will be needed in future exploration missions. This 360 video takes you through the entire ½ mile course with one of our teams as they fight to complete it and traverse the many diverse conditions the course simulates. For more information: https://www.nasa.gov/roverchallenge/competition/index.html.	Transcript Link
2017 03 27	NASA's Marshall Space Flight Center	https://youtu.be/aOmHvoE2rMs	Dr. Wernher von Braun’s Statement on Equal Employment Opportunity	In this video from late 1960s, Marshall Center Director, Dr. Wernher von Braun discusses and expresses his support for Equal Employment Opportunity. Dr. von Braun references President John F. Kennedy’s Executive Order 10925 that established Equal Employment Opportunity in the federal service and government contractors as well as the Civil Rights Act of 1964. The video was used during employee orientation sessions.	Transcript Link
2017 03 24	NASA's Marshall Space Flight Center	https://youtu.be/vEwxj_5aQ2s	NASA’s Stennis Space Center Conducts RS-25 Engine Test	On March 23, NASA conducted a test of an RS-25 engine at the agency’s Stennis Space Center in Bay St. Louis, Mississippi. Four RS-25’s will help power NASA’s Space Launch System (SLS) rocket to space. During this test, engineers evaluated the engine’s new controller or “brain”, which communicates with the SLS vehicle. Once test data is certified, the engine controller will be removed and installed on one of the four flight engines that will help power the first integrated flight of SLS and the Orion spacecraft.	Transcript Link

2017 03 23	NASA's Marshall Space Flight Center	https://youtu.be/EvHkW2v6T7I	Students Race Rovers on a Martian and Lunar-themed Obstacle Course	NASA's Human Exploration Rover Challenge encourages STEM-based research and development of new technologies focusing on current plans to explore planets, moons, asteroids and comets -- all members of the solar system family. This year's race will be held March 30 - April 1, 2017, at the U.S. Space & Rocket Center in Huntsville, Alabama. The challenge will focus on designing, constructing and testing technologies for mobility devices to perform in these different environments, and it will provide valuable experiences that engage students in the technologies and concepts that will be needed in future exploration missions. Rovers will be human-powered and carry two students, one female and one male, over a half-mile obstacle course of simulated extraterrestrial terrain of craters, boulders, ridges, inclines, crevasses and depressions. Follow them on social media at: TWITTER: https://twitter.com/RoverChallenge FACEBOOK: https://www.facebook.com/roverchallenge/ Or visit the website at: www.nasa.gov/roverchallenge	Transcript Link
2017 03 09	NASA's Marshall Space Flight Center	https://youtu.be/RI_s-_lvz9A	Smoke and Fire with a 360 View of RS-25 Engine Test	See the power of 512,000 pounds of thrust as this 360 video takes you inside a NASA RS-25 engine hot-fire test at Stennis Space Center near Bay St. Louis, Mississippi on Feb. 22. This offers a unique perspective of an engine that will work with three other RS-25s to produce 2 million pounds of thrust that will aid in sending the Space Launch System – the world's most powerful rocket—into orbit. Cameras were set at several different locations around the test stand, including near the flame trench, where the extreme force of smoke and water literally covers the camera. This shortened highlight video shows part of the full 6-minute, 20-second-test of development engine No. 0528.	Transcript Link
2017 03 03	NASA's Marshall Space Flight Center	https://youtu.be/NZp_RbATlT8	Charles H. Scales	Charles Scales, born in Livingston, Alabama in 1953, began his career with NASA in 1973 as a co-op student from Alabama A&M University in the Central Communications Department at Marshall Space Flight Center. In 1976, he became a program analyst in Marshall's Communications Division, chief of the Program Control Office in the Marshall Facilities Office (1986-1988), and chief of the Resources Management Branch in the Information Systems Office. In 1994, Scales was named director of the Plans and Analysis Office in the Institutional and Program Support Directorate, and he became director of the Business Management Office in 1995. He served as Marshall's Equal Opportunity Office (EOO) Director from 1997 to 2004. He later served as NASA Associate Deputy Administrator.	Transcript Link

2017 03 02	NASA's Marshall Space Flight Center	https://youtu.be/gWICk4pDbYU	James L. Jennings	James Jennings, born in Dadeville, Alabama in April 1946. He holds both a Bachelor of Science degree in Mathematics and an MBA from Alabama A&M University as well as a Masters in Administrative Science from the University of Alabama. Jennings first worked for NASA in the Computation Laboratory as a co-op student from A&M and, after two years in the Army, returned to Marshall's Computation Laboratory in 1970. During his career, Jennings served as the KSC Deputy Comptroller and KSC Deputy Director (2000-2002) and as Deputy Associate Administrator for Institutions and Asset Management at NASA Headquarters.	Transcript Link
2017 03 02	NASA's Marshall Space Flight Center	https://youtu.be/wEz9I0GzjwU	Markeeva Morgan	Markeeva Morgan serves as the Space Launch System Core Stage Avionics Hardware Manager. Markeeva has served as Project Manager for the Huntsville Advanced Defense Technology Cluster and in various roles in the Space Shuttle Propulsion Project Office and Safety & Mission Assurance. A former Naval Officer in the US Navy Nuclear Propulsion Program, Markeeva earned a Bachelor of Science in Electrical Engineering from The University of Mississippi and a Master of Science in Engineering Management from The Catholic University of America.	Transcript Link
2017 03 02	NASA's Marshall Space Flight Center	https://youtu.be/YeVTcyspCa4	Dr. Ruth Jones	Dr. Ruth Jones is a native of West Helena, Arkansas and an alumna of the University of Arkansas in Pine Bluff (UAPB). Jones' NASA career began as an undergraduate student when she interned at the Goddard Space Flight Center during her junior year. She joined Marshall after becoming the first woman to earn a bachelor's degree in physics from UAPB in 1994. Dr. Jones was a co-op student at Marshall while earning her Master's degree in Physics/Materials Science in 1997 and her Doctorate in 2000, both from Alabama A&M University. She was only the second African American to receive a Doctorate in Physics in the state of Alabama. Jones currently serves as a Mishap Investigation Specialist with the NASA Safety Center Mishap Investigation Support Center.	Transcript Link
2017 03 02	NASA's Marshall Space Flight Center	https://youtu.be/9UgR-KZg6dY	Sonnie Hereford IV	Sonnie Hereford IV is a 1979 graduate of the University of Notre Dame where he earned a Bachelor's degree in Electrical Engineering. Hereford also earned his Master's in Computer and Systems Engineering from Rensselaer Polytechnic Institute in 1985. On September 9, 1963, Hereford enrolled at Fifth Avenue School, becoming the first Black child in the state of Alabama to integrate a previously segregated public school. He graduated from Huntsville's Butler High School in 1975. Hereford's career as a software engineer has included numerous NASA and Army projects.	Transcript Link

2017 03 02	NASA's Marshall Space Flight Center	https://youtu.be/B_s7IWe1la4	Carole Wagner	Carole Wagner is a native of Chicago, Illinois and a Materials and Aerospace Engineer at Marshall. She holds a Bachelor's of Science degree in Chemistry from Oakwood University. Wagner came to Marshall in 1980 as a co-op student in the Chemicals and Non-metals Processes Branch developing upgrades for the Space Shuttle's Solid Rocket Booster and External Tank Insulation Systems. Later, Wagner moved to the Lead Engineer's Office serving as a Materials Laboratory Lead Engineer for the Solid Rocket Boosters several Space Shuttle and Space Station Payloads, and later for the Constellation Program's Upper Stage. Before her current position of Stages Operations Element Discipline Lead Engineer (EDLE), Wagner served as a Payload Communications Officer (PAYCOM) for the International Space Station in the Operations Laboratory.	Transcript Link
2017 03 02	NASA's Marshall Space Flight Center	https://youtu.be/ZfxfV4vxFyY	Dr. Donald O. Frazier	Dr. Donald O. Frazier was born in 1940 in Nashville, Tennessee and grew up in Detroit, Michigan. After serving three years in the U.S. Army, Frazier married Flora Jean, a Detroit native. Dr. Frazier received a B.S. in Chemistry from Wayne State University, in Detroit, and subsequently a PhD in Physical Chemistry from Rutgers University in New Jersey. In 1980, Dr. Frazier began his NASA career at the Marshall Space Flight Center as a research chemist. Dr. Frazier led Microgravity Research on organic materials at NASA and was the Mission Scientist for the first United States Microgravity Laboratory (USML-1), which was launched in June 1992.	Transcript Link
2017 03 02	NASA's Marshall Space Flight Center	https://youtu.be/UkL7pcl-UAw	Dr. Shelia Nash-Stevenson	Dr. Shelia Nash-Stevenson is a three-time Magna Cum Laude graduate of Alabama A&M University. She received a Bachelor of Science degree in Electrical/Electronic Engineering Technology in 1981, a Master of Science degree in Physics in 1984 and Doctor of Philosophy degree in Physics in 1994, the first ever earned by an African American female in the state of Alabama. In addition to being a charter member of both the City of Madison Board of Education and the Madison Rotary Club, Dr. Nash-Stevenson is also a member of Leadership Alabama, Leadership Huntsville/Madison County Alumni Association, National Technical Association, Alabama A&M University Alumni Association, and Delta Sigma Theta Sorority, Inc.	Transcript Link
2017 03 01	NASA's Marshall Space Flight Center	https://youtu.be/LYSWQzuoto0	The Pressure is On for Upper Part of SLS Rocket	A rigorous test series has begun for the upper part of NASA's Space Launch System rocket to ensure each structure can withstand the incredible stresses of launch. A 65-foot-tall test stand at NASA's Marshall Space Flight Center in Huntsville, Alabama, is being used for the test series, where two simulators and four qualification articles of the upper part of the SLS are stacked and being pushed, pulled and twisted by forces similar to those experienced in flight. Approximately 50 test cases are planned for the series. Data from the tests will be recorded through 1,900 instrumentation channels, measuring the strain on the test articles, temperature, deflection and other factors. The test data will be compared to computer models to verify the integrity of the hardware and ensure it can withstand the forces it will experience during flight. This also is a type of practice run for assembly operations before the rocket hardware is stacked in the Vehicle Assembly Building at Kennedy Space Center in Florida ahead of launch.	Transcript Link

2017 03 01	NASA's Marshall Space Flight Center	https://youtu.be/_QvWdlgf3X8	Lewis Wooten	Lewis Wooten is the Space Launch System Associate Program Manager at Marshall. Wooten earned a Bachelor's degree in Mathematics from Fort Valley State University in Georgia in 1980 and a Master's degree from Atlanta University in Georgia, now known as Clark Atlanta University. Wooten joined NASA as an engineer on NASA's Spacelab missions and served as flight director of the Chandra X-Ray Observatory in the 1990s, coordinating the technical and science operations teams. Before his current position, Wooten served as the director of the Mission Operations Laboratory in the Payload Operations Integration Center.	Transcript Link
2017 02 23	NASA's Marshall Space Flight Center	https://youtu.be/SynshF4sx4Y	Rainbows and Rocket Engine	Rainbows and rocket engines – doesn't get much better than that! Check out these gorgeous aerial views from today's Space Launch System RS-25 engine test @NASA's Stennis Space Center.	Transcript Link
2017 02 22	NASA's Marshall Space Flight Center	https://youtu.be/u4VRD5cTNE4	A Rainbow View of NASA's RS-25 Engine Test	NASA engineers conducted their first RS-25 test of 2017 on the A-1 Test Stand at Stennis Space Center near Bay St. Louis, Mississippi, on Feb. 22, continuing to collect data on the performance of the rocket engine that will help power the new Space Launch System (SLS) rocket. Shown from the viewpoint of an overhead drone, the test of development engine No. 0528 ran the scheduled 380 seconds (six minutes and 20 seconds), allowing engineers to monitor various engine operating conditions. The test represents another step forward in development of the rocket that will launch humans aboard Orion deeper into space than ever before. Four RS-25 engines, together with a pair of solid rocket boosters, will power the SLS at launch on its deep-space missions. The engines for the first four SLS flights are former space shuttle main engines, which were tested extensively at Stennis and are some of the most proven engines in the world. Engineers are conducting an ongoing series of tests this year for SLS on both development and flight engines for future flights to ensure the engine, outfitted with a new controller, can perform at the higher level under a variety of conditions and situations. Stennis is also preparing its B-2 Test Stand to test the core stage for the first SLS flight with Orion, known as Exploration Mission-1. That testing will involve installing the flight stage on the stand and firing its four RS-25 engines simultaneously, just as during an actual launch. The Feb. 22 test was conducted by Aerojet Rocketdyne and Syncom Space Services engineers and operators. Aerojet Rocketdyne is the prime contractor for the RS-25 engines. Syncom Space Services is the prime contractor for Stennis facilities and operations.	Transcript Link

2017 02 14	NASA's Marshall Space Flight Center	https://youtu.be/dy-SY2_l6LI	Artist'S Conception Depicting A Small But Powerful Meteoroid Strike	This animation is an artist's conception depicting a small but powerful meteoroid strike on the surface of the moon. Scientists at NASA's Marshall Space Flight Center at the Automated Lunar and Meteor Observatory (ALaMO) in Huntsville, Ala., capture lunar impact flash video caused by such strikes several times a month. NASA is studying these impacts to help safeguard future lunar explorers and long-term science missions to the moon. (NASA)	Transcript Link
2017 02 14	NASA's Marshall Space Flight Center	https://youtu.be/bBMxgyCpKnc	Series of Lunar Impact Flashes	This video shows several lunar impact flashes and other events detected at the Automated Lunar and Meteor Observatory (ALaMO). It plays in real time. A green box marks the area where the flash was observed. (NASA)	Transcript Link
2017 02 06	NASA's Marshall Space Flight Center	https://youtu.be/x-apyBu1ZxY	Major fireball Northwest of Chicago, Feb 6, 2017	There was a very bright green fireball seen by hundreds of eyewitnesses surrounding Lake Michigan early this morning at 1:25:13 AM Central Time (2017 February 6 7:25:13 UTC). The reports from these individuals and the video information from dash cameras and other cameras in the region indicate that the meteor originated 62 miles above West Bend, Wisconsin and moved northeast at about 38,000 miles per hour. It disrupted about 21 miles above Lake Michigan, approximately 9 miles east of the town of Newton. The explosive force of this disruption was recorded on an infrasound station in Manitoba, some 600 miles away - these data put the lower limit energy of the event at about 10 tons of TNT, which means we are dealing with a meteoroid - orbit indicates an asteroidal fragment - weighing at least 600 pounds and 2 feet in diameter. Doppler weather radar picked up fragments (meteorites) falling into Lake Michigan near the end point of the trajectory.	Transcript Link

2017 01 27	NASA's Marshall Space Flight Center	https://youtu.be/OevodZJZrOI	Major Review Completed for NASA's New SLS Exploration Upper Stage	As shown in this new animation, future configurations of NASA's Space Launch System rocket will include a powerful exploration upper stage (EUS) with four RL10C-3 engines. This is the part of the rocket that continues to operate after launch and ascent. The EUS will use an 8.4-meter diameter liquid hydrogen tank and a 5.5-meter diameter liquid oxygen tank. A new universal stage adapter will connect the EUS to the NASA's Orion spacecraft, and be capable of carrying large co-manifested payloads, such as a habitat, on the same flight as Orion. NASA successfully completed a preliminary design review for the EUS in late January. Now, the SLS team will start developing components and materials for the EUS, and build up tooling. The EUS is first slated to be part of the 105-metric-ton SLS that will be the first flight carrying Orion and astronauts. The detailed assessment is a step forward for the agency's capabilities for human and robotic missions to deep space including future missions to Mars.	Transcript Link
2017 01 25	NASA's Marshall Space Flight Center	https://youtu.be/ZCzIZdmBSS8	Marshall Installs Receiving Antenna for Next-Generation Weather Satellites	Technicians assemble a hefty segment of a new antenna system in this 30-second time-lapse video captured Dec. 16 at NASA's Marshall Space Flight Center. The high-performance ground station is designed to receive meteorological and space weather data from instruments flown on the National Oceanic and Atmospheric Administration's new, game-changing Geostationary Operational Environmental Satellite series. The six-meter dish antenna near Building 4316 expands the capacity of Marshall's Earth Science Office to use real-time GOES observations for studies of Earth and to deliver new forecasting, warning and disaster response tools to partners around the world. (NASA/MSFC)	0
2017 01 24	NASA's Marshall Space Flight Center	https://youtu.be/TiHYN3307zk	Wind Tunnel Testing Underway for Next, More Powerful Version of NASA SLS Rocket	Engineers at NASA's Langley Research Center and Ames Research Center are running tests in supersonic wind tunnels to develop the next, more powerful version of the world's most advanced launch vehicle, the Space Launch System -- capable of carrying humans to deep space destinations. The new wind tunnel tests are for the second generation of SLS. It will deliver a 105-metric-ton (115-ton) lift capacity and will be 364 feet tall in the crew configuration -- taller than the Saturn V that launched astronauts on missions to the moon. The rocket's core stage will be the same, but the newer rocket will feature a powerful exploration upper stage. On SLS's second flight with Orion, the rocket will carry up to four astronauts on a mission around the moon, in the deep-space proving ground for the technologies and capabilities needed on NASA's Journey to Mars.	0

2017 01 09	NASA's Marshall Space Flight Center	https://youtu.be/WcEDJOWka58	Hidden Figures To Modern Figures Students See SLS Rocket at Michoud	New Orleans teacher Katherine Michelle Sanders of St. Peter Claver School, takes her 7th grade science on a tour of nearby NASA's Michoud Assembly Facility to see where the Space Launch System - the world's most powerful rocket - is being built. Sanders is the granddaughter of famed NASA scientist Katherine Johnson who was featured in the book and movie, Hidden Figures. Sanders discusses how her grandmother's work inspired her and why she wanted her students to learn about NASA's plan to explore deep space. Sanders followed her grandmother's footsteps, as Katherine Johnson was also a teacher before going to work for the National Advisory Committee for Aeronautics (NACA) and later at NASA's Langley Research Center as a human computer. Due to Johnson's historical role as one of the first African-American women to work as a NASA scientist, she was awarded the Presidential Medal of Freedom by President Barack Obama in 2015. In this video, Michoud Director Bobby Watkins and NASA engineer Renee Horton speak with the students about key components building the SLS rocket, including the Vertical Assembly Center - a large robotic tool for manufacturing hardware - and a liquid hydrogen tank that will hold fuel for the first mission, and a liquid hydrogen tank that will hold fuel for the first SLS mission. For more information on SLS, visit www.nasa.gov/sls. For more information on Michoud Assembly Facility, visit	Transcript Link
2017 01 09	NASA's Marshall Space Flight Center	https://youtu.be/BLVtS34qyzs	Up, Up Up in 60 Seconds Watch Rocket Test Stand Soar to 221-Feet Tall	In this 60-second time-lapse video, watch structural Test Stand 4693 at NASA's Marshall Space Flight Center rise 221 feet, from the start of construction in May 2014 to its end in December 2016. Test Stand 4693 will subject the 537,000-gallon liquid hydrogen tank of the Space Launch System's massive core stage to the same stresses and pressures it must endure at launch and in flight.	0

2016 12 22	NASA's Marshall Space Flight Center	https://youtu.be/0m18t0ewia0	2016 Year in Review Video NASA's Marshall Space Flight Center	The work underway today at NASA's Marshall Space Flight Center is making it possible to send humans beyond Earth's orbit and into deep space on bold new missions of space exploration. Marshall teams are designing and building NASA's Space Launch System, the most powerful rocket ever built and the only launch vehicle capable of launching human explorers to Mars. Using the International Space Station's orbiting lab, Marshall flight controllers provided round-the-clock oversight of science experiments, supporting the first-ever DNA sequencing in space, pioneering 3-D printing capabilities and advancing human health research. Several successful New Frontiers deep-space robotic missions including OSIRIS-REx, New Horizons and Juno, made new discoveries and refined theories of the solar system. And Marshall collaborations with outside partners are yielding innovative technologies and solving technical challenges that are making the Journey to Mars a reality.	Transcript Link
2016 12 15	NASA's Marshall Space Flight Center	https://youtu.be/wzg2eCxCG54	Join Us on the Job Site of Testing NASA's Deep-Space Rocket – in 360!	Feel like a part of the team getting ready to test the world's most powerful rocket, NASA's Space Launch System! This 360-degree timelapse video gives an inside look at the work going on ahead of major testing for the upper part of the SLS at a test stand at NASA's Marshall Space Flight Center in Huntsville, Alabama. Test versions of the hardware are now being stacked and will undergo a rigorous test series in 2017 -- being pushed, pulled and twisted to ensure each structure can withstand the incredible stresses of launch. The hardware being lifted into the test stand at the start of the 360 experience is a test version of the Orion stage adapter – which will connect the Orion spacecraft to the interim cryogenic propulsion stage (ICPS). The ICPS is a liquid oxygen/liquid hydrogen-based system that will give Orion the in-space push needed to fly beyond the moon before it returns to Earth on the first flight of SLS and Orion in late 2018. Go to the right, and look way up to see one of the new test stands that will put the SLS liquid oxygen tank under pressure to verify the hardware can handle the harsh environments of space travel. To the left is a historic NASA test stand where testing was done on the Saturn V rocket and space shuttle propulsion systems. The liquid oxygen tank -- along with a liquid hydrogen tank -- will be two of the largest fuel tanks in the world to power SLS on missions to deep space, including NASA's Journey to Mars. For more information on the test series, visit: http://go.nasa.gov/2hKhEoR. To learn more about SLS, visit: www.nasa.gov/sls	Transcript Link

2016 12 08	NASA's Marshall Space Flight Center	https://youtu.be/d3BfLevO6sc	NASA Engineers Test Combustion Chamber to Advance 3-D Printed Rocket Engine Design	A series of test firings like this one in late August brought a group of engineers at NASA's Marshall Space Flight Center in Huntsville, Alabama, a big step closer to their goal of a 100-percent 3-D printed rocket engine, said Andrew Hanks, test lead for the additively manufactured demonstration engine project. The main combustion chamber, fuel turbopump, fuel injector, valves and other components used in the tests were of the team's new design, and all major engine components except the main combustion chamber were 3-D printed. (NASA/MSFC)	0
2016 11 22	NASA's Marshall Space Flight Center	https://youtu.be/4wlcFU1Le4U	No Small Steps Episode 4 Working with Gravity	The fourth installment of this video series discusses how working with gravity, instead of against it, is the easiest way to get something where we want it to go and how NASA's Space Launch System (SLS) will do this to send missions to Mars. Host Stephen Granade explains how rockets deliver spacecraft into Earth orbit, and how that process resembles and differs from a trajectory to Mars. For more information on SLS, visit www.nasa.gov/sls.	Transcript Link
2016 11 16	NASA's Marshall Space Flight Center	https://youtu.be/R5qfrCLhTcg	The New Universe	In the late 1970s, NASA launched a series of three High Energy Astronomy Observatories (HEAO). The purpose of these observatories was to obtain high quality, high resolution data on cosmic ray, gamma ray and x-ray sources and to answer the questions surounding such topics as quasars, pulsars, and black holes. This film, produced before the launch of any of the observatories, provides an overview of many key discoveries in the field of astrophysics to that point while also discusses the key breakthroughs expected from the HEAO missions.	Transcript Link
2016 10 20	NASA's Marshall Space Flight Center	https://youtu.be/r2iG5SgLmzw	Launch Vehicle Stage Adapter from Start to Stack	See how a test version of the launch vehicle stage adapter (LVSA) for NASA's new rocket, the Space Launch System, is designed, built and stacked in a test stand at the agency's Marshall Space Flight Center in Huntsville, Alabama. The LVSA was moved to a 65-foot-tall test stand Oct. 12 at Marshall. The test version LVSA will be stacked with other test pieces of the upper part of the SLS rocket and pushed, pulled and twisted as part of an upcoming test series to ensure each structure can withstand the incredible stresses of launch. The LVSA joins the core stage simulator, which was loaded into the test stand Sept. 21. The other three qualification articles and the Orion simulator will complete the stack later this fall. Testing is scheduled to begin in early 2017. SLS will be the world's most powerful rocket, and with the Orion spacecraft, take astronauts to deep-space destinations, including the Journey to Mars. More information on the upcoming test series can be found here: http://go.nasa.gov/2dS8yXB	Transcript Link

2016 10 19	NASA's Marshall Space Flight Center	https://youtu.be/M2NJ92xBlo4	NASA Hispanic Heritage Month Employee Profile Gustavo Martinez - Marshall Space Flight Center	In observance of National Hispanic Heritage Month, Gustavo Martinez, a propulsion engineer at NASA's Marshall Space Flight Center, is featured in this video profile. Martinez, a first-generation American of Mexican descent, earned his bachelors and masters in mechanical engineering from the University of Texas at El Paso. He works in the Liquid Engine System Branch of Marshall's Propulsion Systems Department, supporting RS-25 engine systems analysis and test preparations for NASA's Space Launch System. National Hispanic Heritage Month honors the cultures and contributions of Americans whose ancestors originated from Spain, Mexico, the Caribbean and Central and South America. The observation started in 1968 as Hispanic Heritage Week under President Lyndon Johnson and was expanded into law by President Ronald Reagan in 1988.	0
2016 10 13	NASA's Marshall Space Flight Center	https://youtu.be/U-2PPmY3HLg	Watch 60-Seconds of Major SLS Hardware Being Moved and Put in the Test Stand at NASA Marshall	A test version of the launch vehicle stage adapter (LVSA) for NASA's new rocket, the Space Launch System, is moved to a 65-foot-tall test stand at the agency's Marshall Space Flight Center in Huntsville, Alabama. The test version LVSA will be stacked with other test pieces of the upper part of the SLS rocket and pushed, pulled and twisted as part of an upcoming test series to ensure each structure can withstand the incredible stresses of launch. The LVSA joins the core stage simulator, which was loaded into the test stand Sept. 21. The other three qualification articles and the Orion simulator will complete the stack later this fall. SLS will be the world's most powerful rocket, and with the Orion spacecraft, take astronauts to deep-space destinations, including the Journey to Mars. More information on the upcoming test series can be found here: http://go.nasa.gov/2dS8yXB	0
2016 10 13	NASA's Marshall Space Flight Center	https://youtu.be/9XM0tLdOOkY	SLS Rocket Hardware Moved to NASA Marshall Stand for Upcoming Test Series (30-second timelapse)	A test version of the launch vehicle stage adapter (LVSA) for NASA's new rocket, the Space Launch System, is moved to a 65-foot-tall test stand at the agency's Marshall Space Flight Center in Huntsville, Alabama. The test version LVSA will be stacked with other test pieces of the upper part of the SLS rocket and pushed, pulled and twisted as part of an upcoming test series to ensure each structure can withstand the incredible stresses of launch. The LVSA joins the core stage simulator, which was loaded into the test stand Sept. 21. The other three qualification articles and the Orion simulator will complete the stack later this fall. SLS will be the world's most powerful rocket, and with the Orion spacecraft, take astronauts to deep-space destinations, including the Journey to Mars. More information on the upcoming test series can be found here: http://go.nasa.gov/2dS8yXB	0

2016 10 07	NASA's Marshall Space Flight Center	https://youtu.be/KJoe3M1eJ3w	Moving, Moving, Moving A Giant Rocket Fuel Tank	Technicians moved a giant fuel tank from the Vertical Assembly Center where the tank recently completed friction stir welding to an adjacent work area at NASA's Michoud Assembly Facility in New Orleans. More than 1.7 miles of welds have been completed for core stage hardware at Michoud. This liquid hydrogen fuel tank is the largest piece of the core stage that will provide the fuel for the first flight of NASA's new rocket, the Space Launch System, with the Orion spacecraft in 2018. The tank is more than 130 feet long, and together with the liquid oxygen tank holds 733,000 gallons of propellant to feed the vehicle's four RS-25 engines to produce a total of 2 million pounds of thrust. SLS will have the power and capacity to carry humans to Mars. For more information on the core stage: http://www.nasa.gov/exploration/systems/sls/multimedia/images.html Video Credit: NASA/MAF/Eric Bordelon	Transcript Link
2016 09 27	NASA's Marshall Space Flight Center	https://youtu.be/uyYJR5DJEB8	Ride With Astronauts In Flyby Salute to Marshall Center Test Stand Construction Teams	NASA astronaut Don Pettit captured this video from the cockpit with Victor Glover as they and fellow astronauts Barry "Butch" Wilmore and Stephanie Wilson banked low over Marshall Space Flight Center at Huntsville, Alabama, saluting to teams finishing construction of Test Stand 4697. In the short video edited by Pettit, viewers fly along from the astronauts' takeoff in two NASA T-38 jets from Ellington Field Joint Reserve Base in Houston to their landing at Huntsville International Airport for meetings at Marshall. (NASA/Don Pettit)	0
2016 09 27	NASA's Marshall Space Flight Center	https://youtu.be/ugBEZm-7lUg	New Marshall Center Test Stand 4697 Construction Time-Lapse	In less than two minutes watch structural Test Stand 4697 rise at NASA's Marshall Space Flight Center from the start of construction in May 2014 to the end of the stand's construction phase in September 2016. The stand will subject the 196,000-gallon liquid oxygen tank of the Space Launch System's massive core stage to the same stresses and pressures it must endure at launch and in flight. Now, Marshall teams are installing sophisticated fluid transfer and pressurization systems, hydraulic controls, electrical control and data systems, fiber optics cables and special test equipment to prepare for the arrival of the test tank in 2017. (NASA/MSFC/David Olive)	Transcript Link

2016 09 21	NASA's Marshall Space Flight Center	https://youtu.be/BA6qN1LPbfM	CubeSat Mission Near-Earth Asteroid Scout (animation only, no audio)	The Near-Earth Asteroid Scout, or NEA Scout, is a robotic reconnaissance mission that will deploy a 6U CubeSat to fly by and return data from an asteroid representative of possible human destinations. Using a solar sail for its propulsion system, it will perform reconnaissance of an asteroid, take pictures and observe its position in space. Launching on NASA's Space Launch System rocket, the CubeSat deployment animation starts at the 1:25 timecode with the solar sail deployment animation beginning at the 2:54 timecode. The NEA Scout team is currently evaluating a range of targets, and is continually updating the candidate pool based on new discoveries and expected performance. NEA Scout is one of three payloads selected by NASA's Human Exploration and Operations Mission Directorate. These small satellites were chosen to address Strategic Knowledge Gaps (SKGs) and help inform research strategies and prioritize technology development for future human and robotic exploration. It is being developed at NASA's Marshall Space Flight Center in Huntsville, Alabama. Learn more by visiting http://www.nasa.gov/content/nea-scout	Transcript Link
2016 09 16	NASA's Marshall Space Flight Center	https://youtu.be/JDuBLdCaxHo	NASA SLS Booster Nozzle Plug Pieces Fly During Test	On June 28, a test version of the booster that will help power NASA's new rocket, the Space Launch System, fired up at nearly 6,000 degrees Fahrenheit for a successful, two-minute qualification test at Orbital ATK's test facilities in Promontory, Utah. This video shows the booster's nozzle plug intentionally breaking apart. The smoky ring coming off the booster is condensed water vapor created by a pressure difference between the motor gas and normal air. The nozzle plug is an environmental barrier to prevent heat, dust and moisture from getting inside the booster before it ignites. The plug isn't always part of a static test but was included on this one due to changes made to the hardware. The foam on the plug is denser than previous NASA launch vehicles, as the engines are now in the same plane as the boosters. A numbered grid was placed on the exterior of the plug before the test so the pieces retrieved could support plug breakup assessment and reconstruction. Along with video, collecting the pieces helps determine the size and speed of them when they break apart. Nozzle plug pieces were found as far as 1,500 to 2,000 feet away from the booster. This is the last full-scale qualification test for the booster before the first, uncrewed flight of SLS with the Orion spacecraft in 2018.	Transcript Link

