Behind the Wings

Episode Guide:

Season One

#101: B-52 Stratofortress
Have you ever driven by Wings Over the Rockies Air & Space Museum in Denver? The museum boasts the second oldest B-52 anywhere, a testament to the amazing staying power of the B-52 airframe. Join Wings' curator and Behind the Wings host Matthew Burchette as he crawls through an iconic B-52 bomber, takes a trip to The Peace Garden State and explores one of only two active B-52 bases in the United States.

#102: Denver International Airport
Behind the Wings host Matthew Burchette goes behind the scenes with DEN's snow removal team, talks to the CFO who helped to finance one of the largest airport expansions in the world and even takes a trip below ground, where there might be more than meets the eye.

#103: EA-6B Prowler
Explore the CAG bird inside Wings Over the Rockies Air & Space Museum and take a trip to Naval Air Station Whidbey Island to visit the home of electronic attack for the entire DoD. You'll find yourself on the runway with EA-18s screaming by, face to face with active pilots leading the Navy's mission and take a tour of a Navy base built to protect the USA's Western coast during WWII.

#104: Cessna 172 Skyhawk
Join Behind the Wings host Matthew Burchette as he goes flying with a Metropolitan State University of Denver student over some of Denver's most popular landmarks, learns about the desperate need for airline pilots and gets a soup to nuts look at the 172 Skyhawk in Independence, Kansas.

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Season Two

#201: UH-1 Iroquois
The UH-1 Iroquois (Huey) is THE iconic aircraft of the Vietnam War. In the season 2 premiere of Behind the Wings, take a trip to Wings Over the Rockies Air & Space Museum in Denver, CO with host Matthew Burchette as he highlights a combat-veteran Huey, interviews two Vietnam War Huey pilots and even tags along on a training mission with the US Coast Guard to showcase the U.S. military's latest helo.

#202: North American Aerospace Defense Command (NORAD)
In this special episode of Behind the Wings, tag along as host Matthew Burchette explores one of the military's best-kept secrets - North American Aerospace Defense Command (NORAD). Get a private tour of the N2C2 command center, experience a Noble Eagle Conference in action and fly along as Matthew's venture into "restricted airspace" puts him up close and personal with Buckley AFB's 140th Wing. This is access that few ever receive.

#203: The Apollo Program
2019 marked the 50th anniversary of the Apollo 11 lunar landing. This incredible milestone changed the way humanity looked at our planet and access to deep space. Join Behind the Wings host Matthew Burchette as he sits down with NASA's Gene Kranz, summarizes the amazing events leading up to Apollo 11 and uncovers the fascinating future NASA has in store for space exploration.

#204: Beechcraft 18
The Beechcraft Company has been in existence for more than 88 years and has built some of the most influential aircraft in history. Join host Matthew Burchette