2016 09 14	NASA's Marshall Space Flight Center	https://youtu.be/8ZsatEhX9PI	Hinode 10th Anniversary of Its Launch	Launched on Sept. 23, 2006, the Hinode solar observing satellite changed our view of the sun by providing the highest-resolution images of its innermost atmosphere and the most sensitive magnetic field measurements available from space. Ten years later, Hinode continues to reveal dynamic solar phenomena in spectacular detail through nearly a full solar cycle. To celebrate Hinode's 10th anniversary, this video from the Japanese Aerospace Exploration Agency (JAXA) and National Astromonical Observatory of Japan (NAOJ) features highlights captured during the satellite's first decade in space. The Hinode mission is led by JAXA, with participation from NASA and the United Kingdom and European Space Agencies. Credit: JAXA/NAOJ	Transcript Link
2016 08 16	NASA's Marshall Space Flight Center	https://youtu.be/-IcPrSIjxnc	Done in 60 seconds See a Massive Rocket Fuel Tank Built in A Minute	It took a lot longer than 60 seconds to weld the massive 130-foot rocket fuel tank. This time-lapse video shows the construction and rotation of the liquid hydrogen tank for the core stage of NASA's Space Launch System rocket -- the new heavy-lift rocket being built in the Vehicle Assembly Center at NASA's Michoud Assembly Facility in New Orleans. There are two views, looking down as the tank is assembled and then looking up. The hydrogen tank comprises nearly two-thirds of the length of the 212-foot-long core stage and will help quench the thirst of the four RS-25 engines that, along with the twin solid rocket boosters, will launch the Orion spacecraft and carry crew to deep space destination and eventually Mars. This qualification tank will be moved to NASA's Marshall Space Flight Center in Huntsville, Alabama, for structural testing. Testing ensures the flight articles will be able to sustain the extreme forces experienced during launch. Tanks and other parts of the core stage that will be flown on the maiden flight of SLS and Orion are also under construction at Michoud. For more about NASA's Space Launch System, visit www.nasa.gov/sls.	Transcript Link
2016 07 20	NASA's Marshall Space Flight Center	https://youtu.be/8PQ2Z_HIvfA	NASA Completes First Round of Composite Shell Buckling Tests with a Bang	During the test, force is increasingly applied to the top of a composite barrel to evaluate the structural integrity of the test article. The resulting data will help engineers in the design and build of primary structures for future launch vehicles.	0

2016 07 05	NASA's Marshall Space Flight Center	https://youtu.be/meYBsM6A6M4	NASA eCryo Team Strives to Keep Cool in Glenn Test Facility	This time-lapse video shows engineers changing out material samples used to test the thermal properties of multilayer insulating blankets -- part of the “Calorimeter for the Measurement of thermal Performance At Cryogenic Temperatures” test or CoMPACT. It is one of numerous efforts underway in support of the Evolved Cryogenics project, or eCryo, led by NASA’s Glenn Research Center in Cleveland, Ohio. Working at Glenn’s world-class Creek Road Cryogenic Research Complex, the eCryo team used the samples, called “coupons,” to determine how heat load – the amount of ambient or applied heat that must be deflected to avoid loss of desired fuel temperatures – is transferred through seams in the insulating blankets, impacting the deep-cold liquid propellants typically used to power vehicles to space. “Measuring the thermal performance of these coupons will help us design better, more efficient multilayer insulation for spaceflight applications, mitigating heat loading that causes fluctuation of cryogenic temperatures,” said Wesley Johnson, a Glenn cryogenic research engineer. The eCryo project is a NASA Technology Demonstration Mission, part of a series of development efforts that bridges the gap between significant science and engineering challenges and the technological innovations needed to overcome them, thereby enabling robust new NASA and commercial space missions. (Video: NASA/GRC/Christopher Lynch)	Transcript Link
2016 06 29	NASA's Marshall Space Flight Center	https://youtu.be/_cxgc9UjtU8	SLS Booster Test 360 View	The second qualification test for the Space Launch System solid rocket booster was completed June 28, 2016 in Promontory, Utah at the Orbital ATK facilities. The test helped qualify the booster for flight. This view is from the public area where over 5,000 people came to view the test. SLS is powered by two five-segment solid rocket boosters and four RS-25 engines. The first flight of SLS and the Orion spacecraft is planned for late 2018 from NASA's Kennedy Space Center in Florida.	Transcript Link
2016 06 28	NASA's Marshall Space Flight Center	https://youtu.be/7yT8Sc-ifZw	NASA's Space Launch System Booster Passes Major Milestone on Journey to Mars (QM-2)	A booster for the most powerful rocket in the world, NASA’s Space Launch System (SLS), was fired up Tuesday, June 28 at 11:05 a.m. EDT for a second qualification ground test at Orbital ATK's test facilities in Promontory, Utah. This was the last full-scale test for the booster before SLS is ready in 2018 for the first uncrewed test flight with NASA’s Orion spacecraft, marking a key milestone on the agency’s Journey to Mars. The booster was tested at a cold motor conditioning target of 40 degrees Fahrenheit –the colder end of its accepted propellant temperature range. When ignited, temperatures inside the booster reached nearly 6,000 degrees. The two-minute, full-duration ground qualification test provided NASA with critical data on 82 qualification objectives that will support certification of the booster for flight. Engineers now will evaluate test data captured by more than 530 instrumentation channels on the booster.	0

2016 06 27	NASA's Marshall Space Flight Center	https://youtu.be/0_l4n4CKpR8	NASA SLS Booster (360 Video)	Check out the world's most powerful booster for NASA's new rocket, the Space Launch System, in 360! The booster, seen in the test house at Orbital ATK's test facilities in Promontory, Utah, will fire up for a major ground test June 28, 2016. This is the last full-scale qualification test for the booster before the first, uncrewed flight of NASA's new rocket, the http://www.nasa.gov/exploration/systems/sls/index.html, with the Orion spacecraft in 2018. For more information on SLS, visit http://www.nasa.gov/exploration/systems/sls/	Transcript Link
2016 06 24	NASA's Marshall Space Flight Center	https://youtu.be/c-xrhYKC0q4	Space Launch System Booster Test Behind the Scenes	Get a sneak peek behind the scenes of how engineers and technicians at Orbital ATK in Promontory, Utah, are coming together to test the most powerful booster for NASA's new rocket, the Space Launch System. SLS will make missions possible to an asteroid and the journey to Mars. For more information on SLS, visit www.nasa.gov/sls.	Transcript Link
2016 06 22	NASA's Marshall Space Flight Center	https://youtu.be/A1vGQDDjud8	Get Ready for the Final, Full-Scale SLS Booster Test	The largest, most powerful rocket booster built for flight will fire up for a major ground test June 28 at Orbital ATK's test facilities in Promontory, Utah. This is the last, full-scale qualification test for the booster before the first, uncrewed flight of NASA's new rocket, the Space Launch System, with the Orion spacecraft in 2018. More information about the test can be found at: http://www.nasa.gov/exploration/systems/sls/sls-booster-chills-out-ahead-of-hot-ground-test.html. Learn more about SLS at www.nasa.gov/sls. #SLSFiredUp	Transcript Link
2016 06 17	NASA's Marshall Space Flight Center	https://youtu.be/9PKmIjjYZDI	The U.S. Space & Rocket Center's "ISS Science on Orbit" Exhibit	The exhibit provides visitors with a true sense of what it's like to live and work in space. This 360-degree image features views from ISS demo modules containing 20 full-scale replica racks that illustrate the Environmental Control and Life Support Systems, the food astronauts consume, as well as a sleeping berth and other necessary aspects of life and work aboard the station. A connecting node contains a full-scale replica of the Cupola Observation Module, which provides ISS astronauts their view of space and the Earth below. Explore this demo in 3D using the Google Cardboard App and Goggles!	Transcript Link

2016 06 15	NASA's Marshall Space Flight Center	https://youtu.be/SSg1gH76WRw	Student Design Printed on ISS 3-D Printer	The winning entry in the Future Engineers Space Tool Challenge is printed in the Additive Manufacturing Facility on the International Space station. This time-lapse video shows the creation of the Multipurpose Precision Maintenance Tool created by University of Alabama in Huntsville student Robert Hillan.	Transcript Link
2016 05 24	NASA's Marshall Space Flight Center	https://youtu.be/akU5bkdm3TE	May 20, 2016 Administrator Bolden Press Conference at Marshall	NASA Administrator Charles Bolden presented the Small Business Administrator's Cup -- awarded for managing the agency's most effective small business program -- to NASA's Marshall Space Flight Center in Huntsville, Ala. It is the fifth time in eight years Marshall has earned the prize, which honors innovative practices that promote small business participation in a variety of NASA initiatives, and recognizes the winning center's significant contributions to the agency's small business programs. The award is sponsored annually by NASA's Office of Small Business Programs. Following the award ceremony, Bolden met with the media.	Transcript Link
2016 05 12	NASA's Marshall Space Flight Center	https://youtu.be/Ki13Zln3Muw	Hinode Observes Mercury Transit	Using its X-Ray Telescope, Hinode captures light from coronal material at millions of degrees. On May 9th, Hinode tracked Mercury on its transit across the sun using this telescope. The apparent wobble of Mercury's path in front of the sun is an optical effect, called parallax, caused by Hinode's changing perspective as it orbits the Earth. (JAXA/NASA/Smithsonian Astrophysical Observatory, Montana State University)	Transcript Link
2016 05 05	NASA's Marshall Space Flight Center	https://youtu.be/teIZcESrNBQ	Fireball Over Tennessee and North Carolina	We observed a fireball the morning of May 4 around 12:50am EDT, traveling southwest at about 77,000 mph over the Nantahala National Forest on the Tennessee/North Carolina state line. At its brightest point, it rivaled the full moon. According to Dr. Bill Cooke in NASA's Meteoroid Environment Office at NASA's Marshall Space Flight Center in Huntsville, Ala. , "The fireball was bright enough to be seen through clouds, which is an attention getter. In Chickamauga, Ga., one would have thought it was a flash of lightning lighting up the clouds beneath."	Transcript Link

2016 05 04	NASA's Marshall Space Flight Center	https://youtu.be/A0GJ-1ZWyXE	NASA’s $5 Million Cube Quest Challenge Advancing Small Satellite Technology	The Cube Quest competition offers a total of $5 million to teams that meet the challenge objectives of designing, building and delivering flight-qualified, small satellites capable of advanced operations near and beyond the moon. To learn more, visit http://www.nasa.gov/directorates/spacetech/centennial_challenges/cubequest/index.html	0
2016 05 04	NASA's Marshall Space Flight Center	https://youtu.be/WqcBpZKRReI	Calling All Makers, Dreamers, Inventors, Artists to Be a Part of NASA	NASA’s Centennial Challenges Program offers incentive prizes to generate revolutionary solutions to problems of interest to NASA and the nation. The program seeks innovations from diverse and non-traditional sources. Competitors are not supported by government funding and awards are only made to successful teams when the challenges are met. In keeping with the spirit of the Wright Brothers and other American innovators, the Centennial Challenge prizes are offered to independent inventors including small businesses, student groups and individuals. These independent inventors are sought to generate innovative solutions for technical problems of interest to NASA and the nation and to provide them with the opportunity to stimulate or create new business ventures. To learn more, visit http://www.nasa.gov/directorates/spacetech/centennial_challenges/index.html	Transcript Link
2016 05 04	NASA's Marshall Space Flight Center	https://youtu.be/r20sqAWFlw4	Laser Geodynamics Satellite B-roll footage (No Sound)	This 1975 NASA video highlights the development of LAser GEOdynamics Satellite (LAGEOS I). LAGEOS I is a passive satellite constructed from brass and aluminum and contains 426 individual precision reflectors made from fused silica glass. The mirrored surface of the satellite was designed to reflect laser beams from ground stations for accurate ranging measurements. LAGEOS I was launched on May 4, 1976 from Vandenberg Air Force Base, California. The two-foot diameter, 900-pound satellite orbited the Earth from pole to pole, measuring the movements of the Earth's surface relative to earthquakes, continental drift, and other geophysical phenomena. Scientists at NASA's Marshall Space Flight Center in Huntsville, Alabama came up with the idea for the satellite and built it at the Marshall Center.	Transcript Link

2016 05 04	NASA's Marshall Space Flight Center	https://youtu.be/zWphd6HAaHA	Laser Geodynamics Satellite (LAGEOS)	This 1975 NASA video highlights the development of LAser GEOdynamics Satellite (LAGEOS I) developed at NASA's Marshall Space Flight Center in Huntsville, Alabama. LAGEOS I is a passive satellite constructed from brass and aluminum and contains 426 individual precision reflectors made from fused silica glass. The mirrored surface of the satellite was designed to reflect laser beams from ground stations for accurate ranging measurements. LAGEOS I was launched on May 4, 1976 from Vandenberg Air Force Base, California. The two-foot diameter, 900-pound satellite orbited the Earth from pole to pole, measuring the movements of the Earth's surface relative to earthquakes, continental drift, and other geophysical phenomena. Scientists at NASA's Marshall Space Flight Center in Huntsville, Alabama came up with the idea for the satellite and built it at the Marshall Center.	Transcript Link
2016 04 21	NASA's Marshall Space Flight Center	https://youtu.be/-Ufd2aV4Qa8	Marshall Tests 3D-Printed, Methane-Powered Turbopump	This video shows a test with at 3-D printed turbopump made with 45 percent fewer parts than traditionally manufactured rocket fuel pumps. The pump's turbine spins at more than 36,000 revolutions per minute. As the turbopump moves 600 gallons of liquid methane per minute, frost forms on the outside because the fuel is super-cooled to -255 degrees Fahrenheit. Methane burns out the flame pipe at the end of the test area. Learn more about this test at: http://www.nasa.gov/centers/marshall/news/news/releases/2016/nasa-rocket-fuel-pump-tests-pave-way-for-methane-fueled-mars-lander.html	Transcript Link
2016 04 20	NASA's Marshall Space Flight Center	https://youtu.be/8UpdnhOTlG4	Animation of Heliopause Electrostatic Rapid Transport System (HERTS)	Animation of Heliopause Electrostatic Rapid Transport System (HERTS) concept. NASA engineers are conducting tests to develop models for the Heliopause Electrostatic Rapid Transport System. HERTS builds upon the electric sail invention of Dr. Pekka Janhunen of the Finnish Meteorological Institute. An electric sail could potentially send scientific payloads to the edge of our solar system, the heliopause, in less than 10 years. The research is led by Bruce M. Wiegmann, an engineer in the Advanced Concepts Office at NASA's Marshall Space Flight Center. The HERTS E-Sail development and testing is funded by NASA's Space Technology Mission Directorate through the NASA Innovative Advanced Concepts Program. For more information: http://www.nasa.gov/centers/marshall/news/news/releases/2016/nasa-begins-testing-of-revolutionary-e-sail-technology.html	Transcript Link

2016 04 15	NASA's Marshall Space Flight Center	https://youtu.be/XEUsvEULsVg	360 Video 2016 Human Exploration Rover Challenge	The 2016 Human Exploration Rover Challenge was held April 8-9, 2016, at the U.S. Space & Rocket Center in Huntsville, Ala. and our 360 cameras were able to get in on the action and ride with Auburn University as they traversed the course. Managed by Marshall's Academic Affairs Office, Rover Challenge highlights NASA's goals for future exploration to Mars and beyond. The event challenges students to solve engineering problems, while highlighting NASA's commitment to inspiring new generations of scientists, engineers and explorers. This year's event added two new and important changes. First, teams were required to design and fabricate their own wheels. Any component used to contact the course surface for traction and mobility had to be original and not an "off-the-shelf" or commercially available item. The second new feature was an optional Sample Retrieval Challenge, where teams attempted to collect four samples -- liquid, small pebbles, large rocks and soil samples -- using a mechanical arm or grabber they designed and built. This worldwide competition featured nearly 70 teams of high schools, colleges and universities students from 18 states and Puerto Rico, as well as a strong contingent of international teams from Germany, India, Mexico, Italy, and Russia.	Transcript Link
2016 04 13	NASA's Marshall Space Flight Center	https://youtu.be/LVzwf0nS-eE	Space Launch System Scale and Power (Animation) (version 1)	Animation depicting NASA's Space Launch System, the world's most powerful rocket for a new era of human exploration beyond Earth's orbit. With its unprecedented capabilities, SLS will launch astronauts in the agency's Orion spacecraft on missions to explore multiple, deep-space destinations, including Mars. Traveling to deep space requires a large vehicle that can carry huge payloads, and future evolutions of SLS with the exploration upper stage and advanced boosters will increase the rocket's lift capability and flexibility for multiple types of mission needs. For more information on SLS, visit http://www.nasa.gov/exploration/systems/sls/index.html.	Transcript Link
2016 04 08	NASA's Marshall Space Flight Center	https://youtu.be/Lnmkx8zsgbo	Building Up the Avionics System for SLS – in Just 60 Seconds	This time-lapse video shows how a half-ring structure at NASA's Marshall Space Flight Center in Huntsville, Alabama, is being built to test the avionics system that will guide the world's most powerful rocket, the Space Launch System, on deep-space missions, including Mars. The complex avionics system, housed in the SLS core stage, is made up of computers, software and related hardware systems. Avionics qualification testing began recently and is an important next step in ensuring the system is "go for launch" for the first flight of SLS in 2018. Engineers at Marshall's Systems Integration and Test Facility will run simulations in which the flight software works with the avionics just like they will work together to control the SLS during its launch and flight. For more information on SLS, visit www.nasa.gov/sls	Transcript Link

2016 04 06	NASA's Marshall Space Flight Center	https://youtu.be/d7OdzjY94P4	Welcome to Michoud Assembly Facility	Welcome to NASA’s Michoud Assembly Facility. This video highlights the procedures to enter and operate safely at MAF.	Transcript Link
2016 04 04	NASA's Marshall Space Flight Center	https://youtu.be/wTeabUg6KdA	Precision Meets Progress in Welding on SLS Liquid Oxygen Tank Hardware	A liquid oxygen tank confidence article for the world’s most powerful rocket, NASA’s Space Launch System, completes final welding on the Vertical Assembly Center at Michoud Assembly Facility in New Orleans. The liquid oxygen tank is one of two tanks that make up the SLS core stage. Towering more than 200 feet tall with a diameter of 27.6 feet, the core stage will store cryogenic liquid hydrogen and liquid oxygen that will feed the vehicle’s RS-25 engines. Confidence hardware verifies weld procedures are working as planned and tooling-to-hardware interfaces are correct. It will also be used in developing the application process for the thermal protection system, which is the insulation foam that gives the tank its orange color. The liquid oxygen tank is the smaller of the two tanks in the core stage. Components of the liquid hydrogen tank confidence article completed welding in February at Michoud. All welding for the SLS core stage for the Block I configuration of the rocket -- including confidence, qualification and flight hardware -- will be done this summer in preparation for its first flight with NASA's Orion spacecraft in 2018.	0
2016 03 25	NASA's Marshall Space Flight Center	https://youtu.be/gXMhOe1pRKc	Next Generation Rocket is the Work of Generations	Marshall Space Flight Center Aerospace Engineers Kathryn Crowe and Hugh Brady discuss working together on NASA’s Space Launch System. For more information on the multigenerational expertise and collaboration that’s helping build America’s next-generation heavy-lift launch vehicle, please see http://blogs.nasa.gov/Rocketology/2016/03/25/time-flies-next-generation-rocket-is-the-work-of-generations/	Transcript Link

2016 03 10	NASA's Marshall Space Flight Center	https://youtu.be/zJXQQv9UZNg	No Small Steps Episode 3 Rocket Fuel	The third installment of this video series takes a look at the basics of the monumental energy that makes NASA's Space Launch System (SLS) rocket go up. The initial configuration of the SLS uses two different means of powering itself during launch – solid rocket boosters and liquid-fuel engines. Host Stephen Granade explores why we have boosters and engines, the difference between the two and what role each plays during a launch. For more information on SLS, visit www.nasa.gov/sls For more information on engines: http://www.nasa.gov/sites/default/files/atoms/files/final_sls_rs25_engine_fact_sheet_508_11242015_0.pdf http://www.nasa.gov/exploration/systems/sls/multimedia/infographics.html?id=368371 http://www.nasa.gov/exploration/systems/sls/multimedia/infographics.html?id=368311 For more information on boosters: http://www.nasa.gov/sites/default/files/atoms/files/8690_sls_solid_rocket_booster_fact_sheetfinal03072015_508.pdf http://www.nasa.gov/sls/space-launch-system-boosters-101.html http://www.nasa.gov/exploration/systems/sls/multimedia/infographics.html?id=346301	Transcript Link
2016 03 10	NASA's Marshall Space Flight Center	https://youtu.be/b7PSEFxIIoM	Hinode Captures Video of Total Solar Eclipse	These stunning eclipse images, taken by Hinode's X-Ray Telescope (XRT), expose the hottest plasma in the Sun's atmosphere at above 2 million degrees. These regions are bright in X-rays but appear as dark sunspots in visible light and are responsible for the majority of our solar system's space weather.	Transcript Link
2016 02 11	NASA's Marshall Space Flight Center	https://youtu.be/fTyj9liLYsY	Work Begins on NASA SLS Core Stage Pathfinder	Major work is under way on a 213-foot, 230,000-pound simulation of the core stage of NASA's new rocket, the Space Launch System (SLS). The steel mockup, designed by engineers at NASA's Marshall Space Flight Center in Huntsville, Alabama, will be used to demonstrate core stage operations, transport and routes for testing, assembly and launch. Radiance Technologies of Huntsville recently was selected by NASA to build, assemble and transport the pathfinder vehicle. The low-cost, core stage reproduction will be built at Dynetics' facility in Huntsville and G&G Steel in Russellville, Alabama. The animation shows how the pathfinder will be placed vertically in the B-2 test stand at NASA's Stennis Space Center near Bay St. Louis, Mississippi. The test stand is being completely refurbished for core stage testing in 2017, and the pathfinder will be used to ensure all modifications made to that test stand meet SLS core stage specifications. More information can be found here: http://www.nasa.gov/exploration/systems/sls/work-begins-on-NASA-SLS-core-stage-pathfinder	Transcript Link

2016 02 04	NASA's Marshall Space Flight Center	https://youtu.be/DesBgDPR22Q	No Small Steps Episode 2 A Foundation for Mars	The second installment of this video series discusses how NASA's Space Launch System (SLS) builds on the foundation of the Saturn V and the Space Shuttle, and uses that foundation to create a rocket that will send humans to the Red Planet. Host Stephen Granade continues to explore how this rocket will be the most capable ever built for deep space destinations.	Transcript Link
2016 02 02	NASA's Marshall Space Flight Center	https://youtu.be/FhzyIWKvo9Q	Space Launch System Carries CubeSat Explorers During First Mission	The Space Launch System (SLS) and Orion spacecraft will not only take people on the most distant journeys to date but also open new frontiers for science and technology missions to deep space destinations. This animation shows how the SLS will transport CubeSats as secondary payloads on the Orion stage adapter during its first mission. For more information on SLS secondary payloads: http://www.nasa.gov/launching-science-and-technology.html (Video: NASA/MSFC)	Transcript Link
2016 01 12	NASA's Marshall Space Flight Center	https://youtu.be/XzyA9I3pwS0	Women@NASA 2015 Cindy Stemple	Cindy Stemple is the acting project manager for the SERVIR project, working in the coordination office at NASA's Marshall Space Flight Center, in Huntsville, Alabama. SERVIR -- a Spanish word meaning "to serve" -- is a joint venture between NASA and the U.S. Agency for International Development in Washington, providing satellite-based Earth monitoring, imaging and mapping data to help governments, forecasters, climatologists and other researchers track environmental changes, evaluate ecological threats and respond to and assess damage from natural disasters. To learn more about NASA SERVIR, please visit: http://www.nasa.gov/mission_pages/servir/ Learn more at: http://women.nasa.gov/	Transcript Link
2016 01 12	NASA's Marshall Space Flight Center	https://youtu.be/Q6Q3JPcuLvo	Women@NASA 2015 Seunghee Lee	Seunghee Lee works as the program senior integration engineer in the Space Launch System Program Chief Safety Mission Assurance Office at NASA's Marshall Space Flight Center, in Huntsville, Alabama. Additionally, as the Marshall range safety representative, she supports flight safety system development and provides range safety guidance to small rocket or unmanned aerial system flight programs at Marshall and at NASA's Michoud Assembly Facility, near New Orleans, which is also managed by Marshall. Learn more at: http://women.nasa.gov/	Transcript Link

2016 01 12	NASA's Marshall Space Flight Center	https://youtu.be/e3ZYIMxdPAQ	Women@NASA Rosalind Cylar	Rosalind Cylar serves as an attorney and advisor in the Office of Chief Counsel at NASA's Marshall Space Flight Center in Huntsville, Alabama. Cylar supports NASA by providing legal support to all of Marshall's programs, projects and institutional support offices. Learn more at: http://women.nasa.gov/	Transcript Link
2015 12 21	NASA's Marshall Space Flight Center	https://youtu.be/gUFFkrnE1pY	Powering NASA's Journey to Mars	From making rocket engines roar to analyzing the first 3-D printed parts created on the International Space Station and developing new technologies, 2015 was a year of discovery and progress as the team at NASA's Marshall Space Flight Center in Huntsville, Alabama, continued advancing critical systems needed for human space exploration to the Red Planet and deeper into the solar system than ever before.	Transcript Link
2015 12 18	NASA's Marshall Space Flight Center	https://youtu.be/rfsiXcaruxk	NASA 360 presents What Is Cube Quest	NASA's $5M Cube Quest Centennial Challenge hopes to accelerate the technological capabilities of tiny satellites — known as CubeSats — that may help the space agency achieve future mission goals faster and more affordably.	Transcript Link
2015 12 18	NASA's Marshall Space Flight Center	https://youtu.be/wGE7OQSCkyA	Bright Fireball Detected by 6 NASA All Sky Cameras	We have received numerous reports concerning a bright fireball that occurred over Georgia at 5:33:55 PM CST (6:33:55 PM EST). All 6 NASA all sky meteor cameras in the Southeast picked up the meteor at an altitude of 50 miles above the town of Georgia (SE of Atlanta). From its brightness, it is estimated that this piece of an asteroid weighed at least 150 pounds and was over 16 inches in diameter. It entered the atmosphere at a steep angle and moved almost due south at a speed of 29,000 miles per hour. The NASA cameras tracked it to an altitude of 17 miles above the town of Locust Grove, where it had slowed to a speed of 9000 miles per hour, at which point the meteor ceased producing light by burning up. It is possible that fragments of this object survived to reach the ground as meteorites.	Transcript Link

2015 12 18	NASA's Marshall Space Flight Center	https://youtu.be/pUDa0GOkkWQ	A Sharper Image of Space Exploration	From spectacular views of Earth to life on the International Space Station to vivid images of rocket launches, NASA's ultra high-definition (UHD), or 4K channel offers some of the clearest images ever made. NASA has been recording video aboard the International Space Station and other programs at a higher resolution than one can normally receive on the average high-definition television. This video filmed on a 4K camera in ultra-high definition features sharper images. Learn more about viewing this footage: http://www.nasa.gov/multimedia/nasatv/index.html (Video: NASA/MSFC video)	Transcript Link
2015 12 17	NASA's Marshall Space Flight Center	https://youtu.be/FeMzRUT46RE	3-D Printed Rocket Engine Roars To Life	A team at NASA's Marshall Space Flight Center in Huntsville, Alabama tested 3-D printed rocket engine parts connected together in the same fashion that they would work in a rocket engine. The parts performance rivaled that of traditionally manufactured engine parts. During six separate tests, the engine generated up to 20,000 pounds of thrust. For more information on the tests, visit http://www.nasa.gov/centers/marshall/news/news/releases/2015/piece-by-piece-nasa-team-moves-closer-to-building-a-3-d-printed-rocket-engine.html	Transcript Link
2015 12 17	NASA's Marshall Space Flight Center	https://youtu.be/gSkEu9_Wg7Y	Feeling the Force of a 3-D Printed Rocket Engine Test	A GoPro camera feels the force of 20,000 pounds of thrust during a test of 3-D engine rocket components tested together. http://www.nasa.gov/centers/marshall/news/news/releases/2015/piece-by-piece-nasa-team-moves-closer-to-building-a-3-d-printed-rocket-engine.html	Transcript Link
2015 12 17	NASA's Marshall Space Flight Center	https://youtu.be/Czkp5NIBPdg	A Bird's-Eye View of Smoke and Fire	An unmanned aerial vehicle captured this view of a 3-D printed rocket engine test. The test laboratory at NASA's Marshall Space Flight Center in Huntsville, Alabama, uses aerial cameras to contribute to imagery data analyzed after tests. http://www.nasa.gov/centers/marshall/news/news/releases/2015/piece-by-piece-nasa-team-moves-closer-to-building-a-3-d-printed-rocket-engine.html	Transcript Link

2015 12 17	NASA's Marshall Space Flight Center	https://youtu.be/oGWPR0mcCLs	3-D Printed Engine Tests What Is A Breadboard Engine	NASA propulsion engineer Nick Case explains how engineers configured engine parts to make and test additively manufactured engine parts as a system. Learn more about this test at: http://www.nasa.gov/centers/marshall/news/news/releases/2015/piece-by-piece-nasa-team-moves-closer-to-building-a-3-d-printed-rocket-engine.html	Transcript Link
2015 12 14	NASA's Marshall Space Flight Center	https://youtu.be/IG5O-A-0zTM	Meteor Moment Is it a Meteor, Meteoroid or Meteorite	Dr. Bill Cooke, of NASA's Meteoroid Environment Office, explains the differences between a meteor, a meteoroid and a meteorite. NASA's Meteoroid Environment Office (MEO) is the NASA organization responsible for meteoroid environments pertaining to spacecraft engineering and operations. The MEO leads NASA technical work on the meteoroid environment and coordinates the existing meteoroid expertise at NASA centers. The team is located at NASA's Marshall Space Flight Center in Huntsville, Alabama. To learn more about NASA's Meteoroid Environment Office, please visit: http://www.nasa.gov/offices/meo/home/ Follow MEO on social media at: https://www.facebook.com/NasaMeteorWatch/	Transcript Link
2015 12 12	NASA's Marshall Space Flight Center	https://youtu.be/vzHd-9j3h5c	Meteor Moment Meteors Come In All Shapes and Sizes	Rhiannon Blaauw, of NASA's Meteoroid Environment Office, explains why and how different sized meteors are studied by NASA. NASA's Meteoroid Environment Office (MEO) is the NASA organization responsible for meteoroid environments pertaining to spacecraft engineering and operations. The MEO leads NASA technical work on the meteoroid environment and coordinates the existing meteoroid expertise at NASA centers. The team is located at NASA's Marshall Space Flight Center in Huntsville, Alabama. To learn more about NASA's Meteoroid Environment Office, please visit: http://www.nasa.gov/offices/meo/home/ Follow MEO on social media at: https://www.facebook.com/NasaMeteorWatch/	Transcript Link

2015 12 01	NASA's Marshall Space Flight Center	https://youtu.be/JkA6T7oBfbM	Work Continues on Test Version of SLS Launch Vehicle Stage Adapter	Progress continues on a structural test article of the launch vehicle stage adapter (LVSA) for NASA's Space Launch System. The LVSA will connect two major sections of the SLS -- the core stage and the interim cryogenic propulsion stage (ICPS). Along with eight vertical welds, the forward and aft rings also have been completed for the LVSA structural test article. The LVSA structural test article will be stacked with other prototypes of the upper part of the rocket and tested in early 2016 at NASA's Marshall Space Flight Center in Huntsville, Alabama, to verify the integrity of the hardware and ensure it can withstand the loads it may experience during flight. Teledyne Brown Engineering of Huntsville is the prime contractor on the LVSA work. When completed, SLS will be the most powerful rocket ever built for deep-space missions, including to an asteroid and ultimately to Mars.	Transcript Link
2015 11 10	NASA's Marshall Space Flight Center	https://youtu.be/TOYXa9jx-TI	No Small Steps Episode 1 Getting to Mars	NASA's new rocket, the Space Launch System, will meet the challenges of exploring deep space. And when it comes to NASA's journey of Mars and beyond, there are no small steps. Stephen Granade talks how SLS will be the most capable rocket ever built for that trip to the Red Planet and other destinations in the solar system. This is the first video in a set of three.	Transcript Link
2015 10 28	NASA's Marshall Space Flight Center	https://youtu.be/KCVfBuxfUbc	Marshall Engineers Test Methane-Powered Thruster for Next Generation Landers	A thruster — the combination of an injector and chamber — roared to life in a series of tests recently at Marshall's Test Stand 115. The distinct blue flame is produced by the thruster's fuel, methane. Methane is a promising fuel for the journey to Mars, as it is more stable than liquid hydrogen, can be stored at more manageable temperatures and could be produced on Mars from local resources, using in-situ resource utilization. Data gathered from testing will be used to develop an optimized thruster assembly that could support engine designs for a Mars lander and many other in-space applications.	0
2015 10 22	NASA's Marshall Space Flight Center	https://youtu.be/VhPfy9iE52g	Images from the Peak of the Orionid Meteor Shower 2015	A bright Orionid is captured on the peak night of the shower by a NASA all sky meteor camera in western North Carolina.	Transcript Link

2015 10 22	NASA's Marshall Space Flight Center	https://youtu.be/qxgRP2XjYjg	NASA’s Space Launch System Program Completes Critical Design Review	NASA’s new exploration class rocket, the Space Launch System, has completed its critical design review and is the first heavy-lift vehicle capable of meeting the challenges of the agency’s journey to Mars. SLS will be the most powerful rocket ever built and, with the agency’s Orion spacecraft, will launch America into a new era of exploration to destinations beyond Earth’s orbit. The CDR provided a final look at the design and development of the integrated launch vehicle before full-scale fabrication begins.	Transcript Link
2015 10 22	NASA's Marshall Space Flight Center	https://youtu.be/5MVXAkMeQDc	NASA’s Space Launch System Paving the Way for Deep-Space Exploration	NASA’s Space Launch System is a powerful, advanced launch vehicle for a new era of human exploration beyond Earth’s orbit. With its unprecedented power and capabilities, SLS will launch crews of up to four astronauts in the agency’s Orion spacecraft on missions to explore multiple, deep-space destinations -- including an asteroid and ultimately Mars.	Transcript Link
2015 10 19	NASA's Marshall Space Flight Center	https://youtu.be/Opt-YZcZa8k	SPHERES-VERTIGO Investigation Aboard the International Space Station	Japan Aerospace Exploration Agency astronaut, Kimiya Yui, is seen working with the SPHERES-VERTIGO investigation aboard the space station during Expedition 45. The volleyball-sized free-floating satellites were used for the SPHERES-VERTIGO investigation to demonstrate and test enhanced technologies and techniques related to visual inspection and navigation. This effort incorporates hardware and software that enables multiple SPHERES to construct three-dimensional models of a target object. The investigation also explores how well the SPHERES perform relative navigation solely by reference to these 3D models for possible use performing autonomous inspection and mapping of a tumbling and spinning object in orbit. For more information, read: http://www.nasa.gov/mission_pages/station/research/experiments/869.html	Transcript Link
2015 10 19	NASA's Marshall Space Flight Center	https://youtu.be/mQLLXLN5Lx0	Michoud ‘Busy Place’ for Building NASA’s Space Launch System	Teams at NASA’s Michoud Assembly Facility in New Orleans have been busy producing flight and qualification hardware for NASA’s new rocket, the Space Launch System. SLS will be the most powerful launch vehicle ever built for deep space missions, including to an asteroid and ultimately to Mars.	Transcript Link

2015 10 07	NASA's Marshall Space Flight Center	https://youtu.be/0wD9F7shQIs	NASA Hispanic Heritage Month Profile -- Miguel DeJesus, NASA's Michoud Assembly Facility	Meet Miguel DeJesus, the Marshall Space Flight Center safety manager at NASA's Michoud Assembly Facility near New Orleans. DeJesus coordinates all aspects & phases of their Industrial Safety Program.	0
2015 09 29	NASA's Marshall Space Flight Center	https://youtu.be/LsMypABuF8g	NASA Marshall 2015 Combined Federal Campaign		Transcript Link
2015 09 17	NASA's Marshall Space Flight Center	https://youtu.be/dOOHJrqIJqY	NASA's Journey to Mars	NASA began our exploration of Mars more than four decades ago when our robotic explorers were the first to study the Red Planet. Today, our orbiters and rovers have changed the way we look at Mars and continue to make important scientific discoveries that will one day pave the way for our astronauts. Aboard NASA's Orion spacecraft and Space Launch System rocket, astronauts will explore an asteroid in the next decade and return to Earth with samples. This experience will help us test new systems and capabilities needed to get to Mars. And right now, NASA is using the International Space Station to conduct cutting-edge research and technology development to help prepare our astronauts to take the next giant leap in exploration.	Transcript Link
2015 09 17	NASA's Marshall Space Flight Center	https://youtu.be/C0RWxMfBuLM	Meteor Over Alabama Brighter than Crescent Moon	Tonight, at 8:22:25 PM local time, NASA meteor cameras in north Georgia and western North Carolina detected a bright fireball over middle Alabama. First seen at an altitude of 45 miles above Paul M. Grist State Park, near Selma, Alabama, the 6 inch diameter chunk of asteroid moved east at a speed of 38,000 miles per hour before burning up some 28 miles above northern Elmore County. At its most intense, the meteor was even brighter than tonight's crescent Moon.	Transcript Link

2015 09 16	NASA's Marshall Space Flight Center	https://youtu.be/sA7VhGUTaS8	NASA Tests Provide Rare Opportunity to Get 3-D Printed Part Comparison Data	The gas generator to an F-1 engine is test-fired this September at NASA's Marshall Space Flight Center in Huntsville, Alabama. Although the engine was originally built to power the Saturn V rockets during America's missions to the moon, this test article had new parts created using additive manufacturing, or 3-D printing, to test the viability of the technology for building new engine designs.	0
2015 09 14	NASA's Marshall Space Flight Center	https://youtu.be/SjjRN6KAoi0	NASA Astronaut Hoot Gibson Wants You to Join Us on the Journey to Mars	NASA Astronaut Robert “Hoot” Gibson talks about the evolution from the space shuttle to the most powerful rocket ever built, NASA’s Space Launch System, for missions to deep space, like an asteroid and ultimately Mars.	0
2015 09 09	NASA's Marshall Space Flight Center	https://youtu.be/O6U5ecd_z8c	West Virginia Fireball	A bright meteor occurred over West Virginia last night at 9:27 EDT. It was seen across Ohio, Pennsylvania, Virginia, North Carolina, and Maryland! NASA's Pennsylvania and Ohio all sky cameras caught it near the edge of the field-of-view, but what also saw it was an EarthCam located on the Washington Monument!	Transcript Link

2015 09 09	NASA's Marshall Space Flight Center	https://youtu.be/-P1oYQArLYE	Major Welding Begins on Crucial Connection for SLS	Major welding has begun at NASA's Marshall Space Flight Center in Huntsville, Alabama, on a structural test article of the launch vehicle stage adapter (LVSA), which connects the core stage to the upper stage of NASA's new rocket, the Space Launch System. The upper stage, known as the Interim Cryogenic Propulsion Stage, gives the Orion spacecraft the big, in-space push needed to fly beyond the moon before the spacecraft returns to Earth for the first flight test of SLS. The work is in close collaboration with prime contractor Teledyne Brown of Huntsville. In addition, NASA engineers have already completed structural test articles of the Orion stage adapter, core stage simulator and Orion spacecraft simulator. A test article for the interim cryogenic propulsion stage is currently in production at United Launch Alliance in Decatur, Alabama. When the test versions of all the parts are completed, engineers will stack them and move the 56-foot tall structure to a Marshall test stand for testing to verify the integrity of the hardware and ensure it can withstand the loads it may experience during flight.	Transcript Link
2015 09 02	NASA's Marshall Space Flight Center	https://youtu.be/D039VFEW474	The Heat Goes On as Engineers Start Analysis on SLS Base Heating Test Data	Mini models of the Space Launch System (SLS) core stage engines are ignited in a big way for a short-duration hot-fire test at 101 percent power level. As the main objectives of the Pathfinder Test Program, models of the SLS core stage RS-25 engines and solid rocket boosters -- scaled down to just 2 percent of the actual size of the flight hardware -- have been designed, built and hot-fire tested at sea-level conditions by Marshall Space Flight Center engineers, in close collaboration with CUBRC Inc. in Buffalo, N.Y. The replicas will provide data on the convective heating environments that the base of the vehicle will experience upon ascent. The models were developed for base heating testing, which wrapped up in August. When completed, SLS, NASA's new rocket, will be one of the biggest, most powerful rockets ever built.	0
2015 08 28	NASA's Marshall Space Flight Center	https://youtu.be/GAIC4jnKl8s	Seventh RS-25 Test Grand Finale for First Developmental Test Series	NASA has completed the first developmental test series on the RS-25 engines that will power the agency's new Space Launch System (SLS) rocket on missions deeper into space than ever before. The test series wrapped up Aug. 27 with a seventh hot fire test of a developmental RS-25 engine on the A-1 Test Stand at NASA's Stennis Space Center near Bay St. Louis, Mississippi. The test ran for a full-duration 535 seconds.	Transcript Link

2015 08 26	NASA's Marshall Space Flight Center	https://youtu.be/sVEPP0uHiJ8	3-D Printed Fuel Pump A Lot of Force In A Small Package	This video shows a test with at 3-D printed turbopump made with 45 percent fewer parts than traditionally manufactured rocket fuel pumps. During the test, the pump's turbine spins at more than 90,000 revolutions per minute (rpms) --9.5 times fasters than a Formula One Racecar. The fast spinning turbopump causes the vibrations in this video. The turbopump moves 1,200 gallons of liquid hydrogen per minute. The hydrogen is at cryogenic temperatures below minus 400 degrees Fahrenheit, and operation at these extremely low temperatures is what causes the frost to build up and flake off during the test. Learn more about this test at: http://www.nasa.gov/centers/marshall/news/news/releases/2015/successful-nasa-rocket-fuel-pump-tests-pave-way-for-3-d-printed-demonstrator-engine.html. (NASA/MSFC)	Transcript Link
2015 08 21	NASA's Marshall Space Flight Center	https://youtu.be/mPC1mEZYNPE	Racin' the Station – Duathlon 2015 at the Marshall Space Flight Center	Racin' the Station 2015 will be held on Saturday, September 26 at NASA's Marshall Space Flight Center. The goal is to finish the run-bike-run course before the International Space Station completes one orbit. A youth bike-run-bike event will follow the main race. Learn more at http://teamrockettri.org/racin-the-station-duathlon/.	0
2015 08 21	NASA's Marshall Space Flight Center	https://youtu.be/x82rKU2tJ1I	Summer Interns Shine During NASA Marshall's 2015 Poster Expo	On Aug. 5, more than 140 interns at NASA's Marshall Space Flight Center in Huntsville, Alabama, participated in the annual poster exposition, highlighting their summer internships. Media and Marshall team members were invited to view the poster designs, talk with the interns about their work experiences, and attend the afternoon awards ceremony recognizing interns for their achievements. Throughout the day, a panel of experts interviewed the interns, as well as judged their posters on scientific accuracy and merit. Marshall Center Director Patrick Scheuermann attended the event to view posters, meet interns, and to provide opening remarks before awarding prizes. Four interns were interviewed about their summer work experiences. They are: *Keanna McIntyre of Alabama A&M University in Huntsville. *Rachel Rotz of the University of Georgia, in Athens. *Juan Duran of the University of Texas at El Paso. *Christina Cauley of the University of Hawaii at Hilo.	Transcript Link

2015 08 14	NASA's Marshall Space Flight Center	https://youtu.be/gGrlhijqm0E	NASA’s Pegasus Barge Ready to Set Sail for Space Launch System	NASA’s Pegasus barge has been modified to transport the massive core stage of NASA’s new rocket, the Space Launch System. The core stage, towering more than 200 feet, will store cryogenic liquid hydrogen and liquid oxygen to fuel the vehicle’s RS-25 engines. A 115-foot section of the barge was removed and replaced with a 165-foot section specially designed to increase the cargo weight Pegasus can accommodate and lengthening it from 260 feet to 310 feet - longer than a football field. More information on Pegasus can be found at: http://www.nasa.gov/sites/default/files/atoms/files/final_sls_pegasus_fact_sheet_508_08042015.pdf	Transcript Link
2015 08 13	NASA's Marshall Space Flight Center	https://youtu.be/XP1CQtV8Qk8	RS-25 - The Ferrari of Rocket Engines	The RS-25 engine for NASA’s new rocket, the Space Launch System, is one of the most complex and efficient rocket engines in the world. Four RS-25 engines and two, five-segment solid rocket boosters will power the SLS on deep space missions, including to an asteroid and ultimately to Mars. The RS-25 has been modified for SLS specifications, including a higher thrust level, and is being tested at NASA’s Stennis Space Center near Bay St. Louis, Mississippi.	Transcript Link
2015 08 12	NASA's Marshall Space Flight Center	https://youtu.be/oyWEMMEESfA	Testing the Most Powerful Engine for NASA’s Space Launch System	Engineers at NASA’s Marshall Space Flight Center in Huntsville, Alabama, and NASA’s Stennis Space Center near Bay St. Louis, Mississippi, talk about the current test series for the RS-25 engine on the A-1 test stand. Four RS-25 engines and twin solid rocket boosters will power NASA’s new rocket, the Space Launch System, on deep space missions, including to an asteroid and ultimately to Mars. The RS-25, previously used on the space shuttle, is being modified for SLS specifications, including a higher thrust level and new engine controller unit.	Transcript Link
2015 08 12	NASA's Marshall Space Flight Center	https://youtu.be/WuSgvaweBtE	Meteor Moment What is the All-Sky Camera Network	Dr. Bill Cooke, of NASA's Meteoroid Environment Office -- located at NASA's Marshall Space Flight Center in Huntsville, Alabama -- explains what the All-Sky Camera Network is and how it's used to track meteors or fireballs.	Transcript Link

2015 08 12	NASA's Marshall Space Flight Center	https://youtu.be/yNq2iZ0N03w	Perseid Fireball	This Perseid fireball was observed by the NASA All Sky Fireball Network in the skies over New Mexico on the morning of August 12. Credit: NASA/MEO This composite image shows the meteors detected by the NASA All Sky Fireball Network station here in Huntsville, Alabama this morning. The majority of the meteors are Perseids, but a handful belong to the Northern Delta Aquariid, Southern Delta Aquariid, Alpha Capricornid, and Southern Iota Aquariid meteor showers that are also active	Transcript Link
2015 08 12	NASA's Marshall Space Flight Center	https://youtu.be/8pWoTwLTfZU	Perseids Over Huntsville!	This Perseid meteor was observed by the NASA Wide-field Meteor Camera Network in the skies over Huntsville, Alabama on the morning of August 12. Credit: NASA/MEO	Transcript Link
2015 08 12	NASA's Marshall Space Flight Center	https://youtu.be/7Hch_mP7IqM	Meteor Moment Viewing Tips.	Rhiannon Blaauw, of NASA's Meteoroid Environment Office -- located at NASA's Marshall Space Flight Center in Huntsville, Alabama -- shares some tips and strategies to best view a meteor shower.	Transcript Link
2015 08 10	NASA's Marshall Space Flight Center	https://youtu.be/bA2xtjvqQq8	Perseids Are Already Zipping Across the Sky!	The Perseids are ramping up! Here's a Perseid meteor captured by the NASA All Sky Fireball Network on August 4th. The shower will peak the morning of August 13th. With a near-new Moon, we may get a good show that morning!	Transcript Link

2015 08 04	NASA's Marshall Space Flight Center	https://youtu.be/CD41k9IjnS0	Robot Spins A Web of Carbon Fibers To Make Large Rocket Parts	A new composite robot performs an elaborate “dance” as it moves up and down a 40-foot track releasing carbon fibers from 16 spools and placing them in intricate patterns to make composite parts for space vehicles. The robotic fiber placement system resides in the Composites Technology Center that is part of NASA’s National Center for Advanced Manufacturing at the Marshall Space Flight Center in Huntsville, Alabama. http://www.nasa.gov/centers/marshall/news/news/releases/2015/robotic-manufacturing-system-will-build-biggest-composite-rocket-parts-ever-made.html (NASA/MSFC video)	Transcript Link
2015 08 04	NASA's Marshall Space Flight Center	https://youtu.be/NJGOi_2J2bY	Robotic Manufacturing System Will Build Biggest Composite Rocket Parts Ever Made	Experts explain how a new robotic composite fiber placement system will be used to build large space structures for space vehicles. Lightweight composites have the potential to increase the amount of payload that can be carried by a rocket along with lowering its total production cost. The robotic system is part of the Composites Technology Center at NASA’s Marshall Space Flight Center in Huntsville, Alabama. http://www.nasa.gov/centers/marshall/news/news/releases/2015/robotic-manufacturing-system-will-build-biggest-composite-rocket-parts-ever-made.html (NASA/MSFC video)	0
2015 07 24	NASA's Marshall Space Flight Center	https://youtu.be/mNLHNwJmnbQ	Blade Dynamics Completes 78-Meter Blade at NASA's Michoud Assembly Facility	Blade Dynamics, an innovative supplier of wind turbine rotors, unveiled the longest blade manufactured in North America, Monday, July 6 at NASA’s Michoud Assembly Facility near New Orleans, Louisiana. The 78 meter, or 255 foot, long blade was manufactured at the Blade Dynamics factory located within the assembly facility. NASA's Michoud is a world-class manufacturing facility that provides vital support to NASA and it's tenants.	0
2015 06 30	NASA's Marshall Space Flight Center	https://youtu.be/sofRYcfaqy0	NASA's Bill Cooke Talks Planetary Conjunction of Venus and Jupiter	Dr. Bill Cooke of Marshall Space Flight Center's Meteoroid Environment Office talks about the upcoming conjuncture of Jupiter and Venus.	Transcript Link

2015 06 29	NASA's Marshall Space Flight Center	https://youtu.be/Vmq9k9hOXDs	Bill Cooke Speaking About the Bright Event in Southeast	Bill Cooke describes the Bright Sky Event Over Southeastern United States.	Transcript Link
2015 06 29	NASA's Marshall Space Flight Center	https://youtu.be/9LgpqyDMu0U	Bright Sky Event Over Southeastern United Stated – June 29	There was a bright event seen across several Southeast states last night at 12:29:30 AM CDT (1:29:30 EDT). Based on the data we currently have, this object was not a meteor or fireball.	Transcript Link
2015 06 19	NASA's Marshall Space Flight Center	https://youtu.be/-mQS-W_EQFE	Space Station Astronauts Grow a Water Bubble in Space (3D Side by Side)	During Expedition 40 in the summer of 2014, NASA astronauts Steve Swanson and Reid Wiseman — along with European Space Agency astronaut Alexander Gerst — explored the phenomenon of water surface tension in microgravity on the International Space Station. The crew "submerged" a sealed GoPro camera into a floating ball of water the size of a softball and recorded the activity with a 3-D camera. http://www.nasa.gov/centers/marshall/news/index.html#.VFje1fnF-pB. (Video: NASA) Note: You will need red-blue stereoscopic 3D vision glasses to view the video. The video in 2-D is at this link: http://youtu.be/9ZEdApyi9Vw To learn more about the International Space Station: http://www.nasa.gov/station For more on the 3-D camera project, visit: NASA Brings Unprecedented 3-D Views From Space to Your Computer http://www.nasa.gov/centers/marshall/news/news/releases/2014/3d-views-from-space.html and the Mission page: http://www.nasa.gov/mission_pages/station/research/experiments	0

2015 06 12	NASA's Marshall Space Flight Center	https://youtu.be/sWoKfqEXfdk	RS-25 Engine Completes 500-Second Test	An RS-25 engine fired up for 500 seconds June 11 at NASA's Stennis Space Center near Bay St. Louis, Mississippi. Four RS-25 engines will power NASA's new rocket, the Space Launch System, to send astronauts on future missions beyond Earth's orbit, including to an asteroid and ultimately to Mars. This is the third firing of an RS-25 development engine on the A-1 test stand at Stennis, with four more tests planned for the current development engine.	Transcript Link
2015 06 09	NASA's Marshall Space Flight Center	https://youtu.be/vqCRGORWZzk	Feel the Power of America's Next Great Rocket	NASA's Space Launch System (SLS) will be the world's most powerful rocket ever built for deep space missions, including to an asteroid and ultimately to Mars.	Transcript Link
2015 06 03	NASA's Marshall Space Flight Center	https://youtu.be/dxshi2Xgb30	Time-Lapse of Orion's Heat Shield Shipping from NASA's Marshall to Langley	In this time-lapse video, captured from May 26-28 in Building 4705 at NASA's Marshall Space Flight Center in Huntsville, Alabama, technicians and engineers work together to remove the heat shield from the seven-axis milling machine to a tractor-trailer for shrink-wrapping and shipment to NASA's Langley Research Center in Hampton, Virginia. The heat shield underwent nearly 3 months of post-flight testing after its successful flight attached to the Orion spacecraft in late 2014. The heat shield will now travel to Langley for water-impact testing, while analysis of the ablated material and sensor data will continue until late 2015 -- eventually aiding development of the next Orion flight test vehicle. Orion will launch atop the Space Launch System, the nation's heavy-lift rocket currently in development. Learn more about Orion at http://www.nasa.gov/exploration. (NASA/MSFC)	0
2015 05 29	NASA's Marshall Space Flight Center	https://youtu.be/Xz1L2-CjsIo	Steamy Summer Begins for SLS with RS-25 Test	A billowing plume of steam signals a successful 450-second test of the RS-25 rocket engine May 28 at NASA's Stennis Space Center near Bay St. Louis, Mississippi. The hotfire test was conducted on the historic A-1 Test Stand where Apollo Program rocket stages and Space Shuttle Program main engines also were tested. RS-25 engines tested on the stand will power the core stage of NASA's new rocket, the Space Launch System (SLS), which is being developed to carry humans deeper into space than ever before.	Transcript Link

2015 05 28	NASA's Marshall Space Flight Center	https://youtu.be/HtE_61ZR67Y	Assembling an RS-25 Engine -- In Just Two Minutes	In this two-minute time-lapse video, see how a powerhouse of a rocket engine, the RS-25, is assembled by team members from Aerojet Rocketdyne at NASA’s Stennis Space Center near Bay St. Louis, Mississippi. Four RS-25 engines will power NASA’s new rocket, the Space Launch System, on missions to deep space, including to an asteroid and ultimately to Mars.	Transcript Link
2015 05 28	NASA's Marshall Space Flight Center	https://youtu.be/FR8QFYAakec	NASA Team at Marshall Removes Charred Orion Heat Shield Surface	In this time-lapse video, captured in NASA's Marshall Space Flight Center Building 4705 from March 24 to May 15, NASA and Lockheed Martin workers remove burnt ablative material -- or the incinerated outer surface -- from the Orion heat shield. The shield was charred during Orion's successful flight test in late 2014. The team, led by thermal protection engineers from NASA's Ames Research Center, used Marshall's innovative, seven-axis milling machine in Building 4705 to cut away large sections of the ablative material, known as Avcoat. The remaining 180 or so Avcoat squares, many covering sophisticated sensors, were removed by hand for delivery to Ames and other NASA facilities. In early June, the stripped heat shield will travel to NASA's Langley Research Center for water-impact testing, while analysis of the ablated material and sensor data will continue until late 2015 -- aiding development of the next Orion flight test vehicle. Orion will launch atop the Space Launch System, the nation's heavy-lift rocket now in development. Learn more about Orion at http://www.nasa.gov/exploration. (MSFC/Emmett Given & Dawn Lyons)	Transcript Link
2015 05 27	NASA's Marshall Space Flight Center	https://youtu.be/2b-mf1T7dPs	NASA Asian-American Pacific Islander Month – Tim Zhixian Li	“Tim” Zhixian Li works at the Michoud Assembly Facility, near New Orleans, as a welding engineer for Lockheed Martin Information Systems and Global Solutions. Li currently works on the Space Launch System, NASA’s next deep-space exploration rocket. Having earned a doctorate degree from the Polytechnic School of Engineering at New York University, Li has spent 18 years working on research and development, technology demonstration article and production support on the friction stir welding process.	Transcript Link

2015 05 22	NASA's Marshall Space Flight Center	https://youtu.be/M5gU82kEHlw	NASA Asian-American Pacific Islander Month – Gayleen Ijames	Gayleen Ijames is a ground system engineer at NASA's Marshall Space Flight Center in Huntsville, Alabama. She works in the Payload Operations and Integrations Center supporting science experiments and payloads aboard the International Space Station. Her role is to interact with NASA's international partners to ensure that they receive their science data.	Transcript Link
2015 05 14	NASA's Marshall Space Flight Center	https://youtu.be/mI-Ef4OYCmY	NASA 'Flares' Up for SLS	Sparks fly as a hydrogen burn-off igniter test is conducted May 5 at the Redstone Test Center on Redstone Arsenal in Huntsville. The igniters will be used for NASA's Space Launch System to burn off any free hydrogen that can potentially collect at the aft of the rocket about 10 seconds before liftoff. SLS will be the most powerful launch vehicle ever built for deep space missions, including to an asteroid and ultimately to Mars. (RTC)	Transcript Link
2015 05 14	NASA's Marshall Space Flight Center	https://youtu.be/nRsgcj7jl7c	Igniters Spark Safety for Rockets	Archived footage from the STS-135 Atlantis launch featuring the six hydrogen burn-off igniters that were fired prior to the launch. Igniters also will be used for NASA's new rocket, the Space Launch System. (KSC)	Transcript Link
2015 05 07	NASA's Marshall Space Flight Center	https://youtu.be/_b04ZIPj6fY	ISS Science in a Cup	In the world of famous cups, nobody knows just how famous the newest "space" cup will be, but what scientists learn from it could be immeasurable. Mark Weislogel, principal investigator of the Capillary Beverage study on the International Space Station explains the science in the cup. You can find more information here: http://blogs.nasa.gov/ISS_Science_Blog/2015/05/01/space-station-espresso-cups-strong-coffee-yields-stronger-science/	Transcript Link

2015 04 27	NASA's Marshall Space Flight Center	https://youtu.be/L40atQBBBfk	Lasers Are the Future of Optical Communications in Near Earth and Deep Space Applications	The Laser Communications Relay Demonstration project will continue NASA’s efforts to test the use of lasers in all of the agencies space communication needs. LCRD or “Laser Comm” holds the promise of carrying more data at a faster rate, saving ground station use and increasing efficiencies across the board, from near earth to deep space.	0
2015 04 09	NASA's Marshall Space Flight Center	https://youtu.be/6uXw1WzyW7I	NASA Centennial Challenge Sample Return Robot Competition	On June 9-13, international teams of citizen inventors will compete in NASA's 2015 Sample Return Robot Challenge on the campus of Worcester Polytechnic Institute in Worcester, Massachusetts. The competition includes nearly $1.5 million in prize money. Learn more in this introductory video!	Transcript Link
2015 04 07	NASA's Marshall Space Flight Center	https://youtu.be/gLY04N7chOs	NASA Unboxes Delivery from Space Station	Watch the unboxing of some special cargo from the International Space Station as Quincy Bean, the principal investigator for the space station printer, removes and inspects the first items made in space with a 3-D printer. To protect the space-manufactured items, they must remain in bags until inspection is complete and testing begins at NASA’s Marshall Space Flight Center in Huntsville, Alabama. More than 20 parts were “unboxed” on April 6, 2015, at Marshall’s Additive Manufacturing Laboratory. Additive manufacturing has the potential to change the way we resupply the space station and will be critical for deep space missions to Mars, asteroids and other places. To learn more about additive manufacturing in space: http://www.nasa.gov/3Dprinting To follow the printer on Twitter: http://www.twitter.com/NASA3DPrinter	Transcript Link

2015 04 02	NASA's Marshall Space Flight Center	https://youtu.be/BOkuzPZODHM	NASA Women's History Month Profiles - Horton, Spraul & Smitherman-Hickman	NASA's Michoud Assembly Facility in New Orleans featured three outstanding team members for NASA Women's History Month. #1. Dr. Renee Horton is the Space Launch System Lead Metallics and Weld Engineer. She holds an Electrical Engineering degree from Louisiana State University and a received a Ph.D. in Material Science and Physics from the University of Alabama. Her current work priority is with the Vertical Assembly Center, the largest weld tool in the world. #2. Cynthia Spraul is the Michoud Assembly Facility Integration and Operations lead. Spraul is part of a small team that integrates and operates MAF for the production of the Space Launch System. Daily activities include oversight of the facility contractors and management of the needs and services of various tenants. #3. Rhonda Smitherman-Hickman is the Chief Information Office Lead at MAF. She received a Mathematics and Computer Science Degree from Southeastern Louisiana University and has worked at MAF for 27 years.	0
2015 04 02	NASA's Marshall Space Flight Center	https://youtu.be/oGKry-AmV-c	NASA’s Space Launch System to Boost Science with Secondary Payloads	This video shows the launch of Exploration Mission-1 and location of the secondary payloads in the Space Launch System's adapter ring. Also shown is the deployment of the NEA Scout cubesat and its asteroid rendezvous.	Transcript Link
2015 04 02	NASA's Marshall Space Flight Center	https://youtu.be/B7EI6eK7QYQ	NASA Women's History Month Profile - Jane Maples (Marshall Space Flight Center)	Jane Maples is information technology specialist at NASA's Marshall Space Flight Center, in Huntsville, Alabama. She supports the Enterprise Service Bus Line of Business and the Center for Internal Mobile Applications at the NASA Enterprise Applications Competency Center. Maples is a proud graduate of Auburn University, having earned a Bachelor of Science in Business Administration. She followed that with a Masters in Business Administration at the University of Kentucky. Due to her hard work and dedication, she has earned several awards including a Silver Snoopy Award, a Space Flight Awareness Award and an Exceptional Achievement Medal. One of her most proud moments was attending the launch of STS-37 Space Shuttle Atlantis with her mother, as it carried hardware Maples was responsible for purchasing in support of the Burst and Transient Source Experiment on the Compton Gamma Ray Observatory.	0

2015 03 11	NASA's Marshall Space Flight Center	https://youtu.be/3qQNmr2vFTc	Building a Better Booster	NASA and Orbital ATK are making major modifications to the solid rocket boosters that will power NASA's new rocket, the Space Launch System, to deep space destinations, like an asteroid and ultimately Mars.	Transcript Link
2015 03 11	NASA's Marshall Space Flight Center	https://youtu.be/KYaHWipKx_U	America's Human Space Exploration…Steps to the Future	Orbital ATK's Kent Rominger and SLS Program Manager Todd May talk about the March 11 booster qualification test and how it fits into the progress on America's next great rocket, NASA's Space Launch System.	Transcript Link
2015 03 11	NASA's Marshall Space Flight Center	https://youtu.be/juJhOC_ByQk	Igniting the Booster	Gordie Russell, Orbital ATK program manager at NASA's Marshall Space Flight Center, talks about the process of the March 11 booster qualification test. The firing is one of two tests that will qualify the booster design for the first flight of the SLS.	Transcript Link
2015 03 11	NASA's Marshall Space Flight Center	https://youtu.be/Qn6OvHofcoo	SLS Qualification Booster Test at Orbital ATK	The largest, most powerful rocket booster ever built successfully fired up Wednesday for a major-milestone ground test in preparation for future missions to help propel NASA's Space Launch System (SLS) rocket and Orion spacecraft to deep space destinations, including an asteroid and Mars.	Transcript Link

2015 02 19	NASA's Marshall Space Flight Center	https://youtu.be/kaGuVRfwzv4	Preparing Solid Rocket Booster Avionics for Mission Success	Eric Corder, avionics system manager for the SLS Booster Element at the Marshall Center, and Orbital ATK engineer Jennifer Graham talk about the booster avionics system for NASA's new rocket, the Space Launch System, and what role avionics will play in the March 11 booster qualification test. SLS will be the most powerful rocket in history for deep space missions, including to an asteroid and ultimately to Mars.	Transcript Link
2015 02 17	NASA's Marshall Space Flight Center	https://youtu.be/0rFZZ2HfUVE	A Composite Booster Gets a Burst of Energy (Real Time)	This video shows four angles of the booster composite case's sudden burst due to being over-pressurized with water. NASA and Orbital ATK engineers pushed the composite case to its breaking point to understand how well these materials could withstand the immense strains of a launch.	Transcript Link
2015 02 17	NASA's Marshall Space Flight Center	https://youtu.be/FjhVnM3raPQ	A Composite Booster Gets a Burst of Energy (Slow Motion)	In this slow-motion video, the structural breaking point of the booster composite material can be seen spreading across the case.	Transcript Link
2015 02 17	NASA's Marshall Space Flight Center	https://youtu.be/0nUp-OSOE6Y	Bright Fireball Seen Over New York, Pennsylvania and Ohio	A very bright fireball seen over New York, Ohio, and Pennsylvania at 4:45:17 EST this morning, February 17th. It was captured by three NASA cameras. The video came from a NASA camera located at Allegheny Observatory near Pittsburgh, PA. The other two cameras are located at Hiram College and Oberlin College, both in northern Ohio.	Transcript Link

2015 02 11	NASA's Marshall Space Flight Center	https://youtu.be/H0BgLPq6PkE	Recipe for Power	The largest, most powerful solid rocket boosters ever built will give the "lift" necessary to send astronauts to an asteroid and to Mars on NASA's new rocket, the Space Launch System (SLS). See the process of how a booster is made and tested at SLS booster prime contractor Orbital ATK's facilities in Promontory, Utah.	Transcript Link
2015 02 10	NASA's Marshall Space Flight Center	https://youtu.be/avujKLfIenE	Anti-geyser Testing Completed for SLS Liquid Oxygen Tank	Goodbye, geysers! NASA engineers have successfully finished anti-geyser testing for the liquid oxygen tank that will help fuel the agency's new rocket, the Space Launch System, on the journey to Mars. More than 120 hours of anti-geyser testing have been completed on a full-scale, 40-foot replica of the SLS liquid oxygen tank feed system -- which will be housed in the rocket's core stage -- at one of the test stands at NASA's Marshall Space Flight Center in Huntsville, Alabama. The core stage, towering more than 200 feet tall with a diameter of 27.5 feet, will store cryogenic liquid hydrogen and liquid oxygen that will feed the vehicle's RS-25 engines.	Transcript Link
2015 01 16	NASA's Marshall Space Flight Center	https://youtu.be/9oBvi92E9FY	Space Station Live ISS Off the Earth, For the Earth 2014 Research Highlights	In this 30-minute special, NASA Commentator Lori Meggs at the Marshall Space Flight Center takes a look back at many of the research accomplishments in 2014 and speaks with NASA managers about the future of the orbiting laboratory.	0
2015 01 10	NASA's Marshall Space Flight Center	https://youtu.be/hG8odscqlfI	SLS RS-25 Testing Heats Up	The RS-25 engine that will drive NASA's new rocket, the Space Launch System, to deep space blazed through its first successful test Jan. 9 at the agency's Stennis Space Center near Bay St. Louis, Mississippi. The RS-25 fired up for 500 seconds on the A-1 test stand, providing NASA engineers with critical data on the engine controller unit and inlet pressure conditions.	Transcript Link

2015 01 06	NASA's Marshall Space Flight Center	https://youtu.be/CiaPvgQzSGo	Fireball Over Nashville - January 2015	Two fireballs were seen in the night sky on January 5th, both in the Nashville area. This video shows the second one just to the west of Nashville about 7:31 PM CST. This one was brighter and faster - 75,000 mph - and moved east to west; totally unrelated to the earlier one. It burned up 30 miles above the town of New Johnsonville, TN.	Transcript Link
2014 11 24	NASA's Marshall Space Flight Center	https://youtu.be/F1nAN9ufE6c	Fireball Just Southwest of Tuscaloosa, Alabama Seen by All Sky Cameras	A bright fireball occurred at 8:18 pm CST, Nov. 20, just southwest of Tuscaloosa, Alabama and was detected by NASA All Sky Cameras. The fireball traveled at 67,000 miles per hour and appears to have broken apart at an altitude of 27 miles. It was as bright as the full moon, about 14 inches in diameter and weighed about 120 pounds. The fireball was not part of the Leonid meteor shower. At this time, we do not believe any meteorites were produced. This morning there are over 60 eyewitness reports on the American Meteor Society website.	0
2014 11 17	NASA's Marshall Space Flight Center	https://youtu.be/WJq_0ojsHq8	The Chandra X-ray Observatory Celebrates 15 Years of Science	Fifteen years ago, NASA's Chandra X-ray Observatory was launched into space aboard the Space Shuttle Columbia. Since its deployment on July 23, 1999, Chandra has helped revolutionize our understanding of the universe through its unrivaled X-ray vision. Chandra, one of NASA's current "Great Observatories," along with the Hubble Space Telescope and Spitzer Space Telescope, is specially designed to detect X-ray emission from hot and energetic regions of the universe. For more information about Chandra visit: http://www.nasa.gov/mission_pages/chandra/main/	Transcript Link

2014 11 03	NASA's Marshall Space Flight Center	https://youtu.be/nJj4K4WdRuk	NASA's Tour of the International Space Station	During Expedition 31 in 2012, NASA astronaut Don Pettit used a 3-D camera to take viewers on a "floating" tour of the International Space Station. He pointed the camera outside the station portals as well to provide incredible images of the Russian Soyuz capsule docked to the station, the many trusses and solar panels extending from the various nodes, and of his home planet below. (Video: NASA) Note: You will need red-blue stereoscopic 3D vision glasses to view the video. This link will take you to a 3D version of the video: https://www.youtube.com/watch?v=MQEkFppWaRI To learn more about the International Space Station: http://www.nasa.gov/station For more on the 3-D camera project, visit: NASA Brings Unprecedented 3-D Views from Space to Your Computer http://www.nasa.gov/centers/marshall/news/news/releases/2014/3d-views-from-space.html and the mission page: http://www.nasa.gov/mission_pages/station/research/experiments/974.html	Transcript Link
2014 11 03	NASA's Marshall Space Flight Center	https://youtu.be/MQEkFppWaRI	NASA's 3-D Tour of the International Space Station	Description: During Expedition 31 in 2012, NASA astronaut Don Pettit used a 3-D camera to take viewers on a "floating" tour of the International Space Station. He pointed the camera outside the station portals as well to provide incredible images of the Russian Soyuz capsule docked to the station, the many trusses and solar panels extending from the various nodes, and of his home planet below. (Video: NASA) Note: You will need red-blue stereoscopic 3D vision glasses to view the video. This link will take you to a 2D version of the video: http://youtu.be/nJj4K4WdRuk To learn more about the International Space Station: http://www.nasa.gov/station For more on the 3-D camera project, visit: NASA Brings Unprecedented 3-D Views From Space to Your Computer http://www.nasa.gov/centers/marshall/news/news/releases/2014/3d-views-from-space.html and the mission page: http://www.nasa.gov/mission_pages/station/research/experiments/974.html	Transcript Link

2014 11 03	NASA's Marshall Space Flight Center	https://youtu.be/bxE09URykdg	Space Station Astronauts Grow a Water Bubble in Space	During Expedition 40 in the summer of 2014, NASA astronauts Steve Swanson and Reid Wiseman — along with European Space Agency astronaut Alexander Gerst — explored the phenomenon of water surface tension in microgravity on the International Space Station. The crew "submerged" a sealed GoPro camera into a floating ball of water the size of a softball and recorded the activity with a 3-D camera. http://www.nasa.gov/centers/marshall/news/index.html#.VFje1fnF-pB. (Video: NASA) Note: You will need red-blue stereoscopic 3D vision glasses to view the video. The video in 2-D is at this link: http://youtu.be/9ZEdApyi9Vw To learn more about the International Space Station: http://www.nasa.gov/station For more on the 3-D camera project, visit: NASA Brings Unprecedented 3-D Views From Space to Your Computer http://www.nasa.gov/centers/marshall/news/news/releases/2014/3d-views-from-space.html and the Mission page: http://www.nasa.gov/mission_pages/station/research/experiments	Transcript Link
2014 11 03	NASA's Marshall Space Flight Center	https://youtu.be/9ZEdApyi9Vw	Space Station Astronauts Grow a Water Bubble in Space	During Expedition 40 in the summer of 2014, NASA astronauts Steve Swanson and Reid Wiseman — along with European Space Agency astronaut Alexander Gerst — explored the phenomenon of water surface tension in microgravity on the International Space Station. The crew "submerged" a sealed GoPro camera into a floating ball of water the size of a softball and recorded the activity with a 3-D camera. (Video: NASA) Note: You will need red-blue stereoscopic 3D vision glasses to view the video. This link will take you to a 3D version of the video: http://www.youtube.com/watch?v=bxE09URykdg&list=UUYKfAzPEXMQsGtNfBCNa_BA To learn more about the International Space Station: http://www.nasa.gov/station For more on the 3-D camera project, visit: NASA Brings Unprecedented 3-D Views from Space to Your Computer: http://www.nasa.gov/centers/marshall/news/news/releases/2014/3d-views-from-space.html and the mission page: http://www.nasa.gov/mission_pages/station/research/experiments/974.html	Transcript Link

2014 10 27	NASA's Marshall Space Flight Center	https://youtu.be/v9QdiDL9B-o	International Space Station We're Working Off the Earth For the Earth	The International Space Station advances scientific knowledge for the benefits of people living on Earth and serves as the world's leading laboratory for technology development to enable human and robotic exploration of destinations beyond low-Earth orbit, including asteroids and Mars. The space station is a blueprint for global cooperation and it is facilitating the growth of a robust commercial marketplace in low-Earth orbit.	0
2014 10 21	NASA's Marshall Space Flight Center	https://youtu.be/l5GbR74bZjY	Development of Small Atomic Clock Essential to Deep Space Exploration	The Deep Space Atomic Clock, or DSAC project, managed by NASA's Jet Propulsion Laboratory in Pasadena, California, is developing -- for use aboard spacecraft -- a smaller and lighter version of the refrigerator-sized atomic clocks used at ground-based space tracking stations. That could eliminate the need to send signals from Earth to a spacecraft and back, enabling more efficient and accurate data transfer for experiments and navigation both close to home and on deep space missions. Precise timekeeping is essential to navigation and, over a typical 10-year deep space mission, DSAC would gain or lose only about a microsecond.	Transcript Link
2014 10 17	NASA's Marshall Space Flight Center	https://youtu.be/YnPpXmkzF4I	Second Lunar Eclipse of 2014 Delights Sky Watchers	Credit: D. Hathaway/NASA Ames On Wednesday morning, Oct. 8, not long before sunrise, the bright full moon over North America turned a lovely shade of celestial red. The lunar eclipse was visible from all parts of the United States. This eclipse marks the second in a series of four lunar eclipses in a row, known as a "tetrad." The first in the series occurred on April 15, 2014, with the third in the tetrad of eclipses set for April 2015 and the final in September of 2015.	Transcript Link
2014 10 15	NASA's Marshall Space Flight Center	https://youtu.be/wxyUyvKedkI	SLS Celebrates Hispanic Heritage Month	This video features employees at Southern California Braiding in California, a vendor that is supplying components for NASA's new Space Launch System rocket. It is celebrating Hispanic Heritage Month, held from September 15 – October 15.	Transcript Link

2014 10 01	NASA's Marshall Space Flight Center	https://youtu.be/ZsAUcqCmn0c	How SPoRT Gets Science Done	NASA’s Short-term Prediction Research and Transition Center accelerates the infusion of NASA’s Earth science observations, data assimilation, and modeling research into the regional and local National Weather Service forecasting and decision making process. SPoRT works closely with the National Weather Service forecasters at 24 local and regional weather forecast offices and 5 National Centers for Environmental Prediction across the country to identify forecast problems and address them using timely, high-resolution NASA observations and unique research capabilities	Transcript Link
2014 09 26	NASA's Marshall Space Flight Center	https://youtu.be/vwu3RcRyWDQ	NASA Hosts Partnerships Meeting with HBCUs and MSIs	On Sept. 17, NASA’s Marshall Space Flight Center in Huntsville, Alabama, and the Office of Small Business Programs hosted the first ever NASA Partnerships Meeting for Historically Black Colleges and Universities (HBCUs) and Minority Serving Institutions (MSIs). The event drew 29 colleges and universities from across the country, including Puerto Rico, to learn about NASA’s initiative to increase prime and subcontracting opportunities with minority serving institutions. Guest speakers included the White House Advisor on HBCU’s, Ronald Blakely, as well as representatives from NASA prime contractors and NASA field centers.	Transcript Link
2014 09 25	NASA's Marshall Space Flight Center	https://youtu.be/YVZEQTe0t9g	Second Fireball Occurs Over Northern Michigan	The second video is of a fireball that occurred over north Michigan about 40 minutes later. The Michigan fireball is close to the edge of the camera because the meteor was at extreme range, over 200 miles away, for the camera. The Michigan fireball was produced by a piece of a comet over 2 feet across, probably weighing around 40 pounds. It hit Earth’s atmosphere at a speed of 54,000 mph.	Transcript Link
2014 09 24	NASA's Marshall Space Flight Center	https://youtu.be/JaXLDp9fb5M	Fireball Over Southern Tennessee	At 8:26:38 PM this evening, a 2 inch piece of an asteroid entered the atmosphere above the town of Lutts in southern Tennessee. Moving almost due west at a speed of 46,300 miles per hour, it traveled some 52 miles before burning up 25 miles above the Tennessee farmland. At its peak, the fireball was about twice as bright as the planet Venus, and was seen by many in north Alabama, Mississippi, and Tennessee.	Transcript Link

2014 09 24	NASA's Marshall Space Flight Center	https://youtu.be/ThOND5mVSxE	Robots On Way to Help Astronauts Work, Explore and Live in Space	The Human Exploration Telerobotics project, managed by NASA's Ames Research Center in Moffett Field, California, is developing and testing robots to improve the way humans live and work in space. Some of the project's robots have human-like "hands" and "legs" while others have wheels or are small, free-flying satellites. All have the potential to help astronauts reduce the amount of time they spend on routine maintenance tasks; to safely and quickly make repairs outside the spacecraft; or to remotely explore and work on a planet or asteroid's surface.	Transcript Link
2014 09 12	NASA's Marshall Space Flight Center	https://youtu.be/86k_uyCWEMg	Building the Backbone of the Space Launch System	The largest spacecraft welding tool in the world, the Vertical Assembly Center officially is open for business at NASA's Michoud Assembly Facility in New Orleans. The 170-foot-tall, 78-foot-wide giant completes a world-class welding toolkit that will be used to build the core stage of America's next great rocket, the Space Launch System (SLS). SLS will be the most powerful rocket ever built for deep space missions, including to an asteroid and eventually Mars. The core stage, towering more than 200 feet tall (61 meters) with a diameter of 27.6 feet (8.4 meters), will store cryogenic liquid hydrogen and liquid oxygen that will feed the rocket's four RS-25 engines. (NASA/MSFC)	Transcript Link
2014 09 02	NASA's Marshall Space Flight Center	https://youtu.be/AUAjbeZGOPM	Thermal and Fluid Systems	Marshall's thermal and fluid dynamics systems capabilities are a powerful array of expertise, methods, tools and facilities used to ensure launch vehicles and space systems are designed and built reliably to withstand the demanding environments in which they operate. (NASA/MSFC)	Transcript Link
2014 08 28	NASA's Marshall Space Flight Center	https://youtu.be/tqt4hmsi4b0	NASA Tests Model of Powerful New Rocket	Engineers at NASA's Marshall Space Flight Center in Huntsville, Alabama, are wrapping up acoustic testing on a 5-percent scale model of NASA's Space Launch System. The Aug. 28 test, the 34th in the series, will help NASA engineers understand how loud the SLS vehicle will be during liftoff. Data from the test series will be used to design the water sound suppression system that reduces liftoff vibrations on the vehicle. SLS will be the most powerful rocket ever built for deep space missions, including to an asteroid and ultimately to Mars. (NASA/MSFC)	Transcript Link

2014 08 26	NASA's Marshall Space Flight Center	https://youtu.be/0ip4F36B65o	Eta Carinae Our Neighboring Superstars	The Eta Carinae star system does not lack for superlatives. Not only does it contain one of the biggest and brightest stars in our galaxy, weighing at least 90 times the mass of the sun, it is also extremely volatile and is expected to have at least one supernova explosion in the future. As one of the first objects observed by NASA's Chandra X-ray Observatory after its launch some 15 years ago, this double star system continues to reveal new clues about its nature through the X-rays it generates.(NASA/CXC/GSFC/K.Hamaguchi, et al.)	Transcript Link
2014 08 20	NASA's Marshall Space Flight Center	https://youtu.be/T7xEOpSpeN4	Racin' the Station Duathalon	Racin' the Station Duathalon will be held September 27, 2014 at NASA's Marshall Space Flight Center's Building 4316, Digney Road on Redstone Arsenal. Race start time is 8:30 a.m. Racin' the Station is a duathalon that features a 1.95 Mile Run, followed by a 14-mile bike ride and concludes with another 1.95 Mile run. Racin' the Station Duathalon is a non-sanctioned USAT Run/Bike/Run event where participants "race" the International Space Station (ISS) as it completes one Earth orbit. The ISS completes an orbit every 91 minutes 12 seconds. The starting location of the ISS is tracked at race start time, and the competition is to see who can beat the space station by completing the event before the 91 minute 12 second mark. There will also be youth race activities available for children ages 6-14. The race is open to the public and the cost is $45 until September 8th, then the registration will go up $55 to participate. Interested parties can register here https://www.imathlete.com/events/racinthestation. Team Rocket Triathlon Club helps organize the race and the proceeds go the Marshall Association scholarship fund, a non-profit organization consisting of community members and Marshall Space Flight Center employees. The annual scholarship fund provides scholarships for local college and university students.	Transcript Link
2014 08 15	NASA's Marshall Space Flight Center	https://youtu.be/mFnE21satOQ	What Triggered This Supernova Explosion	Earlier this year, astronomers discovered one of the closest supernovas in decades. Now, new data from NASA's Chandra X-ray Observatory has provided information on the environment of the star before it exploded, and insight into the possible cause of the explosion. (NASA/CXC/A. Hobart)	Transcript Link

2014 08 15	NASA's Marshall Space Flight Center	https://youtu.be/OnXoyjENpxA	Eruption on the Sun	On Aug. 1, 2014, Hinode's X-ray telescope observed this lovely eruption on our sun. The eruption came from a region that exhibited the characteristic S-shape of so-called "sigmoids." Sigmoids are composed of highly sheared magnetic field lines that form along boundaries between positive and negative surface magnetic flux. They grow unstable as they become increasingly twisted and S-shaped, leading to eruptions like the one seen here. (NASA/MSFC/Hinode/Masumi Shimojo and Patrick McCauley)	Transcript Link
2014 08 14	NASA's Marshall Space Flight Center	https://youtu.be/KBwbqlGuLjo	Perseid Meteors Compilation, Aug.12-13, 2014	Did you miss the peak of the Perseid meteor shower on Aug. 12-13? This video shows some of the meteors seen by the allsky camera located at Marshall Space Flight Center in Huntsville, Alabama. (NASA/MSFC)	Transcript Link
2014 08 13	NASA's Marshall Space Flight Center	https://youtu.be/3ytg0GiPq5I	Perseid Meteor Streaks Across Alabama	This video shows a Perseid meteor zipping through the sky, seen by the NASA All Sky Fireball Network on the night of Aug. 12-13, 2014. (NASA/MSFC/Danielle Moser)	Transcript Link
2014 08 13	NASA's Marshall Space Flight Center	https://youtu.be/Oj22UsJQ2Qk	A Sky Full of Perseids	This video is a compilation of Perseid meteors seen by the NASA All Sky Fireball Network on the night of Aug. 12-13, 2014.(NASA/MSFC/Danielle Moser)	Transcript Link

2014 08 13	NASA's Marshall Space Flight Center	https://youtu.be/wtSdX5h4FSQ	Bright Perseid Meteor	A bright, confirmed Perseid meteor streaks across the skies over Marshall Space Flight Center in Huntsville, Alabama, early on the morning of Aug. 13, 2014. (NASA/MSFC/MEO)	Transcript Link
2014 08 13	NASA's Marshall Space Flight Center	https://youtu.be/KRjTksM2G_M	Bright Meteor	A bright, unidentified meteor streaks across the skies over Marshall Space Flight Center in Huntsville, Alabama, late in the evening of Aug. 12, 2014. (NASA/MSFC/MEO)	Transcript Link
2014 08 12	NASA's Marshall Space Flight Center	https://youtu.be/bV6RLfBmHis	Marshall Interns Share Their Summer Experiences During the 2014 Poster Expo	On Aug. 5, interns at NASA's Marshall Space Flight Center, in Huntsville, Alabama, participated in the annual poster expo, an event celebrating the end of their 2014 summer internships. 147 students completed their 10 week internships by desigining informative posters to highlight their summer accomplishments at Marshall. The posters were judged by NASA experts for scientific merit and accuracy, with the results announced during a closing ceremony. Media and Marshall team members were invited to meet the interns and learn about their summer internships. Students interested in pursuing internships can learn more at https://intern.nasa.gov/	0
2014 08 11	NASA's Marshall Space Flight Center	https://youtu.be/gpzO4b-02ZE	Anti-Geyser Testing for SLS Liquid Oxygen Feed System Underway	Beginning Aug. 5, anti-geyser testing is underway at NASA's Marshall Space Flight Center for the agency's Space Launch System (SLS) -- the rocket that will make deep space missions possible, including to an asteroid and ultimately to Mars. A full-scale replica of the SLS liquid oxygen tank feed system -- which will be housed in the rocket's core stage -- is set up on one of Marshall's test stands to show that proven procedures will keep the tank's thousands of gallons of oxidizer from geysering. As propellant is poured into the system from the bottom, helium is injected into different points along two feed lines that deliver the propellant all the way up to the tank. The helium induces circulation almost like stirring and keeps the propellant uniform and at the right temperature. Testing is scheduled to be completed in November. (NASA/MSFC)	Transcript Link

2014 08 07	NASA's Marshall Space Flight Center	https://youtu.be/2Zc1jTN09C8	X-ray Vision Reveals the Insides of Stars	Chandra is a telescope that is specially designed to look at X-rays that come from very hot places and objects in the Universe - including exploded stars. Because the explosions have super-heated these stellar wreckages, they glow very brightly in X-ray light. Since the Earth's atmosphere blocks X-rays from space, Chandra has to orbit high above it. From this ideal position Chandra can create X-ray pictures with superb detail, allowing us to study the shape, movement and chemical make-up of supernova remnants. (NASA/CXC/A. Hobart)	Transcript Link
2014 08 05	NASA's Marshall Space Flight Center	https://youtu.be/IapHio9luWI	Huge Fireball Over North Alabama	At 10:19 p.m. CDT on Aug. 2, NASA meteor cameras detected a very bright fireball at an altitude of 57 miles above Hoodoo Road just east of the town of Beechgrove, Tennessee. The meteoroid was about 15 inches in diameter and weighed close to 100 lbs. It travelled just over 100 miles to the south-southeast at 47,000 mph, breaking apart in a brilliant flash of light above the Alabama town of Henagar. The cameras continued to track a large fragment until it disappeared 18 miles above Gaylesville, located near Lake Weiss close to the Georgia state line. At last sight, the fragment was still traveling at 11,000 mph! Based on the meteor's speed, final altitude and weak doppler radar signatures, it is believed that this fireball produced small meteorites on the ground somewhere in the vicinity. (NASA/MSFC/MEO)	Transcript Link
2014 07 24	NASA's Marshall Space Flight Center	https://youtu.be/kvnXjtaxN80	Inflatable Solar Array Technology Packs Incredible Power In Small Package	Inflatable structures have the potential to drastically reduce the weight space power systems. Engineers fabricated and tested an inflatable solar array system at NASA’s Marshall Space Flight Center in Huntsville, Ala.	0
2014 07 18	NASA's Marshall Space Flight Center	https://youtu.be/aoAbIGQXTMc	Mid-Atlantic Fireball!	On the evening of July 17, 2014, a brilliant fireball streaked over the mid-Atlantic region of the U.S. Cameras operated by NASA's Marshall Space Flight Center first picked up the fireball south of Petersburg, Virginia, at an altitude of 55 miles. The meteor was moving southeast at a speed of 32,000 miles per hour. The meteor was last seen by a North Carolina camera at an altitude of 37 miles above Earth, but the meteor undoubtedly penetrated lower into the atmosphere. At its brightest, the fireball was almost as bright as the first quarter moon, giving it a size around 7 inches in diameter and a weight of about 15 pounds. (NASA/MSFC/MEO)	Transcript Link

2014 07 14	NASA's Marshall Space Flight Center	https://youtu.be/5S2eZmW7RMw	'Diffusing' the Situation in Propellant Tanks May Benefit Future SLS Missions	A special piece of hardware called a low-profile diffuser is being designed, built and tested at NASA's Marshall Space Flight Center in Huntsville, Alabama, for propellant tanks. The diffuser maintains the density and required flow rate of the propellant. Using a smaller diffuser can free up space to raise the liquid level -- potentially increasing the amount of payload that can be carried on future launch vehicles, like NASA's Space Launch System, or SLS. (NASA/MSFC)	0
2014 06 20	NASA's Marshall Space Flight Center	https://youtu.be/qkGI6JeNY0E	NASA Tests Large Composite Rocket Tank	NASA is testing on one of the largest composite cryogenic rocket fuel tanks ever manufactured at Marshall Space Flight Center in Huntsville, Alabama.	Transcript Link
2014 06 17	NASA's Marshall Space Flight Center	https://youtu.be/TN8LB-Psxjw	NASA Turning Down the Volume on Rocket Noise	A 5-percent scale model, including solid rocket motors, of NASA's Space Launch System (SLS) is ignited to test how low- and high-frequency sound waves will affect the rocket on the launch pad. The data collected from the tests will be used to help direct and verify the design of the rocket's sound suppression system. SLS will be the most powerful rocket in history for deep space missions, including to an asteroid and ultimately to Mars. (NASA/MSFC/David Olive)	Transcript Link
2014 06 17	NASA's Marshall Space Flight Center	https://youtu.be/Gnq0aQBXSKY	NASA Turning Down the Volume on Rocket Noise	A 5-percent scale model, including solid rocket motors, of NASA's Space Launch System (SLS) is ignited to test how low- and high-frequency sound waves will affect the rocket on the launch pad. The data collected from the tests will be used to help direct and verify the design of the rocket's sound suppression system. SLS will be the most powerful rocket in history for deep space missions, including to an asteroid and ultimately to Mars. (NASA/MSFC/David Olive)	Transcript Link

2014 06 17	NASA's Marshall Space Flight Center	https://youtu.be/kWiA23HKfWY	NASA Turning Down the Volume on Rocket Noise	A 5-percent scale model, including solid rocket motors, of NASA's Space Launch System (SLS) is ignited to test how low- and high-frequency sound waves will affect the rocket on the launch pad. The data collected from the tests will be used to help direct and verify the design of the rocket's sound suppression system. SLS will be the most powerful rocket in history for deep space missions, including to an asteroid and ultimately to Mars. (NASA/MSFC/David Olive)	Transcript Link
2014 06 17	NASA's Marshall Space Flight Center	https://youtu.be/6DaTNLp--IY	NASA Using 3D Parts for Testing on Mini Model of World's Largest Rocket	Engineers at NASA's Marshall Space Flight Center in Huntsville, Ala., are using the latest technology -- 3D printing -- to make parts for a scale model of NASA's new rocket, the Space Launch System (SLS). The model is being used for acoustic testing, which will show how the powerful noise generated by the engines and boosters may affect the rocket and crew, especially during liftoff. The data will then be used to verify the design of the rocket's sound suppression system. (NASA/MSFC)	0
2014 06 09	NASA's Marshall Space Flight Center	https://youtu.be/jXhRNzxoMRA	Tour of the Flame Nebula	Astronomers have made an important advance in the understanding of how clusters of stars like our sun form using data from NASA's Chandra X-ray Observatory and infrared telescopes. By studying two clusters where sun-like stars are forming -- NGC 2024, at the center of the "Flame Nebula," and the Orion Nebula Cluster -- researchers have discovered the stars on the outskirts of the clusters are actually the oldest. (NASA/CXC/A. Hobart)	Transcript Link
2014 06 06	NASA's Marshall Space Flight Center	https://youtu.be/U_8EcnMwB24	The Whirlpool Galaxy Sparkles in X-rays	The galaxy Messier 51 is perhaps better known by its nickname, the "Whirlpool Galaxy." Like the Milky Way, the Whirlpool is a spiral galaxy with spectacular arms of stars and dust. By studying the Whirlpool in X-ray light, astronomers can reveal things that would otherwise be invisible in other wavelengths. (NASA/CXC/A. Hobart)	Transcript Link

2014 06 06	NASA's Marshall Space Flight Center	https://youtu.be/-O5gvEx0Drg	Sea Swells	Ten- to twelve-foot sea swells captured by Maury Estes during a fisheries field study in the Gulf of Mexico with NASA, NOAA and other academic and commercial partners.	Transcript Link
2014 06 06	NASA's Marshall Space Flight Center	https://youtu.be/UfB8MBSCAko	NASA 2014 Sample Return Robot Challenge	Eighteen teams of citizen inventors from across the globe will compete in the 2014 NASA Centennial Challenges Sample Return Robot Challenge June 11-13 on the campus of Worcester Polytechnic Institute (WPI) in Worcester, Massachusetts. Prize money of nearly $1.5 million is on the line in this third running of the challenge. The teams must demonstrate a robot that can locate and collect geologic samples from a wide and varied landscape without human control. The objective is to encourage innovations in automatic navigation and robotic manipulator technologies. Innovations stemming from this challenge may improve NASA's capability to explore a variety of destinations in space, as well as enhance the nation's robotic technology for use in industries and applications on Earth.	Transcript Link
2014 06 06	NASA's Marshall Space Flight Center	https://youtu.be/m0gNIHMUyk0	Cruising With Dolphins	Video of dolphins by research scientist Maury Estes during a NASA-sponsored field study in the Gulf of Mexico.	Transcript Link
2014 05 29	NASA's Marshall Space Flight Center	https://youtu.be/CB93MlTtdHQ	Test Control and Data Acquisition Center	Designed to be a combustion test facility for the U.S. Army in 1956, Marshall's test control and data acquisition center is now state-of-the-art. Marshall's test lab supports projects — NASA and other government agencies, plus commercial space — large and small.	Transcript Link

2014 05 28	NASA's Marshall Space Flight Center	https://youtu.be/CyHTu3IWmEQ	NASA 360 Presents Rover Madness	A quick peek at the action from the 2013 Sample Return Robot Centennial Challenge.	Transcript Link
2014 05 28	NASA's Marshall Space Flight Center	https://youtu.be/mbT7KyFu4-A	NASA 360 Presents Kicking Bot, Taking Samples	Watch as competitors in the 2013 Sample Return Robot Centennial Challenge kick some bot and take some samples.	Transcript Link
2014 05 27	NASA's Marshall Space Flight Center	https://youtu.be/H6l5m7ycfqw	NASA All Sky Cameras Find Camelopardalid Meteors	The first-ever Camelopardalid meteor shower peaked in the wee hours of Saturday, May 24, offering stargazers a rare sight — the debut meteor display from the dusty Comet 209P/LINEAR. Below is video footage of a Camelopardalid meteor recorded by our NASA camera at Allegheny Observatory near Pittsburg, PA at 11:22 PM EDT on May 24. Still images of Camelopardalids are available in our Flickr gallery.	Transcript Link
2014 05 21	NASA's Marshall Space Flight Center	https://youtu.be/b_C-aCJ4jzk	Engineers Test NASA's SLS Booster Forward Skirt to the Limits	NASA and ATK engineers complete structural loads testing on the Space Launch System (SLS) booster forward skirt at ATK's facility in Promontory, Utah. Structural loads tests are performed to ensure each piece of hardware can endure loads without any adverse effects to the vehicle, or most importantly, to the crew. (ATK)	Transcript Link

2014 05 16	NASA's Marshall Space Flight Center	https://youtu.be/AtDUBu6L2ik	Earthgrazer Seen In The Southern Sky	Last night at 8:38:30 PM CDT, a basketball size meteoroid entered the atmosphere 63 miles above Columbia, South Carolina. Moving northwest at 78,000 miles per hour, it burned up 52 miles above the Tennessee country side, just north of Chattanooga. This fireball was not part of any meteor shower and belongs to a class of meteors called Earthgrazers. These meteors skim along the upper part of the atmosphere before burning up. This one travelled a distance of 290 miles, which is quite rare for a meteor.	Transcript Link
2014 05 12	NASA's Marshall Space Flight Center	https://youtu.be/67w-OUhhf60	DEM L241 Hardy Star Survives Supernova Blast	Astronomers have found evidence for a companion star that survived the blast of a supernova explosion. The supernova remnant is called DEM L241 and is found in the Large Magellanic Cloud, a small neighboring galaxy to the Milky Way. (NASA/CXC/A. Hobart)	Transcript Link
2014 05 07	NASA's Marshall Space Flight Center	https://youtu.be/VHtETotYQIk	Solar Electric Propulsion Aids Cost-Effective Space Exploration	NASA's Solar Electric Propulsion (SEP) project, managed by NASA's Glenn Research Center in Cleveland, Ohio, is developing large solar arrays and high-powered electric thrusters that could enable cost-effective trips to Mars, asteroids and other destinations in our solar system. SEP will use an electrically propelled system energized by electric power from the on-board solar arrays that will use 10 times less propellant than a comparable, conventional chemical propulsion system. This will allow for reduced fuel mass that still has the capability to propel spacecraft for potential science missions, human exploration missions, or satellite servicing. (NASA)	Transcript Link
2014 05 01	NASA's Marshall Space Flight Center	https://youtu.be/wS6jKbt7P_Y	3-D printing Next Step to the Final Frontier	NASA and 3-D printer company Made in Space discuss how 3-D printing technology will enable astronauts to live and work better off planet. The Google+ hangout, hosted by Adam Mann with Wired magazine, features NASA's LaNetra Tate, program executive for additive manufacturing, and Niki Werkheiser, who coordinates the agency's activities with Made in Space. Joining them is Made in Space's Chief Security Officer, Michael Chen. (NASA/MSFC)	Transcript Link

2014 04 23	NASA's Marshall Space Flight Center	https://youtu.be/EGriq_yuqpU	Video Collage 2014 Lyrid Meteor Shower	The Lyrid meteor shower peaked on April 22, with the highest rates of meteors, about 20 per hour, occurring just before dawn. Lyrids are pieces of debris from the periodic Comet C/1861 G1 Thatcher and have been observed for more than 2,600 years. In mid-April of each year, Earth runs into the stream of debris from the comet, which causes the Lyrid meteor shower. You can tell if a meteor belongs to a particular shower by tracing back its path to see if it originates near a specific point in the sky, called the radiant. The constellation in which the radiant is located gives the shower its name, and in this case, Lyrids appear to come from a point in the constellation Lyra. Images/video of Lyrids were captured by the NASA All Sky Fireball Network.	Transcript Link
2014 04 23	NASA's Marshall Space Flight Center	https://youtu.be/d0zceTXaVDc	Bright Fireball in Northern Mississippi and Southern Tennessee	A bright first appeared 51 miles above the town of Dumas in northern Mississippi and proceeded slightly west of north at 40,000 mph, burning up between the Tennessee towns of Saulsbury and Middleton at an altitude of 23 miles. The time of the event was 12:46:36 AM CDT. It was about as a bright as a crescent Moon, which translates into an object of about 6 inches in diameter. The orbit indicates that this meteor got as close to the Sun as the planet Venus and as nearly as far out as Mars before kamikazing into our atmosphere.	Transcript Link
2014 04 17	NASA's Marshall Space Flight Center	https://youtu.be/qtBUMz2Vipw	Together, We Make Bold Things Happen	Marshall has a significant impact on the local community and region in terms of dollars and jobs. But, the greatest impact is less obvious. Marshall technologies, investments in research and education, and the generosity of its employees touch all our lives. (NASA/MSFC)	Transcript Link
2014 04 11	NASA's Marshall Space Flight Center	https://youtu.be/-kAMpmMhnXY	J-2X Engine Wraps Up Latest Test Series	The J-2X engine wrapped up its latest test series on April 10 at NASA's Stennis Space Center. A number of J-2X test objectives offer benefits to the upcoming RS-25 test campaign. (NASA/SSC)	Transcript Link

2014 04 04	NASA's Marshall Space Flight Center	https://youtu.be/KaeRSpQQEe0	NASA Collaborates with Team Redstone on Solid Rocket Motor Test	A 24-inch, two-segment solid rocket motor blazed to life with 50,000 pounds of thrust during a hot fire test. Engineers from NASA's Marshall Space Flight Center in Huntsville, Ala., conducted the test at a nearby Redstone Arsenal test facility capable of testing solid rocket motors in a vertical configuration.	Transcript Link
2014 03 20	NASA's Marshall Space Flight Center	https://youtu.be/jc52ssQ65cU	Manufacturing A Large Composite Rocket Fuel Tank	A team of engineers from NASA and Boeing came up with a unique propellant tank design and manufacturing process to build one of the largest composite rocket fuel tanks ever made. The 18-foot-diameter (5.5-meter) tank will be tested with cryogenic hydrogen at NASA's Marshall Space Flight Center in Huntsville, Ala.	Transcript Link
2014 03 20	NASA's Marshall Space Flight Center	https://youtu.be/lepOuxI6GJc	Math Models Make F-18 into Space Launch System	Engineers at NASA's Marshall Space Flight Center talk about the new flight control system for the agency's Space Launch System. When completed, the rocket will be the largest, most powerful launch vehicle to support deep space missions. (NASA/MSFC)	Transcript Link
2014 03 18	NASA's Marshall Space Flight Center	https://youtu.be/_gCsUvlj5P4	Measuring a Distant Black Hole's Spin	Black holes are defined by just two simple characteristics: mass and spin. Data from NASA's Chandra X-ray Observatory and ESA's XMM-Newton is helping address the spin question. By a lucky alignment, the light from a quasar some six billion light years away (RX J1131-1231) has ultimately given researchers information about how fast the supermassive black hole at the center of the quasar is spinning. This will help astronomers understand just how black holes grow over time across the universe. (NASA/CXC/A. Hobart)	Transcript Link

2014 03 13	NASA's Marshall Space Flight Center	https://youtu.be/ankPUlGngGY	NASA Marshall and Sierra Nevada Partner to Enhance Science Payloads on Dream Chaser	This video is the press conference coverage of NASA's Marshall Space Flight Center and Sierra Nevada Corporation (SNC) announcing an expanded collaboration to advance the planning and development of potential science research during future Dream Chaser spacecraft missions.	0
2014 03 05	NASA's Marshall Space Flight Center	https://youtu.be/B75xmeeKH0c	Meteoroids, Meteorites, Fireballs - What's the Difference	NASA's Bill Cooke, lead of the Meteoroid Environment Office, has always enjoyed watching the skies and eagerly shares his knowledge of astrophysics with new audiences. Last summer Cooke spoke about the basics of the meteoroid environment with teachers at an educator's workshop in Huntsville, Ala. In this video he explains the subtle differences between meteoroids, meteorites and fireballs.	Transcript Link
2014 03 05	NASA's Marshall Space Flight Center	https://youtu.be/IOFxrzOR7q4	Small Models Taking the Heat to Help Engineers Better Understand...Heat	Mini models of the Space Launch System (SLS) core stage engines are ignited in a big way for a short-duration hot-fire test. As the main objectives of the Pathfinder Test Program, models of the SLS core stage RS-25 engines and solid rocket boosters -- scaled down to just 2 percent of the actual size of the flight hardware -- have been designed, built and hot-fire tested at sea-level conditions by Marshall Space Flight Center engineers, in close collaboration with Calspan-University of Buffalo Research Center Inc. in Buffalo, N.Y. The replicas will provide data on the convective heating environments that the base of the vehicle will experience upon ascent. The models were developed for base heating testing scheduled for this summer. When completed, SLS, NASA's new rocket, will be one of the biggest, most powerful rockets ever built.	0
2014 03 03	NASA's Marshall Space Flight Center	https://youtu.be/2GXMgdOim-Q	2014 Women's History Month Profile Teresa Vanhooser, MSFC	While growing up in Johnson City, Tenn., Teresa Vanhooser wanted to follow her passion for mathematics. Now she's the deputy director of one of NASA's largest field centers — the Marshall Space Flight Center in Huntsville, Ala. Learn more about her story, how she was the lone female engineer in her branch when she started at NASA and how she wants to help young people develop their careers.	Transcript Link

2014 02 24	NASA's Marshall Space Flight Center	https://youtu.be/1c9a5somC9U	2014 NASA African-American History Month Profile Nadra Hatchett, MSFC	Nadra Hatchett, an aerospace engineer and technical assistant in the Marshall Space Flight Center's Office of the Center Director, shares the "lighted path" she has followed to become an integral part of the workforce at NASA.	0
2014 01 30	NASA's Marshall Space Flight Center	https://youtu.be/NCm1H1-LWDs	Orion Stage Adapter Ready for Flight	The adapter that will connect NASA's Orion spacecraft to a Delta IV rocket for Orion's first mission in September is complete. During Orion's first mission, called Exploration Flight Test-1, the spacecraft will travel to an altitude of approximately 3,600 miles above Earth's surface before re-entering the atmosphere traveling approximately 20,000 mph at temperatures above 4,000 degrees Fahrenheit. The uncrewed flight will provide engineers with important data about Orion's heat shield and other elements, including the adapter's performance before it is flown in 2017 as part of the first SLS mission. (NASA/MSFC/Anthony Orton)	Transcript Link
2014 01 29	NASA's Marshall Space Flight Center	https://youtu.be/SY_P1203OM4	Space Launch System Acoustic Testing [Audio Balance Corrected]	Note: this video contains a rebalanced audio track from the original video at: http://youtu.be/bKAkvXYg47Q Caption: The first round of acoustic tests on a scale model of NASA's Space Launch System (SLS) is underway. The tests will allow engineers to verify the design of the sound suppression system being developed for the agency's new deep space rocket. (NASA)	Transcript Link
2014 01 27	NASA's Marshall Space Flight Center	https://youtu.be/e8W544qd5DE	Astronaut Chris Cassidy Discusses Exploration	Astronaut Chris Cassidy performed experiments for more than five months on the International Space Station working with the team in the Payload Operations Control Center at NASA's Marshall Space Flight Center in Huntsville, Ala. He discusses how station experiments and the Space Launch System are critical for future space exploration.	Transcript Link

2014 01 10	NASA's Marshall Space Flight Center	https://youtu.be/uj8eB3Ip85c	NASA Powers Up State-of-the-Art Space Launch System Software Avionics	The modern avionics system that will guide NASA's Space Launch System (SLS), the most powerful rocket ever built, has seen the light. The flight software and avionics for SLS were integrated and powered for testing Jan. 9 at NASA's Marshall Space Flight Center in Huntsville, Ala., as part of a milestone known as first light. The milestone enables early integration and testing of avionics and software to help NASA perfect the system and ensure the units communicate together as designed. Avionics tell the rocket where it should fly and how it should pivot its engines to stay on course. (Boeing)	Transcript Link
2014 01 08	NASA's Marshall Space Flight Center	https://youtu.be/nyhKY-5KmHE	A Tour of Galaxy Cluster Abell 1795	A star that wanders too close to a supermassive black hole is doomed, as it should be ripped apart by extreme tidal forces. The debris from the star is expected to fall towards the black hole, getting hotter and producing intense X-rays. The X-rays should then fade as the hot gas spirals inward. Using Chandra, this behavior may have been spotted, for the first time, in a dwarf galaxy. Bright X-rays from the location of this small galaxy were seen in 1999 until they faded and eventually disappeared in 2005. In the past few years, Chandra and other astronomical satellites have identified several suspected cases of a supermassive black hole ripping apart a nearby star. This newly discovered episode is different because it has been associated with a much smaller galaxy than these other cases. The black hole responsible for the destruction may be only a few hundred thousand times as massive as the Sun, making it ten times less massive than the galaxy's supermassive black hole. Astronomers believe that black holes of this size may be the "seeds" that ultimately formed the supermassive black holes in the centers of galaxies like the Milky Way. (NASA/CXC/A. Hobart)	Transcript Link
2013 12 20	NASA's Marshall Space Flight Center	https://youtu.be/R6PjMwIagdo	Centennial Challenges Accepting Challenge Ideas	NASA's Centennial Challenges prize program is accepting ideas for new challenges in 2014. Furthering our capabilities through competition generates revolutionary ideas from non-traditional sources. If we select your idea, you will have the chance to work with NASA to run the challenge, and Centennial Challenges will provide the prize money. The program is managed at NASA's Marshall Space Flight Center in Huntsville, Ala. (NASA/MSFC)	Transcript Link

2013 12 18	NASA's Marshall Space Flight Center	https://youtu.be/vJ1oxlau_r4	Bright Fireball Event over Tennessee	A bright fireball event occurred on Dec. 17 at 8:20:40 PM CST. It started out 52 miles above I-24 just south of Manchester, TN and moved to the northwest at 50,000 mph. The all sky camera lost track of it at an altitude of 23 miles just to the northwest of Shelbyville. The closest camera (Tullahoma, TN) shows that the fireball was about as bright as the full moon, which means we are dealing with an object about 20 inches across and weighing approximately 400 lbs. Orbit indicates this object is a piece of an asteroid, with an aphelion in the main asteroid belt between Mars and Jupiter, and perihelion (closest point to the sun) inside the orbit of Venus.	Transcript Link
2013 12 16	NASA's Marshall Space Flight Center	https://youtu.be/nUjpVBktTAI	Shell Buckling Test	NASA completed a series of high-tech can-crushing tests as an enormous fuel tank crumbled under the pressure of almost a million pounds of force, all in the name of building lighter, more affordable rockets. The rare test with an aluminum-lithium cylinder as large as a full-size rocket fuel tank was conducted inside the structural test area at NASA's Marshall Space Flight Center in Huntsville, Ala. (NASA/MSFC)	Transcript Link
2013 12 13	NASA's Marshall Space Flight Center	https://youtu.be/kVsDgKj8LfU	Video the ISS Transits the Moon over Decatur, Alabama - Part B	Watch closely and you will see the International Space Station, or ISS, cross the disk of the gibbous moon. Traveling at more than 17,000 mph, the ISS occasionally appears to pass in front of the moon or sun. These events go largely unnoticed, however, because viewers have to be along a very narrow path on Earth, one just a few miles wide, and the entire transit takes less than one second. This video is an animation of five frames taken with an 8-inch Schmidt Cassegrain telescope equipped with a DSLR camera. Watch Part A for a real time view. Passing cirrus clouds resulted in slightly fuzzy images, but one can still make out the station's solar arrays as they pass across the illuminated portion of the Moon. Video credits: NASA/MSFC/ESSSA/Aaron Kingery and NASA/MSFC/MEO/Cameron McCarty	Transcript Link

2013 12 13	NASA's Marshall Space Flight Center	https://youtu.be/mtDrz7sIi7s	Video the ISS Transits the Moon over Decatur, Alabama - Part A	Watch closely and you will see the International Space Station, or ISS, cross the disk of the gibbous moon. Traveling at more than 17,000 mph, the ISS occasionally appears to pass in front of the moon or sun. These events go largely unnoticed, however, because viewers have to be along a very narrow path on Earth, one just a few miles wide, and the entire transit takes less than one second. This video is captured in real time, and provides a good idea of the brevity of the event. It was taken using a small refracting telescope and a Watec video camera. Watch Part B for a larger version. Passing cirrus clouds resulted in slightly fuzzy images, but one can still make out the station's solar arrays as they pass across the illuminated portion of the Moon. Video credits: NASA/MSFC/ESSSA/Aaron Kingery and NASA/MSFC/MEO/Cameron McCarty	Transcript Link
2013 12 12	NASA's Marshall Space Flight Center	https://youtu.be/RpWb14Bf3Lk	NASA Human Exploration Rover Challenge	NASA is introducing a new engineering design challenge that will focus on NASA's current plans to explore planets, moons, asteroids and comets -- all members of the solar system family. The new NASA Human Exploration Rover Challenge (formerly NASA Great Moonbuggy Race) will be held April 10-12, 2014, at the U. S. Space & Rocket Center. For more information visit www.nasa.gov/roverchallenge.	Transcript Link
2013 12 11	NASA's Marshall Space Flight Center	https://youtu.be/P--k0OYzUI8	Space Launch System Lays a Solid Foundation	The foundation has been poured for the Vertical Assembly Center (VAC) in support of NASA's Space Launch System (SLS). The VAC, measuring 170 feet tall and weighing 3 million pounds, will be one of the largest friction-stir-welding tools in the world. It took 90 truckloads of material to pour the 900 cubic yards of concrete to support the VAC. The tool will be used to weld together the barrel sections of the liquid oxygen and liquid hydrogen tanks for the SLS. (NASA/MSFC)	Transcript Link
2013 12 06	NASA's Marshall Space Flight Center	https://youtu.be/5_VF92IoEqk	NASA's Solar Dynamics Observatory Reveals Giant Plasma Flows on Sun	Astrophysicist Dr. David Hathaway of NASA's Marshall Space Flight Center in Huntsville, Ala., tells how he and his colleagues used data from NASA's Solar Dynamics Observatory, or SDO, confirm the existence of giant flows of gases and plasma moving heat from the sun's interior to its surface. The findings end 45 years of speculation about the "giant convection cells" and advance understanding of the formation of sunspot activity that causes space weather events, which can impact power grids and disrupt telecommunications infrastructure on Earth.	Transcript Link

2013 12 02	NASA's Marshall Space Flight Center	https://youtu.be/I-G8BI2ImGU	Orion Flight Test Hardware Thrives Under Pressure	Hardware that will keep harmful gases away from the Orion's spacecraft during its first trip to space proved it won't bend under pressure during a recent test at NASA's Marshall Space Flight Center. The diaphragm for Exploration Flight Test (EFT)-1 was joined to an adapter prototype for pressurized testing. For the test, the adapter was sealed and a vacuum pump was connected to the diaphragm. The vacuum pressure simulates atmospheric conditions the hardware may experience during the mission. (NASA/MSFC)	Transcript Link
2013 11 22	NASA's Marshall Space Flight Center	https://youtu.be/mOBdy272SHk	Payload Operations Integration Center Tour	Step inside the International Space Station Payload Operations Integration Center at NASA's Marshall Space Flight Center in Huntsville, Ala. Listen to the people who work around-the-clock with scientists around the world and the crew in space to conduct experiments that improve life on Earth and enable deep space exploration. (NASA/MSFC)	Transcript Link
2013 11 21	NASA's Marshall Space Flight Center	https://youtu.be/UBTJWhRHoDU	Environmental Test	When spacecraft meets nature, the results can be disastrous unless the craft is designed and built with the right specifications to be able to withstand harsh environments. And by viewing the spacecraft and the environment as one system, Marshall experts understand how to anticipate and avoid or overcome hardware anomalies caused by nature to help ensure the needs of the mission are met. (NASA/MSFC)	Transcript Link
2013 11 21	NASA's Marshall Space Flight Center	https://youtu.be/CcRsmsjHRq0	Life Support Systems	To extend the International Space Station, and for future exploration missions beyond LEO, life support systems require improving cost, mass, and efficient technical assembly of future systems. Marshall leverages its expertise in life support systems, as well as close collaboration with research and industry partners, to advance toward a goal of fully closed-loop, regenerative, and integrated air/water life support systems. (NASA/MSFC)	Transcript Link

2013 11 21	NASA's Marshall Space Flight Center	https://youtu.be/8OQ9B93AZm8	GN&C and Flight Systems	Guidance, navigation and control, or GN&C, is a fundamental, cross-cutting enabling discipline of spaceflight. Flight software (FSW) serves as the “glue” that integrates all the flight hardware systems. (NASA/MSFC)	Transcript Link
2013 11 21	NASA's Marshall Space Flight Center	https://youtu.be/rJGY82R_vNk	Additive Manufacturing	Marshall established the Additive Manufacturing Lab in 1991, with a goal of finding low-cost solutions to obsolete hardware issues at NASA and the Department of Defense. (NASA/MSFC)	Transcript Link
2013 11 21	NASA's Marshall Space Flight Center	https://youtu.be/x8Bu-ZWVUwE	Composite Manufacturing	The Composites Manufacturing Team provides advanced composites structures development utilizing state-of-the art methods. (NASA/Marshall)	Transcript Link
2013 11 21	NASA's Marshall Space Flight Center	https://youtu.be/G8kYifAptnM	Structural Design and Analysis	The Marshall Structural System Design and Analysis- SSD&A capability is a complete set of methods and tools used to develop concepts to ensure the physical integrity of prototype, development, ground, and flight hardware systems. (NASA/MSFC)	Transcript Link

2013 11 21	NASA's Marshall Space Flight Center	https://youtu.be/ssLOujezkxo	Non-metallic Materials	The Nonmetallic Materials Branch supports, directs, and conducts nonmetallic material research and development efforts including laboratory, field, and flight experiments.(NASA/MSFC)	Transcript Link
2013 11 21	NASA's Marshall Space Flight Center	https://youtu.be/NHS5AgZLsiY	Welding	The Advanced Weld Process Development Laboratory specializes in advancing joining processes and transferring the technologies from laboratory scale to full-scale manufacturing of very large complex structures. (NASA/MSFC)	Transcript Link
2013 11 21	NASA's Marshall Space Flight Center	https://youtu.be/tilFo8-zQ7U	Avionics and Electrical Systems	The Marshall Space Flight Center’s experts in Avionics provide in-depth engineering for the research, design, development, fabrication and evaluation of avionics systems. (NASA/MSFC)	Transcript Link
2013 11 21	NASA's Marshall Space Flight Center	https://youtu.be/nYWMqQaURGY	Advanced Concepts	Providing advanced concepts and powerful multi-discipline systems analysis, Marshall's Advanced Concepts Office specializes in high-fidelity concept studies for space exploration systems. For today's competitive environment, ACO provides a rigorous, expedient, and cost-effective way to achieve every mission's design goals. (NASA/MSFC)	Transcript Link

2013 11 19	NASA's Marshall Space Flight Center	https://youtu.be/ZVp5s0YOqhU	James Webb Space Telescope Overview of 2013 Testing at Marshall	Marshall has several one-of-a-kind facilities necessary for simulating the extreme environments that space hardware is expected to withstand during space operations. These unique facilities allow Marshall to contribute to NASA's diverse suite of flight missions, projects and programs that expand humanity's understanding of the universe.	Transcript Link
2013 11 08	NASA's Marshall Space Flight Center	https://youtu.be/MP95ZUTK6LQ	Brilliant Fireball Over Lake Ontario	On Sept. 25, 2009 at 10:03 p.m. EDT (01:03 UT Sept 26), seven all-sky cameras of Western's Southern Ontario Meteor Network (SOMN) recorded a brilliant fireball in the evening sky over the west end of Lake Ontario. This event is representative of a fireball which produces meteorites, in this case those falling near the town of Grimsby, Ontario. Fireballs occur fairly often - though they often go unnoticed due to weather or time of night - but meteorite droppers such as this are rare -- about once a month over North America. (Western's Southern Ontario Meteor Network)	Transcript Link
2013 11 05	NASA's Marshall Space Flight Center	https://youtu.be/FnOUiRcHpO4	Cutting More than Metal	NASA engineers at the Marshall Space Flight Center in Huntsville, Ala., demonstrate new digital tools that enable affordable space missions.	Transcript Link
2013 11 04	NASA's Marshall Space Flight Center	https://youtu.be/RjOaigNT5KY	Mighty Eagle 25m Hazard Avoidance Testing	: On September 20th 2013, the Mighty Eagle tested a lightweight, low cost hazard avoidance system over a simulated lunar terrain field developed for the flight series. The testbed used an off-the-shelf stereo camera system to detect hazards at an altitude of 25 meters and landed safely after its 38 second flight. Video for the test was shot with 8 low-cost GoPro cameras: 5 onboard, 2 on the ground and 1 on a quadcopter, which took air-to-air video.	Transcript Link

2013 10 24	NASA's Marshall Space Flight Center	https://youtu.be/ITNHNOGTTq8	Time-Lapse of Supermassive Black Hole Sagittarius A	Researchers have found evidence that the normally dim region very close to the supermassive black hole at the center of the Milky Way galaxy flared up with at least two bright outbursts in the past few hundred years. These images are from a study of Chandra observations taken over twelve years that show rapid variations in the X-ray emission from gas clouds surrounding the supermassive black hole. The phenomenon, known as a "light echo," provides astronomers an opportunity to piece together what objects like Sgr A* were doing long before there were X-ray telescopes to observe them. (NASA/CXC/A. Hobart)	Transcript Link
2013 10 22	NASA's Marshall Space Flight Center	https://youtu.be/yKHn2h_PqqA	Bright Meteor over New Mexico	Just so you know -- there was a very bright event over Southwest on Saturday, October 19 at 8:16 PM local time. The fireball was picked up New Mexico State University meteor camera. It looks to be a grazing fireball.	Transcript Link
2013 09 25	NASA's Marshall Space Flight Center	https://youtu.be/dyuD4kRu0mw	Two-Minute Tour An Ultra-Compact Dwarf Galaxy	Astronomers may have discovered the densest galaxy in the nearby Universe. The galaxy, known as M60-UCD1, is located about 54 million light years from Earth. M60-UCD1 is packed with an extraordinary number of stars and this has led scientists to classify it as an "ultra-compact dwarf galaxy." This means that this galaxy is smaller and has more stars than just a regular dwarf galaxy. While astronomers already knew this, it wasn't until these latest results from Chandra, Hubble and telescopes on the ground that they knew just how dense this galaxy truly is. M60-UCD1 has the mass about 200 million times our sun and, remarkably, about half of this mass is packed into a radius of just about 80 light years. That translates into the density of stars in this part of M60-UCD1 being about 15,000 times greater than what's found in Earth's neighborhood in the Milky Way. Astronomers have been trying to determine where these ultra-compact dwarf galaxies fit into the galactic evolutionary chain. Some have suggested they start off not as galaxies but as giant star clusters. The latest results on M60-UCD1 challenge that idea. The new Chandra data indicate that there may be a supermassive black hole at the center of M60-UCD1. If that's the case, then it's unlikely this object could have ever been a star cluster. Instead, the X-ray data point to this galaxy being the remnants of a larger galaxy that had its outer stars ripped away by tidal forces, leaving behind the dense inner core of the galaxy. Other information about M60-UCD1 including its large mass, point to the same conclusion. Regardless, this galaxy is a fascinating object that astronomers will be studying for a long time to come. (NASA/CXC/A. Hobart)	Transcript Link

2013 09 17	NASA's Marshall Space Flight Center	https://youtu.be/Vd48iGcvz4U	Jessica Gaskin Talks About Dual Purpose Mission	Jessica Gaskin, Co-Investigator for "High Energy Replicated Optics to Explore the Sun", or HEROES, talks about the past 15 months she has spent working on the project. HEROES is a powerful X-ray telescope which has a dual purpose. During the day, it will study solar flares, providing new insight into the way the sun's magnetic energy functions. At night, the telescope's eye will turn outward to the stars, observing a variety of astrophysical targets.	Transcript Link
2013 09 12	NASA's Marshall Space Flight Center	https://youtu.be/se-Y1HHBrGY	Astronaut Chris Cassidy Talks About Conducting Space Station Experiments	Flight Engineer Chris Cassidy, who lived and worked nearly six months during Expedition 36 aboard the International Space Station, discusses experiments he conducted on the space station with the help of a team of payload operations controllers at NASA's Marshall Space Flight Center in Huntsville, Ala. Cassidy spent 166 days in space from March 13 to Sept. 10, 2013. He completed 2,656 orbits around the planet and clocked more than 70 million miles -- all while conducting hundreds of experiments that will benefit people on Earth and future explorers.	0
2013 09 10	NASA's Marshall Space Flight Center	https://youtu.be/0VZBs5F6T7s	Meteor Fragment Streaks Over Alabama and Georgia	Monday, Sept. 9 at 8:18 PM Central Time, a baseball size fragment of a comet entered Earth's atmosphere above Alabama, moving southwest at a speed of 76,000 miles per hour. At such speeds, fragile cometary material will not last long. Just 3 seconds after hitting the atmosphere, the meteor disintegrated 25 miles above the town of Woodstock, producing a flash of light rivaling the waxing crescent Moon. Because it penetrated so deep into Earth's atmosphere, sonic booms were produced, which were heard by eyewitnesses. A montage of the fireball as seen by 5 NASA cameras in the Southeast is attached, along with the meteor's trajectory, which lies south of Birmingham. Also attached is a diagram showing the meteor's orbit, which extends well beyond the orbit of Jupiter and is similar to those of comets. It was not a member of any known meteor shower. A fireball is a meteor brighter than the planet Venus - the fireball seen Monday night was 15 times brighter than Venus. The NASA cameras observing this event are located at Marshall Space Flight Center in Huntsville; the James Smith Planetarium near Chickamauga, Georgia; the Tellus Science Museum in Cartersville Georgia; and the North Georgia College Observatory near Dahlonega, Georgia.	Transcript Link

2013 09 06	NASA's Marshall Space Flight Center	https://youtu.be/LAEXMyiijfg	One Final Test for J-2X Engine No. 10002	J-2X Engine No. 10002 is test fired for the final time on the A-1 test stand at NASA's Stennis Space Center. The 330-second test was the last in a series of gimbal, or pivot, tests on the engine. Following the removal of this engine, the test stand will be modified to begin RS-25 engine testing. J-2X testing has provided valuable data and experience for the team developing the RS-25 engine, which will power the core stage of NASA's new Space Launch System. (NASA/SSC)	Transcript Link
2013 09 05	NASA's Marshall Space Flight Center	https://youtu.be/ii0o8QNZxLs	Marshall Space Flight Center Partnerships	Join a legendary institution of space exploration to build partnerships for the future. A highly skilled and diverse workforce. Proven technical and scientific experience. State-of-the-art laboratories and test facilities.For over fifty years, Marshall Space Flight Center has delivered safe, affordable and sustainable solutions to change our world and bring us closer to countless others across the cosmos. (NASA/MSFC)	Transcript Link
2013 09 03	NASA's Marshall Space Flight Center	https://youtu.be/cVlJWPGP7g4	Meteor Captured Over Southeastern U.S.	Early Wednesday morning, at 3:27:20 AM Eastern Time, a piece of an asteroid, about 2 feet in diameter and weighing over 100 pounds, entered Earth's atmosphere above the Georgia/Tennessee border, just south of Cleveland. The meteor was moving northeast at 56,000 miles per hour, and began to break apart north east of Ocoee, at an altitude of 33 miles. A second, fragmentation occurred less than half a second later, at an altitude of 29 miles. NASA cameras lost track of the fireball pieces at an altitude of 21 miles, by which time they had slowed to a speed of 19,400 mph. Sensors on the ground recorded sound waves ("sonic booms") from this event, and there are indications on Doppler weather radar of a rain of small meteoritic particles falling to the ground east of Cleveland, Tennessee.	Transcript Link
2013 09 03	NASA's Marshall Space Flight Center	https://youtu.be/pVQ_NgfHs7E	Bright Meteor Captured Over Georgia Tennessee	Early Wednesday morning, at 3:27:20 AM Eastern Time, a piece of an asteroid, about 2 feet in diameter and weighing over 100 pounds, entered Earth's atmosphere above the Georgia/Tennessee border, just south of Cleveland. The meteor was moving northeast at 56,000 miles per hour, and began to break apart north east of Ocoee, at an altitude of 33 miles. Recorded by all six NASA cameras in the Southeast, this fireball was one of the brightest observed by the network in 5 years of operations. From Chickamauga, Georgia, the meteor was 20 times brighter than the Full Moon; shadows were cast on the ground as far south as Cartersville.	Transcript Link

2013 09 03	NASA's Marshall Space Flight Center	https://youtu.be/FNxUpFrbm2E	Benefits of Green Propellant	Green propellant can reduce program and overall mission costs for attitude control of spacecraft, such as reducing or eliminating the hazards and environmental dangers associated with hydrazine.(NASA/MSFC)	Transcript Link
2013 08 27	NASA's Marshall Space Flight Center	https://youtu.be/gjpkAdLzwCY	3-D Printed Injector Roars to Life	A 3-D printed injector roars to life on a test stand at NASA's Marshall Space Flight Center in Huntsville, Ala. The injector fabricated with a technique called 3-D printing, or additive manufacturing, produced a record 20,000 pounds of thrust and was the largest rocket engine part of its kind tested by NASA to date. (NASA/MSFC)	Transcript Link
2013 08 27	NASA's Marshall Space Flight Center	https://youtu.be/sJTkhXjywpQ	Printing Rocket Engine Parts	Watch this video to learn how NASA engineers designed and tested a large 3-D printed rocket engine part. (NASA/MSFC)	Transcript Link
2013 08 26	NASA's Marshall Space Flight Center	https://youtu.be/JntV442dB5o	3-D Printed Injector Hot Firing	Watch this GoPro video to see a 3-D printed injector hot firing from the test stand. (NASA/MSFC)	Transcript Link

2013 08 16	NASA's Marshall Space Flight Center	https://youtu.be/CMWNu7TxsGU	'Sammy the Second' Highlights Impact of Deep Space Atomic Clock Project	A new video from NASA's Jet Propulsion Laboratory in Pasadena, Calif., uses an engaging animated character named "Sammy the Second" to explore the value and potential impact of the innovative Deep Space Atomic Clock project -- a NASA Technology Demonstration Mission to revolutionize deep-space navigation. The 4-minute video illustrates the role of time in calculating explorers' positions -- from early seafarers who circumnavigated the globe using clocks and the stars, to modern, satellite-based global positioning systems and deep-space radio navigation systems. It explains how the Deep Space Atomic Clock will demonstrate -- during a space mission planned for 2015 -- use of a small, mercury-ion atomic clock at least an order of magnitude more accurate than today's best navigation clocks. (NASA/JPL) Read more: http://www.nasa.gov/mission_pages/tdm/clock/sammy-the-second.html	0
2013 08 14	NASA's Marshall Space Flight Center	https://youtu.be/VGpsLgrqjnc	Adapter Fit Check Successful	An adapter that will connect NASA's Orion spacecraft to a United Launch Alliance Delta IV rocket for Exploration Flight Test-1 in 2014 and eventually to NASA's Space Launch System, underwent a successful fit check with the Delta IV test article at NASA's Marshall Space Flight Center in Huntsville, Ala. (NASA/MSFC)	Transcript Link
2013 08 13	NASA's Marshall Space Flight Center	https://youtu.be/CoGRN3EO6W8	Astronaut Kevin Ford Visits Marshall Space Flight Center	Astronaut Kevin Ford, who lived and worked nearly five months and served as the Expedition 34 commander aboard the International Space Station, visited NASA's Marshall Space Flight Center in Huntsville, Ala., on Aug. 8, 2103. He shared highlights from his mission and became the first astronaut to hang a mission plaque in Marshall's recently updated Payload Operations Integration Center where controllers work with station crews to carry out more than 200 experiments during each expedition.	Transcript Link

2013 08 13	NASA's Marshall Space Flight Center	https://youtu.be/omkXIVtcMqw	NASA All Sky Fireball Network Cameras Catch Perseids	The annual Perseid meteor shower peaked on Aug. 12 and 13, 2013, filling the sky with streaks of light caused by the meteoroids burning up in Earth's atmosphere. Big meteor showers like the Perseids, are caused when Earth travels through a region of space filled with debris shed by a comet. The Perseids have been observed for at least 2,000 years and are the small fragments from comet Swift-Tuttle. These bits of ice and dust wander in space for centuries, finally burning up in the Earth's atmosphere to create one of the best meteor showers of the year. (NASA/MSFC/ MEO)	Transcript Link
2013 08 12	NASA's Marshall Space Flight Center	https://youtu.be/1Jwxn6EzW84	3-D Printing in Zero Gravity	The goal of 3-D printing is to take this capability to microgravity for use on the International Space Station. In space, whatever astronauts have available on orbit is what they have to use -- but just like on Earth, parts break or get lost. When that happens, there's a wait for replacement parts, or the need to have multiple spares that have to be launched. The ability to conduct 3-D printing in space could change all of that. (NASA/MSFC)	Transcript Link
2013 08 02	NASA's Marshall Space Flight Center	https://youtu.be/MaDgjVJow-s	A Brilliant Capricornid Meteor	This video shows part of the fiery trail of a Capricornid meteor, captured by a high-resolution camera system at NASA's Marshall Space Flight Center on Aug, 1 at 12:17 a.m. EDT. The brilliant Capricornid meteor was streaking through a clear patch of sky and traveling at 54,000 miles per hour. It was first seen 53 miles above Toney, Ala., and moved north by northwest before burning up in a flash of light 47 miles above Taft, Tenn. (NASA/MSFC/MEO)	Transcript Link
2013 08 02	NASA's Marshall Space Flight Center	https://youtu.be/dZgAtG9ViaQ	Celestial Fireworks	In this video segment recorded on Aug. 1, 2013 at 12:17 a.m. EDT, a NASA meteor camera at the Marshall Space Flight Center, catches a flash of lightning that illuminates the sky to the southwest. Seconds later, a brilliant Capricornid meteor streaks through a clear patch of sky, traveling at 54,000 miles per hour. Far higher than the lightning, the meteor was first seen 53 miles above Toney, Ala., and moved north by northwest before burning up in a flash of light 47 miles above Taft, Tenn. (NASA/MSFC/MEO)	Transcript Link

2013 08 01	NASA's Marshall Space Flight Center	https://youtu.be/gfyL31ORKB4	Perseids Already Lighting Up The Night	Here is a video of a bright Perseid seen by our all-sky camera located at PARI (NC) in the early morning hours of July 30. Several Perseids have already been detected and they are not set to peak for over a week! The nights of August 11-12 and 12-13 will be the best time to observe, but check out fireballs.ndc.nasa.gov regularly to see how many have already been detected by our all-sky cameras!	Transcript Link
2013 08 01	NASA's Marshall Space Flight Center	https://youtu.be/ig98h3Q9iu4	Space Launch System Preliminary Design Review	The SLS Preliminary Design Review (PDR) was held July 31 at NASA's Marshall Space Flight Center, Huntsville, Ala., where some 20 NASA representatives signed the SLS PDR certificate validating the SLS Program has demonstrated readiness to proceed to the next major milestone review. (NASA/MSFC)	Transcript Link
2013 07 30	NASA's Marshall Space Flight Center	https://youtu.be/K00usdSxhuQ	First Liquid Hydrogen Tank Barrel Segment, SLS Core Stage	Engineers at NASA's Michoud Assembly Facility transfer a 22-foot-tall barrel section of the SLS core stage from the Vertical Weld Center. The barrel section, above, will be used for the liquid hydrogen tank, which will help power the SLS rocket out of Earth's orbit. (NASA/Michoud)	Transcript Link
2013 07 26	NASA's Marshall Space Flight Center	https://youtu.be/uzHJr1PUbgs	Deep Space Atomic Clock Ticks Toward Success	Dr. Todd Ely, principal investigator for NASA's Deep Space Atomic Clock at the Jet Propulsion Laboratory in Pasadena, Calif., spotlights the paradigm-busting innovations now in development to revolutionize spaceflight navigation. The Deep Space Atomic Clock project is one of nine critical Technology Demonstration Missions now under way across the agency -- bridging the gap between laboratory development of valuable new technologies and full-scale testing in the space environment. (NASA/JPL)	Transcript Link

2013 07 26	NASA's Marshall Space Flight Center	https://youtu.be/VT_pNzd2pgA	Technology Demonstration Missions	NASA's Technology Demonstration Missions (TDM) Program seeks to infuse new technology into space applications, bridging the gap between mature "lab-proven" technology and "flight-ready" status. This video gives a brief introduction to each of those projects. (NASA/MSFC)	Transcript Link
2013 07 24	NASA's Marshall Space Flight Center	https://youtu.be/3PaWIMiPJBA	Concept 70t Space Launch System Takes Flight	Artist concept animation of the 70t configuration -- i.e., capable of carrying 70 metric tons of payload -- of the Space Launch System, or SLS. The SLS is scheduled to launch in 2017, carrying the Orion capsule beyond low Earth orbit.	Transcript Link
2013 07 24	NASA's Marshall Space Flight Center	https://youtu.be/y4YVTtK9hk4	Test Firing Go-Pro Video	Watch a video that puts you in the test stand. This video gives you a blazing view of the one of the first tests of a 3-D printed rocket injector on June 27, 2013, in Test Stand 115 at NASA's Marshall Space Flight Center in Huntsville, Ala. Propulsion engineers used the tests to compare the performance of a 3-D printed rocket injector to an injector made with multiple parts and traditional welds. During the extreme temperatures and pressures of the hot firing, the 3-D printed part performed as well as the traditionally manufactured part. This test included a 3-D printed liner. (NASA/MSFC)	Transcript Link
2013 07 16	NASA's Marshall Space Flight Center	https://youtu.be/yb8wET56Vxo	J-2X Lights Up the Night	J-2X engine No. 10002 is quite a sight to see as it tests at night on June 26 on the A-1 Test Stand at NASA's Stennis Space Center in south Mississippi. (NASA/SSC)	Transcript Link

2013 07 11	NASA's Marshall Space Flight Center	https://youtu.be/7cdPBjsoa_k	NASA Technology Stabilizes Rockets and Buildings	A NASA technology originally designed to stabilize rockets could now help buildings survive earthquake damage. The patented technology, called fluid structure coupling, uses simple physics to dampen potentially harmful shaking in structures. NASA engineers designed the device to fit inside a rocket engine's liquid fuel tank to calm the effects of intense vibrations launch vehicles experience during liftoff.	Transcript Link
2013 07 10	NASA's Marshall Space Flight Center	https://youtu.be/fBYkhdJC0rw	Thruster Testing, Green Propellant Infusion Mission	Aerojet Rocketdyne highlights preparation and testing of its 22 Newton thruster at its Redmond, Wash. facility . Partnered with Ball Aerospace, Aerojet Rocketdyne has met the first milestone in demonstrating a more environmentally friendly spacecraft fuel by completing an end-to-end checkout of the 22 N thruster required for NASA's Green Propellant Infusion Mission (GPIM). When it flies, the GPIM will demonstrate a high-performance, non-toxic fuel alternative to conventional hydrazine. (Aerojet Rocketdyne)	Transcript Link
2013 07 01	NASA's Marshall Space Flight Center	https://youtu.be/IRutJfOsgII	Cryogenic Tank Manufacturing, Development, and Testing	A 2.4 meter diameter propellant tank made of composite materials successfully completed pressurized testing at NASA¹s Marshall Space Flight Center in Huntsville, Ala. The goal of this game changing effort is to provide a substantial weight and cost savings, not just a one percent or a five percent changes, but up to a 30 percent weight savings and a 25 percent cost savings over state-of-the-art metallic tanks. Independently, these savings are compelling, but together, they are game changing and will enable future missions to reach new destinations. The 2.4 meter tank is a major element of the Composite Cryotank Technologies Demonstration Project‹ a technology that is one of the top nine projects funded by NASA¹s Space Technology Mission Directorate, which is innovating, developing, testing and flying hardware for use in NASA's future missions.	Transcript Link
2013 06 18	NASA's Marshall Space Flight Center	https://youtu.be/J9F0WzdV4fI	J-2X Gimbal Testing at Stennis Space Center	A closeup shot of the J-2X rocket engine shows how it was gimbaled during a June 14 test on the A-1 Test Stand at Stennis Space Center. A summer series of tests will be conducted on the advanced rocket engine, being developed for NASA by Aerojet-Rocketdyne of Canoga Park, Calif. The engine will prove upper-stage power for NASA's new heavy-lift Space Launch System vehicle, which will enable missions beyond low-Earth orbit. (NASA/SSC)	Transcript Link

2013 06 17	NASA's Marshall Space Flight Center	https://youtu.be/Az7RX0y1twU	J-2X Engine No. 10002 Tests at Stennis Space Center	J-2X engine No. 10002 is tested June 13 on the A-1 Test Stand at NASA's Stennis Space Center in south Mississippi. The 60-second test signals the start of a series of firings to collect critical data on engine performance. By the time the J-2X tests conclude later this summer, the engine will have been fired at full power and for the total time it would operate during an actual flight, while being gimbaled in the same way it must move during flight. (NASA/SSC)	Transcript Link
2013 06 14	NASA's Marshall Space Flight Center	https://youtu.be/XzGEFBfytFQ	Flipping Adapters for Space Launch System	The structural test article adapter is flipped at Marshall testing facility Building 4705. The turnover is an important step in finishing the machining work on the adapter, which will undergo tests to certify subsequent flight units used to attach the Orion spacecraft to a Delta IV rocket for its 2014 Exploration Flight Test-1. (NASA/MSFC)	Transcript Link
2013 05 30	NASA's Marshall Space Flight Center	https://youtu.be/txCadRsxLOA	Mighty Eagle Gets a New View	The Mighty Eagle, NASA¹s robotic prototype lander managed out of NASA¹s Marshall Space Flight Center, recently completed a test series to monitor its systems functionality after coming out of winter storage. This latest series included a test fight that was recorded by the Quad-Copter -- a small vehicle also developed at Marshall that was equipped with a video camera allowing for never-before-seen footage of the Mighty Eagle.	Transcript Link
2013 05 29	NASA's Marshall Space Flight Center	https://youtu.be/Uv3K9ij_-bI	Space Launch System Future Frontier	Editor's note: This is a repost due to a video update. Thanks for all your previous comments. Featuring NASA Marshall's Foundations of Influence, Relationships, Success & Teamwork (FIRST) employees and student interns, 'Future Frontier' discusses the new Space Launch System (SLS) heavy-lift launch vehicle and its importance to furthering NASA's exploration mission. NASA FIRST is the Agency's leadership program for promising young professionals. (NASA/MSFC)	Transcript Link

2013 05 16	NASA's Marshall Space Flight Center	https://youtu.be/Ch1SDwRbPwk	MSFC 'We do the hard stuff ...'	For more than 50 years, NASA's Marshall Space Flight Center in Huntsville, Ala., has taken spacecraft from the drawing board to orbit, to the moon and beyond. The team at Marshall creates the systems humans need to not just survive but to thrive in space. At the Marshall Space Flight Center, "We do the hard stuff, from start to finish."	Transcript Link
2013 04 15	NASA's Marshall Space Flight Center	https://youtu.be/Iz2W4s_hEfI	Space Launch System Begins Acoustic Testing	Engineers at NASA's Marshall Space Flight Center in Huntsville, Ala., have assembled a collection of thrusters to stand in for the various propulsion elements in a scale model version of NASA's Space Launch System. The four thrusters shown here are used to mimic the RS-25 engines which will drive the core stage of the new rocket. (NASA/MSFC)	Transcript Link
2013 03 26	NASA's Marshall Space Flight Center	https://youtu.be/xH3PHDzw5D8	Flight Hardware for Space Launch System, Orion	Mechanical engineers at NASA's Marshall Space Flight Center are making parts for SLS that will fly on Orion's first test flight. (NASA/MSFC)	Transcript Link
2013 03 26	NASA's Marshall Space Flight Center	https://youtu.be/BlcdtdL86tI	Materials Tested on the International Space Station	Miria Finckenor, a materials engineer, analyzes samples in her laboratory at NASA's Marshall Space Flight Center in Huntsville, Ala. The materials spent several years exposed to the harsh space environment outside the space station on the Materials on International Space Station Experiment, also called MISSE. The tiny coin-shaped samples fit inside a suitcase like structure that astronauts mount to the outside of the space station. When the samples are returned to Earth, Finckenor and other scientists can view the materials' structures to determine if they are appropriate for use in different space environments. For example, the white protective thermal control coating on the trunk of the SpaceX Dragon was developed by Alion Science and Technology Corp., based in McLean, Va. Other larger samples, such as space tethers, wires, foam, Kevlar, and even materials used to build commercial inflatable habitats have flown on MISSE.	Transcript Link

2013 03 18	NASA's Marshall Space Flight Center	https://youtu.be/ux455hI5BUc	Simulation of Kepler Supernova Explosion	This video shows a simulation of the Kepler supernova as it interacts with material expelled by the giant star companion to the white dwarf before the latter exploded. It was assumed that the bulk of this material was expelled in a disk-like structure, with a gas density that is ten times higher at the equator, running from left to right, than at the poles. The colors represent the density of the gas, using a rainbow distribution, with red showing the highest densities, followed by orange, yellow and green, then blue showing the lowest densities. Note the dense structure on the left and right of the explosion. This simulation was performed in two dimensions, so this is a cross-section of the explosion. The simulation has to be projected into three dimensions to compare with observations. The good agreement with Chandra and Spitzer data supports the author's interpretation of the disk-like structure they observed. (NASA/CXC/NCSU/J.Blondin et al)	Transcript Link
2013 03 15	NASA's Marshall Space Flight Center	https://youtu.be/u8n09Q9lTms	SLS Meets TN Tech	NASA visited the Cookeville, Tenn., area to talk to local grade school students and Tennessee Tech University engineering majors about the new Space Launch System.	Transcript Link
2013 03 11	NASA's Marshall Space Flight Center	https://youtu.be/7Q1oa9Olh38	Exploration Systems Development Division Quarterly	NASA is continuing to make great strides towards sending humans farther than we have ever gone before. Take a look at the work being done by teams all across the nation on NASA's exploration programs, including the Space Launch System, the Orion Crew Capsule and the Ground System Development and Operations Program, as they continue to propel human spaceflight into the next generation.	Transcript Link
2013 02 28	NASA's Marshall Space Flight Center	https://youtu.be/aRHQ-ZIQLnM	Close Encounter With 'Fired Up' J-2X Engine	This video shows a spillway view of the 550-second, full-duration test of the J-2X engine on Feb. 27 at Stennis Space Center in Mississippi. Data from the test will provide critical information about the combustion stability of the engine. (NASA/SSC)	Transcript Link

2013 02 28	NASA's Marshall Space Flight Center	https://youtu.be/LG9o4UhiplQ	J-2X Engine 'Goes the Distance' at Stennis	J-2X rocket engine testing continues at NASA's Stennis Space Center in Mississippi with the second in a series of tests conducted on Feb. 27. The 550-second, full-duration test provided critical information on the combustion stability of the engine and on its performance with the nozzle extension. Engineers also continued evaluation of the test stand's clamshell configuration, as well as calibration of the facility's cryogenic flow meters. J-2X engine testing allows engineers to collect additional data on the next-generation engine that will provide upper-stage power for the new Space Launch System (SLS) under development. NASA's new SLS rocket is being developed to enable missions farther into space than ever. The SLS Program is managed by NASA's Marshall Space Flight Center in Huntsville, Ala.	Transcript Link
2013 01 25	NASA's Marshall Space Flight Center	https://youtu.be/70u748VALt4	F-1 Engine Gas Generator Testing	The gas generator from an F-1 engine is test-fired at the Marshall Space Flight Center in Huntsville, Ala., on Jan. 24, 2013. Data from the 30 second test will be used in the development of advanced boosters for NASA's Space Launch System, which is managed at the Marshall Center. (NASA/MSFC)	Transcript Link
2013 01 24	NASA's Marshall Space Flight Center	https://youtu.be/aD6SQt_tJn8	Evolution in a Braided Loop Ensemble	This braided loop has several loops near the 'base' that appear to be unwinding with significant apparent outflow. This is evidence of untwisting, and the braided structure also seeming to unwind with time. (NASA)	Transcript Link
2013 01 24	NASA's Marshall Space Flight Center	https://youtu.be/eizDwK10obw	Hi-C and AIA View the Sun	The movie starts with the full sun AIA images taken during the Hi-C flight and zooms into the Hi-C field of full field of view. Comparisons of the Hi-C data, show in the panel on the right, are compared to data taken by AIA, shown on left. Hi-C is five times higher spatial resolution than AIA and the cadence of the Hi-C observations is 5 seconds. (NASA)	Transcript Link

2013 01 24	NASA's Marshall Space Flight Center	https://youtu.be/IMCNHozcE1g	Hi-C Launch	The High Resolution Coronal Imager (Hi-C) was launched on a NASA Black Brant IX two-stage rocket from White Sands Missile Range in New Mexico July 11, 2012. The experiment reached a maximum velocity of Mach 7 and max altitude of 264 km. The experiment collected 345 seconds of EUV science images. (NASA)	Transcript Link
2013 01 15	NASA's Marshall Space Flight Center	https://youtu.be/u3O43J7JFTY	Saturn V F-1 Engine Gas Generator Testing	Engineers resurrected an Apollo-era gas generator from a Saturn V F-1 engine and put it back in the test stand at NASA's Marshall Space Flight Center in Huntsville, Ala. See how they did it and how this effort is helping to jumpstart the development of the evolved Space Launch System- -- a rocket being designed to send humans even farther than the moon. (NASA/MSFC)	Transcript Link
2013 01 15	NASA's Marshall Space Flight Center	https://youtu.be/1AD-DbC3e68	Saturn V F-1 Engine Gas Generator Blazes Back To Life	On Jan. 10, 2013, a resurrected gas generator from a Saturn V F-1 engine completed two hot-fire tests that are part of a series of tests at Test Stand 116 located in the East Test Area at NASA's Marshall Space Flight Center in Huntsville, Ala. The primary test objectives are to gather performance data from the refurbished gas generator and to demonstrate new test stand capabilities for conducting future tests with liquid oxygen and rocket grade kerosene fuel. Data from the tests will benefit the development of advanced, affordable propulsion systems needed for the evolved Space Launch System heavy-lift rocket -- a launch vehicle designed to carry 130 metric tons (143-tons) and to send humans even farther than the moon. (NASA/MSFC)	Transcript Link
2013 01 08	NASA's Marshall Space Flight Center	https://youtu.be/oZyYcCdkM-8	Chandra Captures Neutron Star Action .	This movie from NASA's Chandra X-ray Observatory shows a fast moving jet of particles produced by a rapidly rotating neutron star, and may provide new insight into the nature of some of the densest matter in the universe. The star of this movie is the Vela pulsar, a neutron star that was formed when a massive star collapsed. The Vela pulsar is about 1,000 light years from Earth, spansis about 12 miles in diameter, and makes over 11 complete rotations every second, faster than a helicopter rotor. (NASA)	Transcript Link

2013 01 08	NASA's Marshall Space Flight Center	https://youtu.be/aJ6nuSmXTaE	ISS Commander Plays Yea Alabama From Space Station	Even the International Space Station is abuzz about the BCS Championship game. NASA astronaut Kevin Ford, who is the current commander of the station, is a Notre Dame alumnus, and he's been having some fun with the ground team at the Payload Operations Center in Huntsville, Ala. Ford works with the team in Alabama to accomplish science experiments. After weeks of friendly banter, Ford told his colleagues he had a special selection from his iTunes library and in the spirit of good sportsmanship he played the Alabama Crimson Tide fight song. "Yea Alabama" echoed through space on its way to Earth. Although today, Ford reaffirmed his allegiance to the Irish by playing Notre Dame's fight song. Ford and his fellow crewmates will be watching the game from more than 200 miles up in space.	Transcript Link
2012 12 28	NASA's Marshall Space Flight Center	https://youtu.be/glp6rPNursE	The Benefits of Marshall Center's Student Interns	Marshall Space Flight Center student interns share insight about this key NASA Education initiative, and demonstrate the variety of potential internships -- and career opportunities -- available at Marshall, NASA's third largest field center. Situated in Huntsville, Ala., Marshall has a rich history and ongoing record of success in providing mission-critical support to America's space program in the areas of engineering; vehicle and hardware development; space systems; and space, solar and Earth sciences. Learn more at http://www.nasa.gov/marshall.	Transcript Link
2012 12 17	NASA's Marshall Space Flight Center	https://youtu.be/YBzNrOC9y0s	SLS Flight Hardware Delivered to NASA	Parts for the first test flight of the Orion spacecraft were delivered to the Marshall Space Flight Center in Huntsville, Ala. See where they will go next! (NASA/MSFC)	Transcript Link
2012 12 17	NASA's Marshall Space Flight Center	https://youtu.be/AGQtZyNbORQ	Spectacular Geminid Fireball!	Flaring brighter than the full moon, this spectacular Geminid lit up the sky above Cartersville, Ga., at 2:29 a.m. EST on the morning of Dec. 14. This is one of the brightest fireballs observed by the NASA network of meteor cameras in over 4 years of operation. (NASA/MSFC/MEO)	Transcript Link

2012 12 14	NASA's Marshall Space Flight Center	https://youtu.be/B90LklmG-1I	J-2X Powerpack Completes Testing	The J-2X powerpack assembly was fired up one last time on Dec. 13 at NASA's Stennis Space Center in Mississippi, finishing a year of testing on an important component of America's next heavy-lift rocket. The powerpack assembly burned millions of pounds of propellants during a series of 13 tests during 2012 totaling more than an hour and a half. NASA engineers will remove the assembly from the test stand to focus on tests of the fully integrated engine. Installation on a test stand at Stennis will begin in 2013. The powerpack is a system of components on top of the engine that feeds propellants to the bell nozzle of the engine to produce thrust. The J-2X engine, designed and built by NASA and industry partner Pratt & Whitney Rocketdyne of Canoga Park, Calif., will power the upper stage of the 143-ton (130-metric-ton) Space Launch System (SLS) rocket. The SLS will launch NASA's Orion spacecraft and other payloads from the agency's Kennedy Space Center in Florida.	Transcript Link
2012 12 06	NASA's Marshall Space Flight Center	https://youtu.be/Wl_ttltZ-Bo	J-2X Powerpack Test Lights Up the Sky	A burst of flame from a J-2X Powerpack test-firing lights up the sky on Dec. 5, 2012 at NASA's Stennis Space Center in Mississippi. For the first time, the Space Launch System team invited Twitter followers behind-the-scenes for an all-day Tweet Chat, allowing the public to track test day activities and ask questions during this 1,286-second test. (NASA/SSC	Transcript Link
2012 12 04	NASA's Marshall Space Flight Center	https://youtu.be/8dQGGifDGU4	Deep Space Atomic Clock Ticks Toward Success	Dr. Todd Ely, principal investigator for NASA's Deep Space Atomic Clock at the Jet Propulsion Laboratory in Pasadena, Calif., spotlights the paradigm-busting innovations now in development to revolutionize spaceflight navigation. The Deep Space Atomic Clock project is one of nine critical Technology Demonstration Missions now under way across the agency -- bridging the gap between laboratory development of valuable new technologies and full-scale testing in the space environment. (NASA/JPL)	Transcript Link
2012 11 29	NASA's Marshall Space Flight Center	https://youtu.be/buiVT0WT5zU	Space Shuttle Solid Rocket Booster Joins Propulsion Park Display	A crane lifts a space shuttle solid rocket booster into its final position in the "propulsion park" outside Building 4205, the Propulsion Research & Development Laboratory at the Marshall Center. The various booster parts helped propel more than 30 flights including the first space shuttle mission, STS-1, servicing missions to the Hubble Space Telescope, and numerous Spacelab science missions. (NASA/MSFC)	Transcript Link

2012 11 28	NASA's Marshall Space Flight Center	https://youtu.be/vNgvxRigw5A	J-2X Back in the Saddle	A J-2X power pack assembly burns brightly during a hot fire test Nov. 27 at NASA's Stennis Space Center in Mississippi. Engineers pulled the assembly from the test stand in September to install additional instrumentation in the fuel turbopump. The test, which ran for 278 seconds, verified the newly installed strain gauges designed to measure the turbine structural strain when the turbopump is spinning at high speeds that vary between 25,000 and 30,000 rotations-per-minute. The J-2X engine -- built by Pratt & Whitney Rocketdyne of Canoga Park, Calif. -- will power the upper stage of NASA's Space Launch System, managed at the Marshall Space Flight Center in Huntsville, Ala. The new heavy-lift rocket system will launch the Orion spacecraft and enable humans to explore new destinations beyond low Earth orbit. (NASA/SSC)	Transcript Link
2012 11 26	NASA's Marshall Space Flight Center	https://youtu.be/BGat1fwefiM	First Circumferential Weld	Engineers at the Marshall Space Flight Center in Huntsville, Ala., conduct their first circumferential weld of the "pathfinder" version of the adapter design for SLS and Orion. (NASA/MSFC)	Transcript Link
2012 11 15	NASA's Marshall Space Flight Center	https://youtu.be/0SomBOHwTQE	Leonids Fireball, 2002	This brief movie captured a fireball bursting through the skies during the 2002 Leonid meteor shower. (NASA/MSFC/MEO/Bill Cooke)	Transcript Link
2012 11 06	NASA's Marshall Space Flight Center	https://youtu.be/wvTa6z9c3nY	Space Launch System Using Futuristic Tech to Build Rockets	A state-of-the-art machine was recently delivered to NASA's Marshall Space Flight Center in Huntsville, Ala., to create intricate metal parts for America's next heavy-lift rocket. (NASA/MSFC)	Transcript Link

2012 10 31	NASA's Marshall Space Flight Center	https://youtu.be/zXneENxZV7w	Mighty Eagle Scores Longest, Highest Flight Yet	The "Mighty Eagle," a NASA robotic prototype lander, reached its highest altitude and velocity -- and longest duration -- on Oct. 25 when it soared to a height of more than 150 feet during a flight that lasted about 45 seconds. NASA will use the "Mighty Eagle" to mature the technology needed to develop a new generation of small, smart, versatile robotic landers capable of achieving scientific and exploration goals on the surface of the moon, asteroids or other airless bodies.	Transcript Link
2012 10 26	NASA's Marshall Space Flight Center	https://youtu.be/-_OMERFJCfM	SLS Hardware Coming Together with Vertical Welding	NASA engineers and machinists at the Marshall Space Flight Center in Huntsville, Ala., explain welding progress on the SLS adapter and how it will fly years before the full rocket's official test flight. (NASA/MSFC)	Transcript Link
2012 10 17	NASA's Marshall Space Flight Center	https://youtu.be/qWKLnp3PYmE	Engine Gets a New Brain	The Space Launch System Program is giving one of the world's most powerful and dependable rocket engines an upgrade. (NASA/MSFC)	Transcript Link
2012 10 02	NASA's Marshall Space Flight Center	https://youtu.be/_Gn_2buJZLE	SLS Booster Value Stream Mapping Video	New cost-saving, process improvements have been implemented by ATK throughout the manufacturing of Qualification Motor-1, the next full-scale five-segment solid rocket booster test article for SLS. (ATK)	Transcript Link

2012 09 25	NASA's Marshall Space Flight Center	https://youtu.be/aZ7dR-vUniI	Mighty Eagle 'Rocks' Flight Testing Series	The "Mighty Eagle," a NASA robotic prototype lander, recently completed a series of test objectives -- even going as high as 100 feet for several free flights. The vehicle is a three-legged prototype that resembles an actual flight lander design. It is 4 feet tall and 8 feet in diameter and, when fueled, weighs 700 pounds. It is a "green" vehicle, fueled by 90 percent pure hydrogen peroxide, and is guided by an onboard computer that activates the thrusters to power the craft's movements. NASA will use the "Mighty Eagle" to mature the technology needed to develop a new generation of small, smart, versatile robotic landers capable of achieving scientific and exploration goals on the surface of the moon, asteroids or other airless bodies. (NASA/MSFC)	Transcript Link
2012 09 12	NASA's Marshall Space Flight Center	https://youtu.be/pjAIwtdAyQA	Mighty Eagle' Lander Takes 100-Foot Free Flight	With a whistle and a roar, the "Mighty Eagle," a NASA robotic prototype lander, sailed to an altitude of 100 feet during another successful free flight Aug. 28 at the Marshall Center. During the 35-second run, the vehicle was "open loop" -- navigating autonomously without the command of the onboard camera and flying on a preprogrammed flight profile.(NASA/MSFC)	Transcript Link
2012 08 23	NASA's Marshall Space Flight Center	https://youtu.be/zm3Qt6JnB6c	Wind Tunnel Testing for Space Launch System	Engineers at the Marshall Center test the 70-metric-ton heavy-lift configuration of the Space Launch System rocket in the Trisonic Wind Tunnel. (NASA/MSFC)	Transcript Link
2012 08 15	NASA's Marshall Space Flight Center	https://youtu.be/4PxiYWZ8ulQ	Animation of the Phoenix Cluster	This animation shows how large numbers of stars form in the Phoenix Cluster. It begins by showing several galaxies in the cluster and hot gas (in red). This hot gas contains more normal matter than all of the galaxies in the cluster combined, and can only be detected with X-ray telescopes like Chandra. The camera then flies in towards the large elliptical galaxy at the center of the cluster. The hot gas near this galaxy is giving off copious amounts of X-rays and cooling quickly over time, as shown by the change to a blue color. This cooling causes gas to flow inwards along filaments and form huge numbers of stars when it continues to cool. (NASA/CXC/A. Hobart)	Transcript Link

2012 08 14	NASA's Marshall Space Flight Center	https://youtu.be/VWFae360bk4	'Mighty Eagle' Takes Flight	The "Mighty Eagle," a NASA robotic prototype lander, had a successful first untethered flight Aug. 8 at the Marshall Center. During the 34-second flight, the Mighty Eagle soared and hovered at 30 feet, moved sideways, looked for its target and safely landed on the launchpad. (NASA/MSFC)	Transcript Link
2012 08 03	NASA's Marshall Space Flight Center	https://youtu.be/c0Saz-P0seU	Mars Landscape	Spacecraft have studied the Martian surface for decades, giving Earthlings insights into the history, climate and geology of our nearest neighbor, Mars. These images are from 'Mars Landscape,' a virtual exhibit THAT commemorates the landing of the Mars Science Laboratory (MSL) Curiosity rover at Gale Crater on August 5, 2012 and features actual images sent back by surface rovers and spacecraft from NASA and the European Space Agency. The brilliant, but false, colors in many of these images represent temperature differences reflecting or radiating from surface material. Selected for their aesthetic rather than scientific value, these isolated observations are just preliminary studies for the landscapes that the Curiosity rover promises and they tease us to further explore the beauty that exists elsewhere in our solar system. (NASA/MSFC/JPL)	Transcript Link
2012 07 31	NASA's Marshall Space Flight Center	https://youtu.be/5U_vQq7sDsI	Technology Demonstrator Missions	Editor's Note: this video is left active for archiving purposes. The newer version of the video can be found at: http://www.youtube.com/watch?v=VT_pNzd2pgA&feature=c4-overview&list=UUYKfAzPEXMQsGtNfBCNa_BA NASA's Technology Demonstration Missions (TDM) Program seeks to infuse new technology into space applications, bridging the gap between mature "lab-proven" technology and "flight-ready" status. This video gives a brief introduction to each of those projects. (NASA/MSFC)	Transcript Link
2012 07 30	NASA's Marshall Space Flight Center	https://youtu.be/QN-8RqXO_Ak	J-2X Powerpack Test, July 24, 2012	NASA engineers surpassed their previously set J-2X powerpack record at Stennis's Test Complex A with a 1,350-second test on July 24. In this video there are three aspects featured:the outside test stand view, the close up of the J-2X powerpack and an infrared camera image used to gather thermal imaging data. This video file has been shortened to the first few minutes of the test, rather than the full 22-minute test. (NASA/SSC)	Transcript Link

2012 07 06	NASA's Marshall Space Flight Center	https://youtu.be/xnMTNcRBDvU	Consultative Committee for Space Data Systems		Transcript Link
2012 06 29	NASA's Marshall Space Flight Center	https://youtu.be/8kQrf-ZBuKw	NASA's Space Launch System Building Orion Adapte	NASA is hard at work designing the nation's next flagship rocket, a heavy-lift launch vehicle that will carry explorers deeper into space than ever before. While the first full-configuration won't fly until 2017, part of the rocket is under construction right now and will launch on the Orion test flight as early as 2014. Meet some of the team and see how we're moving forward using state-of-the-art tools and the world's largest milling machine at NASA's Marshall Space Flight Center in Huntsville, Ala. (NASA/MSFC)	Transcript Link
2012 06 14	NASA's Marshall Space Flight Center	https://youtu.be/UuysXdb0TvU	J-2X Engine Test Goes Full Duration	NASA conducted a 260-second J-2X engine test at the Stennis Space Center in southern Mississippi on June 13 marking another step in developing the Space Launch System, the next-generation rocket that will carry humans deeper into space than ever before. (NASA/SSC)	Transcript Link
2012 06 11	NASA's Marshall Space Flight Center	https://youtu.be/z3SlWWBDKbk	Throttle Up! J-2X Powerpack Test Sets Record	During a record-breaking June 8 test, engineers throttled the J-2X powerpack up and down several times to explore numerous operating points required for the fuel and oxidizer turbopumps. The results of this test will be useful for determining performance and hardware life for the J-2X engine turbopumps. The J-2X engine will power the upper stage of the evolved NASA¹s Space Launch System, an advanced heavy-lift rocket that will provide an entirely new national capability for human exploration beyond Earth¹s orbit. The test was conducted at NASA's John C. Stennis Space Center in south Mississippi. Pratt & Whitney Rocketdyne is developing the J-2X engine for NASA¹s Marshall Space Flight Center in Huntsville, Ala. (NASA/SSC)	Transcript Link

2012 06 07	NASA's Marshall Space Flight Center	https://youtu.be/gGYRMVU4blA	Hinode Views the 2012 Venus Transit	On June 5, 2012, Hinode captured these stunning views of the transit of Venus -- the last instance of this rare phenomenon until 2117. Hinode is a joint JAXA/NASA mission to study the connections of the sun's surface magnetism, primarily in and around sunspots. NASA's Marshall Space Flight Center in Huntsville, Ala., manages Hinode science operations and oversaw development of the scientific instrumentation provided for the mission by NASA, and industry. The Smithsonian Astrophysical Observatory in Cambridge, Mass., is the lead U.S. investigator for the X-ray Telescope. (JAXA/NASA/SAO)	Transcript Link
2012 06 05	NASA's Marshall Space Flight Center	https://youtu.be/BYFLTIAfzY8	Venus in Transit - Impact on Space Science with Jim Spann	One of the most uncommon celestial phenomena, a solar transit by the planet Venus, will occur Tuesday evening. The Marshall Center will help build excitement for the rare event with a Lunch & Learn at 11 a.m. on Monday, June 4, in Morris Auditorium in Building 4200. Marshall scientist, Dr. Jim Spann will host the informative session. Participants will learn more about the phenomenon, which occurs in a pattern repeated every 243 years, with pairs of transits eight years apart. Similar to a solar eclipse, the planet Venus will visibly move across the face of the sun during the event, partially blocking light from the sun to Earth. The transit is expected to take approximately six and a half hours. There will not be another Venus transit until 2117. Historically, transits of Venus helped astronomers gain the first realistic estimates of the size of our solar system. It was noted researcher Johannes Kepler who, in 1627, first accurately predicted a transit of Venus, which occurred four years later	Transcript Link
2012 05 29	NASA's Marshall Space Flight Center	https://youtu.be/gZZh1GcWN5g	J-2X Engine Continues to Set Standards	Testing of the next-generation J-2X rocket engine continues to set standards. Last fall, the engine attained 100 percent power in just its fourth test and became the fastest U.S. rocket engine to achieve a full-flight duration test, hitting that 500-second mark in its eighth test. On, May 25, NASA recorded another first during a 40-second test of the engine on the A-2 Test Stand at John C. Stennis Space Center. For the first time, test conductors fired the J-2X in both the secondary and primary modes of operation, 20 seconds in each. Previous tests were run in one mode only; combining the two allowed operators to collect critical data on engine performance. (NASA/SSC)	Transcript Link

2012 05 18	NASA's Marshall Space Flight Center	https://youtu.be/9UwJFWCLzS4	Stunning View of Lyrids and Earth at Night	On April 21, the 2012 Lyrid meteor shower peaked in the skies over Earth. While NASA allsky cameras were looking up, astronaut Don Pettit aboard the International Space Station trained his video camera on Earth below. Video footage has revealed breathtaking images of meteors ablating -- or burning up -- over Earth at night. This video is a composite of 310 still frames from that evening. (NASA/JSC/Don Pettit)	Transcript Link
2012 05 17	NASA's Marshall Space Flight Center	https://youtu.be/7w_JNp0wRUI	J-2X Engine Test, May 16, 2012	The shake, rattle and roar lasted just seven seconds, but the short J-2X test conducted May 16 at NASA's John C. Stennis Space Center moved the space agency closer to a return to deep space. NASA operators tested the next-generation J-2X engine on the A-2 Test Stand at Stennis to collect early data on performance of the engine and test stand with the new nozzle extension and clamshell configuration. The test also provided data on startup and shutdown processes. (NASA/SSC)	Transcript Link
2012 04 27	NASA's Marshall Space Flight Center	https://youtu.be/0-HRFok8GGo	Second Round of Testing on J-2X Engine	NASA kicked off the next round of testing on the J-2X rocket engine April 26, gathering data on the performance of the newly-installed engine nozzle extension and test stand "clamshell" as well as on the engine start and shutdown sequences. The test on the A-2 Test Stand at NASA's Stennis Space Center begins a second, more extensive round of testing for the next-generation engine selected as part of the Space Launch System that will carry humans deeper into space than ever before. (NASA/SSC)	Transcript Link
2012 04 24	NASA's Marshall Space Flight Center	https://youtu.be/1TGmeQII_ss	J-2X Engine Ready For Second Test Series	Time-lapse video of the installation of J-2X engine 10001 in the A-2 test-stand at Stennis, complete with clamshell assembly and nozzle extension. With these enhancements test engineers will measure the flight-configured engine performance at flight-like conditions. This video covers three months of activity to prepare for hot-fire testing	Transcript Link

2012 03 29	NASA's Marshall Space Flight Center	https://youtu.be/bIGEn3fEYoY	Low-Density Supersonic Decelerator Test	NASA recently performed a trial run on a rocket sled test fixture, powered by rockets, to replicate the forces a supersonic spacecraft would experience prior to landing. The sled tests will allow the Low-Density Supersonic Decelerator Project, or LDSD, to test inflatable and parachute decelerators to slow spacecraft prior to landing and allow NASA to increase landed payload masses, improve landing accuracy and increase the altitude of safe landing-sites. (NASA)	Transcript Link
2012 03 29	NASA's Marshall Space Flight Center	https://youtu.be/zXtTZK3sOfo	The Elements of Supernova Cas A	This Chandra X-ray video shows the elements distribution in supernova remnant Cas A. The distributions of sulfur, silicon, magnesium and neon are similar. Oxygen, which according to theoretical models is the most abundant element in the remnant, is difficult to detect because the X-ray emission characteristic of oxygen ions is strongly absorbed by gas in along the line of sight to Cas A, and because almost all the oxygen ions have had all their electrons stripped away. (NASA/CXC/A. Hobart)	Transcript Link
2012 03 15	NASA's Marshall Space Flight Center	https://youtu.be/jGp0f2KSAU8	Small Solid Rocket Motor Test	It was three-two-one to brilliant fire as NASA's Marshall Space Flight Center tested a small solid rocket motor designed to mimic NASA's Space Launch System booster. The Mar. 14 test provides a quick, affordable and effective way to evaluate a new nozzle insulation material for the SLS solid rocket booster. (NASA/MSFC)	Transcript Link
2012 03 09	NASA's Marshall Space Flight Center	https://youtu.be/HuCAFHEJGV8	Bright Fireball Over Georgia	A camera in Cartersville, Ga., captured this view of a bright fireball over Georgia on the night of Mar. 7, 2012, at approx. 10:19:11 EST. The meteor was first recorded at an altitude of 51.5 miles (89.2 km) southeast of Tunnel Hill, Ga., moving slightly south of west at approximately 15 km/s (33,500 mph). It was last seen 16.9 miles (27.2 km) above State Road 95, southeast of Rock Springs, Ga. (NASA/MSFC/Meteoroid Environment Office)	Transcript Link

2012 02 21	NASA's Marshall Space Flight Center	https://youtu.be/VkER2e4J3uw	Space Launch System Future Frontier	Editor's note: This is a repost due to a video change. Thanks for all your previous comments. Featuring NASA Marshall's Foundations of Influence, Relationships, Success & Teamwork (FIRST) employees and student interns, 'Future Frontier' discusses the new Space Launch System (SLS) heavy-lift launch vehicle and its importance to furthering NASA's exploration mission. NASA FIRST is the Agency's leadership program for promising young professionals. (NASA/MSFC)	Transcript Link
2012 02 16	NASA's Marshall Space Flight Center	https://youtu.be/cyyZbjxBZ8g	J-2X Powerpack Test Lights Up the Night	In a brief but dazzling display, a 1.86-second burst of flame emerges from the A-1 test stand at Stennis Space Center as NASA kicks off the first in a series of J-2X powerpack tests the evening of Feb. 15. (NASA/SSC)	Transcript Link
2012 02 10	NASA's Marshall Space Flight Center	https://youtu.be/JPy7RAGmxIk	One Cup of Coffee to Go!	Using a piece of transparent plastic and some tape, STS-126 Mission Specialist Don Pettit builds a coffee cup that works in a weightless environment.	Transcript Link
2012 02 06	NASA's Marshall Space Flight Center	https://youtu.be/Crhoe7X_IK8	Asteroid 433 Eros Approaches Earth	Asteroid 433 Eros made a close approach to Earth the morning of January 31st coming within 0.17 AU (15 million miles) of our planet. In this set of images taken that morning, the bright moving dot near the center of the field is the 21 mile long Eros.	Transcript Link

2012 01 31	NASA's Marshall Space Flight Center	https://youtu.be/0eDWZ9jkRQo	Robots Aboard International Space Station	Ames Research Center, MIT and Johnson Space Center have two new robotics projects aboard the International Space Station (ISS). Robonaut 2, a two-armed humanoid robot with astronaut-like dexterity, is currently undergoing onboard testing. The second is the SPHERES satellite, which recently got a smartphone upgrade that gives it eyes, ears and a sensor array. These robots could assume mundane, sometimes dangerous tasks: monitoring radiation, filter change-outs, some extravehicular activities	Transcript Link
2011 12 20	NASA's Marshall Space Flight Center	https://youtu.be/FAP2uDiDSIM	J-2X From Concept to Hot Fire	The author/director of this creative piece is Paul Gradl who works on the J-2X development effort. A superb engineer with a technical background in combustion devices design and analysis, he came up with the notion of stringing together the J-2X development process starting with conceptual design, then detailed design and analysis, through fabrication and assembly, and finally into full-scale hot-fire testing. The result is truly excellent.	Transcript Link
2011 12 09	NASA's Marshall Space Flight Center	https://youtu.be/8LmePYdraoU	Solar Sail Readies for Early Warning Mission	NASA's Solar Sail project, directed by L'Garde of Tustin, Calif., plans to take this innovative technology beyond Earth's orbit. The spacecraft will have a "sail" one quarter the size of a football field and park in a pseudo LaGrange point closer to the sun to double the current warning period for dangerous solar flares. Slated for launch in late 2014, the instrument aboard the solar sail craft will use the sun's photon radiation to gently offset the corresponding pull of the sun's gravity.	Transcript Link
2011 12 02	NASA's Marshall Space Flight Center	https://youtu.be/IXlOAHwWe2E	Successful First J-2X Combustion Stability Test	NASA conducted a key stability test firing of the J-2X rocket engine Dec. 1, marking another step forward in development of the upper-stage engine that will carry humans farther into space than ever before. (NASA/SSC)	Transcript Link

2011 11 23	NASA's Marshall Space Flight Center	https://youtu.be/7ykJsOVYCcg	MEDLI Will Aid in Understanding of Mars	The MEDLI instrument package, contained in the heat shield of the Mars Science Laboratory, will help scientists and engineers improve their computer models and simulations, and provide data to help design the next generation of Mars exploration vehicles. The Mars Science Laboratory (MSL) will launch in late November and is scheduled to reach Mars in September of 2012. (NASA/MSFC)	Transcript Link
2011 11 21	NASA's Marshall Space Flight Center	https://youtu.be/H59Te3tccoM	Robotic Lander Prototype Test	NASA successfully completed the final flight in a series of tests of a new robotic lander prototype at the Redstone Test Center's propulsion test facility on the U.S. Army Redstone Arsenal in Huntsville, Ala. Since early October, the Robotic Lander Development Project at NASA's Marshall Space Flight Center in Huntsville has subjected the lander prototype to a series of more complex outdoor flight tests maneuvers. The team steadily increased the lander's flight profile, starting by hovering the lander -- dubbed Mighty Eagle -- at 3 feet, then 30 feet and finally a record 100-foot flight test. Video credit: NASA/MSFC	Transcript Link
2011 11 18	NASA's Marshall Space Flight Center	https://youtu.be/b97bF-NfBtU	Designing and Building the J-2X Engine	An overview of how the J-2X rocket engine moves from concept to reality. Credit: NASA/MSFC	Transcript Link
2011 11 14	NASA's Marshall Space Flight Center	https://youtu.be/B-mhOqLVsso	New Upper Stage Engine Passes Major Test	NASA has conducted a successful 500-second test of the J-2X engine to help develop an upper stage for the heavy-lift Space Launch System. Credit: NASA/SSC	Transcript Link

2011 11 09	NASA's Marshall Space Flight Center	https://youtu.be/_XveX2s_HlQ	Taurids Dust the November Skies	A bright Taurid streaks across southern Tennessee in the wee hours of Nov. 7, 2011. The bright flare in the meteor about two-thirds of the way into the video is caused by the meteor breaking into smaller pieces. (NASA/MSFC/Meteoroid Environment Office)	Transcript Link
2011 10 28	NASA's Marshall Space Flight Center	https://youtu.be/iqzBELz-DNE	Robotic Lander Completes Multiple Outdoor Flight	NASA's Robotic Lander Development Project in Huntsville, Ala., has successfully completed seven autonomous outdoor flight tests of a lander prototype, dubbed Mighty Eagle. On Oct. 14, Mighty Eagle ascended to three meters, translated 30 feet sideways and turned 90 degrees before setting down safely. On Oct. 17, Mighty Eagle successfully flew to a height of 30 feet, translated sideways 30 feet before landing. These tests are paving the way for a Nov. 4 100-foot flight test.	Transcript Link
2011 10 25	NASA's Marshall Space Flight Center	https://youtu.be/ZDvEcROfM5w	Green Flight Challenge Highlights	On Monday, October 3, 2011, NASA's Centennial Challenges program awarded the largest prize in aviation history, created to inspire the development of more fuel-efficient aircraft and spark the start of a new electric airplane industry. Three teams successfully met all requirements and competed for the $1.65 million purse in the CAFE Green Flight Challenge, sponsored by Google, over the skies of Santa Rosa, California	Transcript Link
2011 10 07	NASA's Marshall Space Flight Center	https://youtu.be/oSlXcWDXkLU	Sunset at the ALaMO	A new color all-sky camera has opened its eyes at the ALaMO, or Automated Lunar and Meteor Observatory, at NASA's Marshall Space Flight Center in Huntsville, Ala. Watch its inaugural video below, showing sunset fade into evening at the Marshall Center on Oct. 5, 2011. The time-lapse video spans about 2:28 hours, and the moon is the object that emerges at the lower left side to cross the sky so brightly.	Transcript Link

2011 10 03	NASA's Marshall Space Flight Center	https://youtu.be/-xz4vOXkRlc	All-Sky Camera's Mysterious 'Night Visitor'	An owl takes a moment to bask in the moonlight from atop the all-sky camera at NASA's Marshall Space Flight Center in Huntsville, Ala. The feathered night hunter has been a frequent guest on several nights in September, with this short view captured on Sept. 14, 2011.	Transcript Link
2011 09 29	NASA's Marshall Space Flight Center	https://youtu.be/OE8IdtprpNg	J-2X Rocket Engine, 40-Second Test	NASA conducted a 40-second test of the J-2X rocket engine Sept. 28, the most recent in a series of tests of the next-generation engine selected as part of the Space Launch System architecture that will once again carry humans into deep space. It was a test at the 99 percent power level to gain a better understanding of start and shutdown systems as well as modifications that had been made from previous test firing results.	Transcript Link
2011 09 28	NASA's Marshall Space Flight Center	https://youtu.be/1BlqOoI3h8c	Fishman Receives the Shaw Prize for Astronomy	In the video, Dr. Jerry Fishman discusses his career as a scientist, his lifelong interest in science and his recognition as the 2011 Shaw Prize Recipient for Astronomy.	Transcript Link
2011 09 14	NASA's Marshall Space Flight Center	https://youtu.be/X50OOzz0ufk	Archive SLS Animation	Editor's Note: this was the initial concept of the Space Launch System (SLS) animation, Please find the latest version of this animation at: http://www.youtube.com/watch?v=3PaWIMiPJBA	Transcript Link

2011 09 14	NASA's Marshall Space Flight Center	https://youtu.be/Hv4z1doFDdQ	Administrator's Statement on New Heavy-lift Rocket		Transcript Link
2011 08 29	NASA's Marshall Space Flight Center	https://youtu.be/o0L5JfKG6Y0	Bright Meteor Lights Up Atlanta Skies	This video shows a very bright meteor that streaked over the skies of Atlanta, Ga., on the night of Aug. 28, 2011. The view is from an all sky camera in Cartersville, Ga., operated by NASA's Marshall Space Flight Center in Huntsville, Ala. (NASA/MSFC/Meteoroid Environment Office)	Transcript Link
2011 08 24	NASA's Marshall Space Flight Center	https://youtu.be/ZppmQJeTgyg	Robotic Lander Gets Sideways During Test	During a recent test at NASA's Marshall Space Flight Center in Huntsville, Ala., the robotic lander prototype, known as Mighty Eagle, performed a hover test flying up to three feet and then translated, or moved itself sideways, to perform a controlled, safe landing 13 feet from the launch pad. This is a complex maneuver for the lander to perform accurately since a robotic lander may need to right itself autonomously when it comes in for landing on an airless body or planet with no atmosphere. The robotic lander team cancels out the Earth's gravity, which is six times the gravity a vehicle will experience on the moon, simulating a lunar environment by using a gravity cancelling thruster during test. To initiate a test, the lander receives a command to activate its onboard thrusters and then follows a pre-programmed flight profile to carry it to a controlled landing. This test demonstrated the robotic lander prototype's capability to autonomously translate sideways and then land while staying under control, and soon will be used to checkout landing control algorithms for the next generation of lander missions to the moon or other airless planetary bodies. The Robotic Lander Development Project is a team of industry, government and not-for-profit collaborators, including the Marshall Center, Johns Hopkins University Applied Physics Laboratory in Laurel, Md., and the Von Braun Center for Science and Innovation in Huntsville. This team is designing and building the next generation of robotic landers that can carry a broad range of science payloads	Transcript Link

2011 08 17	NASA's Marshall Space Flight Center	https://youtu.be/FsrMY31MhL4	Lake Erie Fireball Meteor, Mcmaster View	This brief video shows a view of the Aug 8 fireball meteor that entered the atmosphere 54 miles above Lake Erie and moved SSE at 25 km/s, or 55,900 mph. This view is from the all sky camera in Mcmaster, Ontario.	Transcript Link
2011 08 17	NASA's Marshall Space Flight Center	https://youtu.be/GIsmLwDKw84	Lake Erie Fireball Meteor, Tavistock View	This brief video shows a view of the Aug 8 fireball meteor that entered the atmosphere 54 miles above Lake Erie and moved SSE at 25 km/s, or 55,900 mph. This view is from the all sky camera in Tavistick, Ontario.	Transcript Link
2011 08 17	NASA's Marshall Space Flight Center	https://youtu.be/SbKpTRDoFHU	Lake Erie Fireball Meteor, Orangeville View	This brief video shows a view of the Aug 8 fireball meteor that entered the atmosphere 54 miles above Lake Erie and moved SSE at 25 km/s, or 55,900 mph. This view is from the all sky camera in Orangeville, Ontario.	Transcript Link
2011 08 17	NASA's Marshall Space Flight Center	https://youtu.be/SYz8FNBpJWg	A Grasshopper Goes Stargazing	This brief video shows an unexpected visitor helping NASA astronomers watch for Perseid meteors -- but only for a moment! Video was taken on the night of Aug. 14, 2011, from the NASA camera located at the Tellus Science Center in Cartersville, Ga. The silvery full moon is visible in the lower left portion of the frame. Credt: NASA/MSFC/Meteoroid Environment Office	Transcript Link

2011 08 02	NASA's Marshall Space Flight Center	https://youtu.be/41mORhTvpno	Focus On Marshall Propulsion Managers Reflect on Final Mission	Co-hosts, Lori Meggs and Bill Hubscher reminisce with the current Shuttle Propulsion managers and our Center Director at KSC before the launch of STS-134 on the coming close of the program. After thirty years of successfully supporting the country's space goals, the shuttle program comes to an end with the launch of STS-135.	Transcript Link
2011 07 27	NASA's Marshall Space Flight Center	https://youtu.be/_T_GIJeXAzM	First Glimpse of 2011 Perseid Meteor Shower	On the night of July 26, allsky cameras of the NASA fireball network detected three Perseid meteors in the skies over Tennessee and Alabama. The first seen by the cameras this year, these meteors are the "advance guard" of the Perseid meteor shower, which peaks on the night of Aug. 12. NASA plans a live Web chat on Aug. 12 to observe the Perseids: http://www.nasa.gov/connect/chat/perseids_2011.html	Transcript Link
2011 07 07	NASA's Marshall Space Flight Center	https://youtu.be/zghKvbqUaxA	J-2X Rocket Engine Overview	More than half a century of human space flight and research has formed the basis for the powerful J-2X rocket engine. Credit: Pratt & Whitney Rocketdyne.	Transcript Link
2011 06 30	NASA's Marshall Space Flight Center	https://youtu.be/PvaUllGVm1I	Robotic Lander Development Project	The Robotic Lander Development Project at the Marshall Center is testing a prototype lander that will aid in the design and development of a new generation of small, smart, versatile robotic landers capable of performing science and exploration research at multiple destinations in the solar system. The prototype also provides a platform to test sensors, avionics, software, landing legs, and integrated system elements to support autonomous landings on airless planetary bodies in the solar system.	Transcript Link

2011 06 21	NASA's Marshall Space Flight Center	https://youtu.be/qhcSOHH4cwQ	Controlled Hover Test Flight No. 4	This video collage provides several views of the robotic lander prototype during its second free flight test. The lander is captured in flight from overhead and side mounted cameras in high definition and infrared video. The infrared video allows engineers to see how the vehicle is behaving thermally as well as how the thrusters pulse during test since the thruster plumes are invisible to the naked eye..	Transcript Link
2011 06 21	NASA's Marshall Space Flight Center	https://youtu.be/zr4seC8Un58	Controlled Hover Test No. 4	NASA's Robotic Lander Development Project at Marshall Space Flight Center in Huntsville, Ala. conducts the second free-flight test of a robotic lander prototype. During test the lander successfully executed its planned flight profile, autonomously ascending to a six-foot hover and descending to conduct a controlled soft landing.	Transcript Link
2011 06 16	NASA's Marshall Space Flight Center	https://youtu.be/xxqbMPyfiVQ	A Hidden Black Hole	This animation shows an artist's impression of a distant galaxy and its hidden black hole found in an epoch when the Universe was less than one billion years old. Credit: NASA/CXC/A. Hobart	Transcript Link
2011 06 16	NASA's Marshall Space Flight Center	https://youtu.be/RftKOe-5Yj0	Chandra Deep Field South	This sequence of images begins with a large optical image of the southern sky. The view zooms into the 4-million-second exposure of the Chandra Deep Field South, and then an optical and infrared image from the Hubble Space Telescope is overlaid. This provides evidence that growing black holes have been detected in 30% to 100% of the distant galaxies.	Transcript Link

2011 06 15	NASA's Marshall Space Flight Center	https://youtu.be/tODDnr3Hfbo	NASA's Robotic Lander Takes Flight	On Monday, June 13, the robotic lander mission team was poised and ready when the lander prototype in the adjacent building lifted itself off the ground and rose unrestrained higher and higher. Applause broke out in the control room when the lander gently sat back down. This marks the first free flight of this prototype for the Robotic Lunar Lander Development Project managed at NASA's Marshall Space Flight Center in Huntsville, Ala. The robotic lander flew up to 7 feet for 27 seconds.	Transcript Link
2011 06 01	NASA's Marshall Space Flight Center	https://youtu.be/Lvs_fnJ2jvY	Time-lapse Video of J-2X Engine Assembly	Time-lapse video of J-2X engine assembly at the Pratt & Whitney Rocketdyne assembly area at Stennis Space Center, Miss.	Transcript Link
2011 05 25	NASA's Marshall Space Flight Center	https://youtu.be/tybttTpZs1M	James Webb Mirror Installation	The first six of 18 hexagonal shaped segments that will form NASA's James Webb Space Telescope's primary mirror for space observations were readied this week to begin final cryogenic testing at Marshall Space Flight Center in Huntsville, Ala. Testing in Marshall's X-ray and Cryogenic Facility will confirm the mirrors will respond as expected to the extreme temperatures of space.	Transcript Link
2011 05 25	NASA's Marshall Space Flight Center	https://youtu.be/8ZHZbwOnjlY	Chandra Monitors the Flaring Crab	Scientists hoped that NASA's Chandra X-ray Observatory would locate X-ray sources correlated to the gamma-ray flares seen by Fermi and Italy's AGILE satellites. Two observations were made during the April 2011 superflare, but there's no clear evidence of them in the Chandra images. Credit: NASA/CXC/M. Weisskopf and A. Tennant	Transcript Link

2011 05 25	NASA's Marshall Space Flight Center	https://youtu.be/mqr2uMqNil8	Man-Sized Meteor Over Macon	Astronomers at NASA's Marshall Space Flight Center have recorded the brightest meteor ever seen by their network. On May 20, 2011, six-foot diameter fragment of an unknown comet entered the atmosphere about 66 miles above Macon, Ga., traveling northwest at a speed of about 86,000 mph.	Transcript Link
2011 05 25	NASA's Marshall Space Flight Center	https://youtu.be/Rqs-0dbyo8I	A Piece of Comet Halley Strikes the Moon	Three meteoroids were seen hitting the moon recently, all possible pieces of Comet Halley. The radiant of the Eta Aquariid, the meteor shower caused from Comet Halley, was positioned so that almost all of the visible part of the moon was exposed to it. This movie shows a meteoroid impact on May 11. Taking into account the brightness of the flash and the large amount of moon glare, this is one of the largest impacts we have seen to date.	Transcript Link
2011 05 25	NASA's Marshall Space Flight Center	https://youtu.be/2riMYUH7cyE	NanoSail-D Caught on Video	Dr. Robert Suggs, leader of the Space Environments Team at MSFC, captured NanoSail-D as it trekked across the sky on March 2nd, 2011. This video is from the small finder camera and appears just as was seen by the the naked eye that evening. Dr. Suggs utilized MSFC's Automated Lunar and Meteor Observatory to acquire the video. The same image was also captured in the facilities' 80mm and 14" telescopes.	Transcript Link
2011 05 25	NASA's Marshall Space Flight Center	https://youtu.be/Si-G9DpEjE8	Bright Fireball Over Tennessee	On April 6, 2011, at 9:21:57 p.m. EDT, NASA all-sky meteor cameras located at the University of Tennessee Space Institute, in conjunction with the Hands-On Science Center in Tullahoma, Tennessee, and at the Walker County Science Center in northwest Georgia detected a very bright fireball moving north across the state of Tennessee. First detected 52 miles above the Arnold Air Force base near Tullahoma, the meteor was brighter than crescent moon and was approximately two feet in diameter.	Transcript Link

2011 04 04	NASA's Marshall Space Flight Center	https://youtu.be/RkAFWMJMJTQ	Robotic Lander Prototype Testing	NASA's Robotic Lunar Lander Development Project at Marshall Space Flight Center in Huntsville, Ala., completed an initial series of integrated tests on a new lander prototype. The prototype lander will lead to the development of a new generation of small, smart, versatile robotic landers to achieve scientific and exploration goals on the surface of the moon and near-Earth asteroids. (NASA/MSFC)	Transcript Link
2011 02 01	NASA's Marshall Space Flight Center	https://youtu.be/Iq1Dh9F3AbA	Moonbuggy Promo	Moonbuggy Promo	Transcript Link
2011 02 01	NASA's Marshall Space Flight Center	https://youtu.be/Mj4f09ft5GQ	SLI Music Video	SLI Music Video	Transcript Link
2010 11 24	NASA's Marshall Space Flight Center	https://youtu.be/SDygnerFywo	Focus on Marshall The Marshall Center Turns 50! (Part 2)	This month, the Focus on Marshall team invites you to a very special ceremony -- the NASA verison of a "birthday party" as the Marshall Space Flight Center turns 50 years old. Join them for the unveiling of an historic marker to celebrate this important milestone, then meet some of the great folks that have contributed to America's space program. Captioned version: http://www.nasa.gov/multimedia/videogallery/index.html?media_id=31939551	Transcript Link

2010 11 24	NASA's Marshall Space Flight Center	https://youtu.be/lJrr92hnNOI	FOM 48 Part I		Transcript Link
2010 11 17	NASA's Marshall Space Flight Center	https://youtu.be/vCvLySsUx0c	Ikeya-Murakami The New Comet on the Cosmic Block	This video shows the motion of Comet Ikeya-Murakami on Nov. 13, 2010, captured with a New Mexico-based telescope operated remotely by NASA's Marshall Space Flight Center. The images were taken near dawn and show the comet's movement over a period of 45 minutes. Each exposure was three minutes in length, and the faint angled streak around 0:10 in the animation is a satellite trail. At the time of these images, the comet was some 229 million miles away from Earth. Comet Ikeya-Murakami was discovered very recently on Nov. 3, 2010, by Japanese amateur astronomers Kaoru Ikeya and Shigeki Murakami. Their discovery is unusual because they both used manual observations through optical telescopes to identify the comet. Such observation is rare in recent times when astronomers use cutting-edge digital imaging to study the skies. Ikeya-Murakami is classified as a long-period comet, or those comets having eccentric orbits ranging from 200 years millions of years to make one circuit around the sun. Credit: Rob Suggs, Marshall Space Flight Center, NASA	Transcript Link
2010 11 16	NASA's Marshall Space Flight Center	https://youtu.be/57P5FFdmij8	Animation of Supernova Producing a Black Hole	This animation shows how a black hole may have formed in SN 1979C. The collapse of a massive star is shown, after it has exhausted its fuel. A flash of light from a shock breaking through the surface of the star is then shown, followed by a powerful supernova explosion. The view then zooms into the center of the explosion. Credits: NASA/CXC/A.Hobart	Transcript Link

2010 10 08	NASA's Marshall Space Flight Center	https://youtu.be/KufJwS-8sXk	A Safer Touchdown for Robotic Landers	NASA's Marshall Space Flight Center in Huntsville, Ala., has successfully completed tests on two thrusters at NASA's White Sands Test Facility in Las Cruces, N.M., to aid in manuevering and landing the next generation of robotic lunar landers that could be used to explore the moon's surface and other airless celestial bodies.	Transcript Link
2010 09 15	NASA's Marshall Space Flight Center	https://youtu.be/AnIe4YwmdmM	Focus On Marshall 47	From the tip of the external tank that reaches orbit first, to a tool with an unlimited range of motion, learn about unique manufacturing capabilities on the September episode of "Focus on Marshall," the Marshall Space Flight Center's video program. Viewers will go inside the Multipurpose Machining Center in Building 4705, to see the world's largest seven-axis milling tool, used to cut and shape massive and complex developmental hardware. Most machines of this type only move in three- or five-axis. Viewers will learn how this state-of-the-art, high-performance tool moves in seven-axis -- allowing an almost unlimited range of motion for drilling precise holes, cutting designs and smoothing or finishing metal parts of all shapes and sizes. Also spotlighted is a tried-and-true Marshall capability -- space shuttle external tank nose cone manufacturing. At Marshall's National Center for Advanced Manufacturing, or NCAM, in Building 4707, Lockheed Martin workers have been producing the external tank structural components since 1997. Viewers will learn more about this unique process, including how patterns are precisely cut and cured in a 9-foot-diameter oven, or autoclave which applies heat and pressure in a controlled environment. "Focus on Marshall" airs on Marshall TV Sept. 16, 28 and 30 at 11 a.m., noon and 1 p.m. The series also is available each month on NASA TV, Inside Marshall and on the NASA Portal.	Transcript Link
2010 08 31	NASA's Marshall Space Flight Center	https://youtu.be/j4tVGXuKjpM	DM-2 Chilling	How do you chill down 1.4 million pounds of solid rocket fuel in the hot Utah desert? Lots of air conditioning! Learn how ATK chilled down DM-2, the second Ares first stage development motor in advance of the August 31 static test. DM-2 is a "cold motor" test with the mean motor temperature at 40 degrees for the two-minute test.	Transcript Link

2010 08 23	NASA's Marshall Space Flight Center	https://youtu.be/iKAAK5dUMA0	Perseid Meteor Shower at Its Peak!	This video shows a compilation of events seen during the peak of the 2010 Perseid meteor shower on Aug. 13, 2010, over Huntsville, Ala. The shower began around July 17, peaked August 12-13 and will be officially over by August 24. The Perseids have been observed for at least 2,000 years and are associated with the comet 109P/Swift-Tuttle. Video: NASA/MSFC/D. Moser, NASA's Meteoroid Environment Office	Transcript Link
2010 08 06	NASA's Marshall Space Flight Center	https://youtu.be/Vtu31zrSe8o	Perseid Fireball Brighter Than Venus	On the night of August 3 at 9:56 p.m. a Perseid meteor -- about 1 inch in diameter and moving at a speed of 134,000 mph -- entered the atmosphere 70 miles above the town of Paint Rock, Ala. At such a tremendous velocity, the meteor cut a path some 65 miles long, finally burning up 56 miles above Macay Lake, just northeast of the town of Warrior. The meteor was about six times brighter than the planet Venus and would be classified as a fireball by meteor scientists. The Perseid radiant was low in the sky when the meteor appeared -- only 9.5 degrees elevation. Therefore, this meteor could be considered an "Earth grazer" because of its long, shallow path, with an atmospheric entry angle of only 12 degrees. It's a very good start to the 2010 Perseid meteor shower, which will peak on the night of Aug. 12-13 between midnight and dawn. You can learn more about the Perseids on Aug. 12 via a live NASA Web chat with astronomer Bill Cooke: http://www.nasa.gov/connect/chat/perseids_2010.html	Transcript Link
2010 08 06	NASA's Marshall Space Flight Center	https://youtu.be/ByCKPvdin48	NASA Moves JWST Mirrors at Marshall's XRCF	This July, a summer intern took video using a flip-cam. The video depicts the James Webb Space Telescope mirrors being moved out of the X-Ray and Cryogenics facility. If you're wondering why it's so shaky -- that's because the process actually takes much longer than what is shown, the video is (in most parts) sped up by 150-200%	Transcript Link

2010 07 23	NASA's Marshall Space Flight Center	https://youtu.be/_m9kuvbK-xU	Robotic Landers Small Size, Big Benefits	NASA and the Johns Hopkins University Applied Physics Laboratory are creating a new generation of smart, versatile robotic landers. for exploring the moon, asteroids, and other airless bodies in our solar system. As small as a golf cart but big in performance, these multi-use landers will enable a variety of exciting missions.	Transcript Link
2010 07 12	NASA's Marshall Space Flight Center	https://youtu.be/KB-AnokvweI	'Focus on Marshall' Features 'Workhorse'	3-2-1 and liftoff! You don't get there without three main pieces of hardware -- the space shuttle main engines. Viewers will see everything it takes to get these engines fired up and ready on the June episode of "Focus on Marshall" -- the Marshall Space Flight Center's video program. The "Focus on Marshall" team traveled to the Kennedy Space Center, Fla., for a behind the scenes look at the preparations for these reusable pieces of the shuttle. Viewers will go inside the Orbiter Processing Facility to learn how the engines are attached to the shuttle, as well as the engine shop where each is refurbished for flight.	Transcript Link
2010 06 10	NASA's Marshall Space Flight Center	https://youtu.be/KylwvWmnJos	Ticks From Space!	Using state-of-the-art NASA satellite information, students are busy checking forests for ticks that may carry Lyme disease.	Transcript Link
2010 05 27	NASA's Marshall Space Flight Center	https://youtu.be/Uh2MvMhgZyc	Successful Small-Scale Rocket Motor Test	Engineers at NASA's Marshall Space Flight Center in Huntsville, Ala. successfully tested a sub-scale solid rocket motor on May 27. Testing a sub-scale version of a rocket motor is a cost-effective way to evaluate new materials, technologies or processes, and rapidly assess performance. Data from the 21-second test will be evaluated to better understand the performance of a new nozzle configuration, processes and materials.	Transcript Link

2010 05 20	NASA's Marshall Space Flight Center	https://youtu.be/V4NFGPET_14	Asian Pacific American Heritage Month Profile	Marshall Space Flight Center control system engineer Be Trieu, who is originally from Vietnam, is profiled in this video. It was shot in Marshalls West Test Area where he has worked since 1985.	Transcript Link
2010 05 18	NASA's Marshall Space Flight Center	https://youtu.be/BiJdPICuUGg	'Focus on Marshall' in Utah for Historic Motor Test	A legacy of smoke and fire is celebrated in the May episode of "Focus on Marshall." The "Focus on Marshall" team traveled to Promontory, Utah, for the final ground test of a space shuttle solid rocket motor in February. The test was conducted to ensure the safe fly-out of the remaining space shuttle missions. A total of 43 design objectives were measured through 258 instrument channels during the two-minute static firing. Hear from Marshall Center managers as they reflect on the historic 52nd and final test conducted for NASA at the ATK Launch Systems' facilities in Promontory. You'll also hear from employees who have worked on the project since the first test was conducted in July 1977.	Transcript Link
2010 04 30	NASA's Marshall Space Flight Center	https://youtu.be/K7Z3Ixi9fBA	2010 AIAA SpaceOps Conference Gala (Part 6 of 6)	Gene Kranz, flight director for the NASA Apollo program and best known for his role in directing the successful mission control team efforts to save the crew of Apollo 13, delivered the keynote address at the AIAA SpaceOps Conference Gala on the evening of April 29 at the U.S. Space & Rocket Center in Huntsville, Alabama. Kranz also received the 2010 International SpaceOps Exceptional Achievement Medal, for pioneering the concepts and procedures that laid the foundation for human spaceflight operations -- many of which are still in use today - and for his inspirational leadership that raised the awareness of the importance of spaceflight operations throughout the world.	Transcript Link
2010 04 30	NASA's Marshall Space Flight Center	https://youtu.be/IpTnDLHknH4	2010 AIAA SpaceOps Conference Gala (Part 5 of 6)	Gene Kranz, flight director for the NASA Apollo program and best known for his role in directing the successful mission control team efforts to save the crew of Apollo 13, delivered the keynote address at the AIAA SpaceOps Conference Gala on the evening of April 29 at the U.S. Space & Rocket Center in Huntsville, Alabama. Kranz also received the 2010 International SpaceOps Exceptional Achievement Medal, for pioneering the concepts and procedures that laid the foundation for human spaceflight operations -- many of which are still in use today - and for his inspirational leadership that raised the awareness of the importance of spaceflight operations throughout the world.	Transcript Link

2010 04 30	NASA's Marshall Space Flight Center	https://youtu.be/ijwsQW_hcXY	2010 AIAA SpaceOps Conference Gala (Part 4 of 6)	Gene Kranz, flight director for the NASA Apollo program and best known for his role in directing the successful mission control team efforts to save the crew of Apollo 13, delivered the keynote address at the AIAA SpaceOps Conference Gala on the evening of April 29 at the U.S. Space & Rocket Center in Huntsville, Alabama. Kranz also received the 2010 International SpaceOps Exceptional Achievement Medal, for pioneering the concepts and procedures that laid the foundation for human spaceflight operations -- many of which are still in use today - and for his inspirational leadership that raised the awareness of the importance of spaceflight operations throughout the world.	Transcript Link
2010 04 30	NASA's Marshall Space Flight Center	https://youtu.be/2qyjNXo0hok	2010 AIAA SpaceOps Conference Gala (Part 3 of 6)	Gene Kranz, flight director for the NASA Apollo program and best known for his role in directing the successful mission control team efforts to save the crew of Apollo 13, delivered the keynote address at the AIAA SpaceOps Conference Gala on the evening of April 29 at the U.S. Space & Rocket Center in Huntsville, Alabama. Kranz also received the 2010 International SpaceOps Exceptional Achievement Medal, for pioneering the concepts and procedures that laid the foundation for human spaceflight operations -- many of which are still in use today - and for his inspirational leadership that raised the awareness of the importance of spaceflight operations throughout the world.	Transcript Link
2010 04 30	NASA's Marshall Space Flight Center	https://youtu.be/MXj7Ttytbyg	2010 AIAA SpaceOps Conference Gala (Part 2 of 6)	Gene Kranz, flight director for the NASA Apollo program and best known for his role in directing the successful mission control team efforts to save the crew of Apollo 13, delivered the keynote address at the AIAA SpaceOps Conference Gala on the evening of April 29 at the U.S. Space & Rocket Center in Huntsville, Alabama. Kranz also received the 2010 International SpaceOps Exceptional Achievement Medal, for pioneering the concepts and procedures that laid the foundation for human spaceflight operations -- many of which are still in use today - and for his inspirational leadership that raised the awareness of the importance of spaceflight operations throughout the world.	Transcript Link
2010 04 30	NASA's Marshall Space Flight Center	https://youtu.be/oYo5MhcVgXM	2010 AIAA SpaceOps Conference Gala (Part 1 of 6)	Gene Kranz, flight director for the NASA Apollo program and best known for his role in directing the successful mission control team efforts to save the crew of Apollo 13, delivered the keynote address at the AIAA SpaceOps Conference Gala on the evening of April 29 at the U.S. Space & Rocket Center in Huntsville, Alabama. Kranz also received the 2010 International SpaceOps Exceptional Achievement Medal, for pioneering the concepts and procedures that laid the foundation for human spaceflight operations -- many of which are still in use today - and for his inspirational leadership that raised the awareness of the importance of spaceflight operations throughout the world.	Transcript Link

2010 04 20	NASA's Marshall Space Flight Center	https://youtu.be/PLFQxFlkNAE	2010 NASA Student Launch Project.mov	The NASA Student Launch Projects, is a competition that challenges high school and university-level students to design, build and fly a reusable rocket with scientific payload to one mile in altitude. The project engages students in scientific research and real-world engineering processes with NASA engineers. NASA Student Launch Projects are sponsored by ATK Launch Systems. The annual launch event is hosted at Bragg Farms in Toney, Ala., and launch services are provided by the local National Association of Rocketry chapter. www.facebook.com/NASAStudentLaunch	Transcript Link
2010 04 16	NASA's Marshall Space Flight Center	https://youtu.be/whPBctYHtNg	NASA Sets Parachute Payload Record	Under a brilliant early morning Arizona sky, NASA conducted a successful, record-breaking test of a drogue parachute being designed to return next-generation space vehicles safely to Earth. The 77,000-pound payload used in the test was dropped from the back of a U.S. Air Force C-17 at an altitude of 25,000 feet, setting a record for the heaviest single load ever extracted out of a C-17 during flight. NASA conducted the drop test, April 14, at the U.S. Army's Yuma Proving Ground near Yuma, Ariz.	Transcript Link
2010 04 12	NASA's Marshall Space Flight Center	https://youtu.be/Cwyo1iIoIdY	Anatomy of a Parachute	Slowly drifting across the horizon like a small cluster of clouds, large red, white and blue parachutes glide across the Arizona sky, bringing their payload to a gentle landing on desert floor below. These parachutes are part of a recovery system under development by engineers at NASA's Marshall Space Flight Center in Huntsville, Ala., to return a expended solid rocket motor to Earth for recovery and reuse. Through this ongoing series of development tests at the U.S. Army's Yuma Proving Ground near Yuma, Ariz., NASA is developing capabilities for the safe and reliable recovery of future hardware. This video gives you an "up close and personal" view of what happens inside the parachutes as they deploy.	Transcript Link
2010 04 06	NASA's Marshall Space Flight Center	https://youtu.be/-RCYfrwjkZc	Moonbuggy Promo	Moonbuggy Promo	Transcript Link

2010 04 05	NASA's Marshall Space Flight Center	https://youtu.be/UgKHuIJ6Cdo	What Caused the Ares I-X Parachute to Fail	Pull cord, deploy chute. Sounds simple, right? For the Ares I-X team the trick was in that "pull cord" step. After a thorough root cause analysis, NASA has pinpointed the likely culprit behind the Ares I-X parachute system anomaly -- an errant cord yank that caused one reefing line pyro charge to fire prematurely while still in the parachute pack. During the Ares I-X suborbital flight, the packed parachutes shook and shimmied inside the vehicle. Engineers believe the pack dynamics resulted in the snagging of a reefing line cutter lanyard, pulling the pin and activating the blade that cuts the line before the parachutes were deployed. Read more and view images: http://www.nasa.gov/mission_pages/constellation/ares/parachute_results.html	Transcript Link
2010 03 29	NASA's Marshall Space Flight Center	https://youtu.be/uOY7kN3g2b4	50 Years of History...in Only 50 Seconds!	Talk about time flying! Take a look at this super-fast review of highlights from the past 50 years at the Marshall Center. This year, Marshall is celebrating its 50th anniversary, highlighting its historical engineering and technology achievements and service to the nation and America's space program.	Transcript Link
2010 03 29	NASA's Marshall Space Flight Center	https://youtu.be/vYkTcXtuOxk	Fireball Streaks Through Night Sky of Western Alabama	Vigilant sky watchers were treated to a fiery surprise in western Alabama sky on Friday, March 19. Allsky meteor cameras at the Marshall Center and near Chickamauga, Ga., recorded a fireball streaking across the sky around 11:19 p.m. CDT. Moving at a speed of 42,500 mph -- or 12 miles per second -- the meteor burned up approximately 20 miles up in the atmosphere. Although very bright, the meteor was deemed not large enough to produce meteorites. Mid-March is typically a lull period for meteor shower activity, but several bright fireballs have recently been spotted over California, Mississippi and now Alabama.	Transcript Link
2010 03 15	NASA's Marshall Space Flight Center	https://youtu.be/AfdIX_EV3_M	Solar Magnetism	Shows how the sun's magnetic field evolves over three solar cycles using maps of the solar surface magnetic field obtained by the National Solar Observatory. Begins with a series of magnetic images obtained over a 27 day rotation of the sun ans shows how a magnetic map of the surface is peeled off the sun.	Transcript Link

2010 03 15	NASA's Marshall Space Flight Center	https://youtu.be/gclE7IGq5tE	Solar Magnetic Fields and Sunspots Explained	This video shows the association of magnetic fields with sunspots and coronal loops. Begins with images in white light from the ESA/NASA SOHO mission MDI instrument showing the presence of sunspots and the 27-day rotation of the sun.	Transcript Link
2009 12 22	NASA's Marshall Space Flight Center	https://youtu.be/QV5vSE1YCL8	Marshall Center 2009 Highlights A Video Review	A busy year can seem to pass in a minute -- but in this video it literally does! Check out a rapid-fire retrospective of the Marshall Center's 2009 accomplishments. This fast-paced video montage highlights rocket tests, shuttle launches, spacewalks, astronomy, earth science and educational initiatives including moonbuggies. Fasten your seatbelt for a VERY quick blast through the past.	Transcript Link
2009 11 18	NASA's Marshall Space Flight Center	https://youtu.be/9Q42dF8LhkU	NASA's Robotic Lunar Lander Development Test Project	During recent tests at NASA's Marshall Space Flight Center in Huntsville, Ala., the lander test article was suspended up 10.5 feet from the landing pad. After being released from its hoist, the lander simultaneously received a command to activate its onboard thrusters to carry it to a controlled landing using a preprogrammed descent profile. These tests demonstrate the test article's capability to perform autonomous descent, and soon will be used to checkout landing control algorithms for the next generation of lander missions. Landing on Earth is a difficult task since engineers have to take into account the Earths gravity is six times the gravity a vehicle will experience on the moon. The team at Marshall is designing and building the next generation of robotic landers that will be capable of carrying a broad range of science payloads and devices that could perform a variety of investigations, including understanding the moon's deep interior and searching for the existence lunar ice and water at the poles.	Transcript Link
2009 10 21	NASA's Marshall Space Flight Center	https://youtu.be/yfj_NG_M9dI	Orionids meteor shower peak Oct. 21, 2009!	A NASA Marshall Space Flight Center video about the Orionids meteor shower, which peaked over North America on Wednesday, Oct. 21.	Transcript Link

2009 10 02	NASA's Marshall Space Flight Center	https://youtu.be/si6XAOTzVaU	Igniting the Future Hispanic Heritage Month at NASA Marshall	NASAs Marshall Space Flight Center celebrates Hispanic Heritage Month 2009 with a profile of three young Hispanic engineers working a cross-section of NASA projects and missions. For more information, visit http://www.msfc.nasa.gov. For more about diversity and education at the Marshall Center, visit http://eo.msfc.nasa.gov and http://education.nasa.gov/edoffices/centeroffices/marshall/home.	Transcript Link
2009 07 31	NASA's Marshall Space Flight Center	https://youtu.be/UpOx2zzlHto	James Webb Space Telescope Mirrors readied for cyrogenic testing	Three of the 18 James Webb Space Telescope mirror segments were mounted on a test stand July 30 at the X-ray & Cryogenic Facility at NASAs Marshall Space Flight Center in Huntsville, Ala. The mirror segments are being moved into the facilitys cryogenic vacuum chamber, which will chill them to minus 414 degrees Fahrenheit to ensure they can withstand the extreme temperatures of space. As this cooling takes place, engineers and technicians from NASA and Ball Aerospace & Technologies Corp. of Boulder, Colo., will measure in extreme detail how the shapes of the mirrors change, simulating how they'll react to temperature changes in space.	Transcript Link
2009 07 21	NASA's Marshall Space Flight Center	https://youtu.be/30H2M60V83s	Apollo 11 40th Anniversary pt. III	We talked to people at the celebration of the 40th anniversary of the Apollo 11 moon landings. Here's what they said.	Transcript Link
2009 07 21	NASA's Marshall Space Flight Center	https://youtu.be/JG7nRoQ1UFk	Apollo 11 40th Anniversary Pt. II	We talked to people at the celebration of the 40th anniversary of the Apollo 11 moon landings. Here's what they said.	Transcript Link

2009 07 20	NASA's Marshall Space Flight Center	https://youtu.be/cYs8k5GTmY0	Apollo 11 40th Anniversary Part I		Transcript Link
2009 05 26	NASA's Marshall Space Flight Center	https://youtu.be/fGgTYGYOhlA	NASA Ares I Rocket - Yuma Drop Test	Unfurling in majestic patriotic colors, a successful cluster test of the Ares I rocket's three, 1-ton main parachutes was conducted May 20 by NASA and industry engineers at the U.S. Army Yuma Proving Ground located near Yuma, Ariz. The main parachute is designed to slow the rapid descent of the spent first-stage motor and permit its recovery for use on future flights.	Transcript Link
2009 03 24	NASA's Marshall Space Flight Center	https://youtu.be/qgNpf9ihiR4	Ares I-X Forward Skirt Extension Separation Test	This is high-speed camera footage of a separation test conducted for the Ares I-X rocket. The test simulated the separation event that will take place following the first stage of flight. The test needed to show that the linear-shaped charge used to separate the forward skirt extension severed cleanly. More info is available at: http://www.nasa.gov/mission_pages/constellation/ares/flighttests/aresIx/index.html	Transcript Link
2009 03 24	NASA's Marshall Space Flight Center	https://youtu.be/QGu7-F80PoM	Focus on Marshall Episode 12-B SERVIR Lab	In this episode hosts Bill Hubscher and Lori Meggs take us on a tour of the SERVIR Lab at Marshall Space Flight Center in Huntsville, AL.	Transcript Link

2009 03 24	NASA's Marshall Space Flight Center	https://youtu.be/sztPSJr4eV4	Focus on Marshall Episode 12-A Aerodynamic Research Facility	In this episode hosts Bill Hubscher and Lori Meggs take us on a tour of the Aerodynamic Research Facility at Marshall Space Flight Center in Huntsville, AL.	Transcript Link
2009 03 24	NASA's Marshall Space Flight Center	https://youtu.be/VIkqLZEqtwI	Focus on Marshall Episode 11-B Emergency Operations Center	In this episode hosts Bill Hubscher and Lori Meggs take us on a tour of the Emergency Operations Center at Marshall Space Flight Center in Huntsville, AL.	Transcript Link
2009 03 24	NASA's Marshall Space Flight Center	https://youtu.be/yIxcFetUWUs	Focus on Marshall Episode 11-A Marshall Exhibits Team	In this episode hosts Bill Hubscher and Lori Meggs highlight the Exhibits Team at Marshall Space Flight Center in Huntsville, AL.	Transcript Link
2009 03 24	NASA's Marshall Space Flight Center	https://youtu.be/rsLj-OpMR4c	Focus on Marshall Episode 10-A More from the Marshall Resident Office at Kennedy Space Center	In this episode hosts Bill Hubscher and Lori Meggs continue the tour of the Marshall Resident Office at Kennedy Space Center.	0

2009 03 24	NASA's Marshall Space Flight Center	https://youtu.be/TDPikM07U0k	Focus on Marshall Episode 10-A Marshall Resident Office at Kennedy Space Center	In this episode hosts Bill Hubscher and Lori Meggs take us on a tour of the Marshall Resident Office at Kennedy Space Center.	0
2009 03 24	NASA's Marshall Space Flight Center	https://youtu.be/3vEWOJoaNqY	Focus on Marshall Episode 9-B Office of the Chief Information Officer	In this episode hosts Bill Hubscher and Lori Meggs take us on a tour of the Office of the Chief Information Officer at Marshall Space Flight Center in Huntsville, AL.	0
2009 03 24	NASA's Marshall Space Flight Center	https://youtu.be/1duLOZPnmfw	Focus on Marshall Episode 9-A Reusable Solid Rocket Motor Project	In this episode hosts Bill Hubscher and Lori Meggs take us on a tour of the Reusable Solid Rocket Motor Project at Marshall Space Flight Center in Huntsville, AL.	Transcript Link
2009 03 24	NASA's Marshall Space Flight Center	https://youtu.be/NcIIocR7XJQ	Focus on Marshall Episode 8-B Educator Resource Center	In this episode hosts Bill Hubscher and Lori Meggs take us on a tour of the Educator Resource Center at Marshall Space Flight Center in Huntsville, AL.	Transcript Link

2009 03 24	NASA's Marshall Space Flight Center	https://youtu.be/IPQ9XXtqyD8	Focus on Marshall Episode 8-A Vehicle Analysis Branch	In this episode hosts Bill Hubscher and Lori Meggs take us on a tour of the Vehicle Analysis Branch at Marshall Space Flight Center in Huntsville, AL.	Transcript Link
2009 03 24	NASA's Marshall Space Flight Center	https://youtu.be/cDy4hZ2doko	Focus on Marshall Episode 7-B Marshall Television Services	In this episode hosts Bill Hubscher and Lori Meggs take us on a tour of the Marshall Television Services at Marshall Space Flight Center in Huntsville, AL.	Transcript Link
2009 03 24	NASA's Marshall Space Flight Center	https://youtu.be/dDyCQOoldBA	Focus on Marshall Episode 7-A Materials Environment Test Complex	In this episode hosts Bill Hubscher and Lori Meggs take us on a tour of the Materials Environment Test Complex at Marshall Space Flight Center in Huntsville, AL.	Transcript Link
2009 03 24	NASA's Marshall Space Flight Center	https://youtu.be/yrt04t5ZYDo	Focus on Marshall Episode 5-B Flight Robotics Lab	In this episode hosts Bill Hubscher and Lori Meggs take us on a tour of the Flight Robotics Lab at Marshall Space Flight Center in Huntsville, AL.	Transcript Link

2009 03 24	NASA's Marshall Space Flight Center	https://youtu.be/dYEUDtXdwdI	Focus on Marshall Episode 6-B More from the Research & Technology Expo	In this episode hosts Bill Hubscher and Lori Meggs continue the tour of the Research & Technology Expo at Marshall Space Flight Center in Huntsville, AL.	0
2009 03 24	NASA's Marshall Space Flight Center	https://youtu.be/sNKNKEKTLfY	Focus on Marshall Episode 4-B X-Ray Calibration Facility	In this episode hosts Bill Hubscher and Lori Meggs take us on a tour of the X-Ray Calibration Facility at Marshall Space Flight Center in Huntsville, AL.	Transcript Link
2009 03 24	NASA's Marshall Space Flight Center	https://youtu.be/1kO0tDcREDg	Focus on Marshall Episode 5-A Terrestrial & Planetary Environments Lab	In this episode hosts Bill Hubscher and Lori Meggs take us on a tour of the Terrestrial & Planetary Environments Lab at Marshall Space Flight Center in Huntsville, AL.	0
2009 03 24	NASA's Marshall Space Flight Center	https://youtu.be/ynQTyeOrSHo	Focus on Marshall Episode 6-A Research & Technology Expo	In this episode hosts Bill Hubscher and Lori Meggs take us on a tour of the Research & Technology Expo at Marshall Space Flight Center in Huntsville, AL.	Transcript Link

2009 03 24	NASA's Marshall Space Flight Center	https://youtu.be/7KjY1pL8P3o	Focus on Marshall Episode 4-A Propulsion Test Cell	In this episode hosts Bill Hubscher and Lori Meggs take us on a tour of the Propulsion Test Cell at Marshall Space Flight Center in Huntsville, AL.	Transcript Link
2009 03 24	NASA's Marshall Space Flight Center	https://youtu.be/vtOkbF8I5z8	Focus on Marshall Episode 3-B Rapid Prototyping Lab	In this episode hosts Bill Hubscher and Lori Meggs take us on a tour of the Rapid Prototyping Lab at Marshall Space Flight Center in Huntsville, AL.	Transcript Link
2009 03 24	NASA's Marshall Space Flight Center	https://youtu.be/qTzHoNkobog	NASA's Marshall Space Flight Center 2008 Year in Review	This is a quick look at some of the accomplishments to come out of NASA's Marshall Space Flight Center during 2008.	Transcript Link
2009 03 19	NASA's Marshall Space Flight Center	https://youtu.be/-_Km6KATNIA	Focus on Marshall Episode 2-B Impact Testing Facility	In this episode hosts Bill Hubscher and Lori Meggs take us on a tour of the Impact Testing Facility at Marshall Space Flight Center in Huntsville, AL.	Transcript Link

2009 03 19	NASA's Marshall Space Flight Center	https://youtu.be/F-8cyf5BSX0	Focus on Marshall Episode 3-A Imaging System Lab	In this episode hosts Bill Hubscher and Lori Meggs take us on a tour of the Imaging System Lab at Marshall Space Flight Center in Huntsville, AL.	Transcript Link
2009 03 19	NASA's Marshall Space Flight Center	https://youtu.be/uQPwHdIRvNw	Focus on Marshall Episode 1-B Payload Operations Center	In this episode hosts Bill Hubscher and Lori Meggs take us on a tour of the Payload Operations Center at Marshall Space Flight Center in Huntsville, AL.	Transcript Link
2009 03 19	NASA's Marshall Space Flight Center	https://youtu.be/Mdjp66JOPGA	Focus on Marshall Episode 2-A Electrical, Electronic and Electromechanical Parts Analysis Lab	In this episode hosts Bill Hubscher and Lori Meggs take us on a tour of the Electrical, Electronic and Electromechanical Parts Analysis Lab at Marshall Space Flight Center in Huntsville, AL. NASA Marshall Space MSFC	0
2009 03 19	NASA's Marshall Space Flight Center	https://youtu.be/vKpxi6RPU3s	Focus on Marshall Episode 1- A Test Propulsion Facility	In this episode hosts Bill Hubscher and Lori Meggs take us on a tour of the Test Propulsion Facility at Marshall Space Flight Center in Huntsville, AL.	Transcript Link

2009 02 09	NASA's Marshall Space Flight Center	https://youtu.be/kiy1NXnnE2Q	International Space Station Payload Operations Center	The Payload Operations Center at the Marshall Space Flight Center in Huntsville, Ala., provides the heartbeat for International Space Station science operations. This science command post will link Earth-bound researchers around the world with their experiments and astronauts aboard the International Space Station.	Transcript Link
2009 01 16	NASA's Marshall Space Flight Center	https://youtu.be/CasqBt2Z-jY	Materials Science Research Rack Shipment	The Materials Science Research Rack-1 (MSRR-1) will be used for basic materials research in the microgravity environment of the International Space Station. Having the MSRR-1 on board the space station will allow astronauts to study material types like metals, alloys, polymers, semiconductors, ceramics, crystals, and glasses, in order to discover new ways to use these existing materials and new or improved materials for use here on Earth.	Transcript Link
2009 01 15	NASA's Marshall Space Flight Center	https://youtu.be/smswUgtMTfA	Icicles on NASA's CECE Engine	The Common Extensible Cryogenic Engine, or CECE, is a deep-throttling engine, which means it has the flexibility to reduce thrust from 100 percent down to 10 percent -- allowing a spacecraft to gently land on the lunar surface.	Transcript Link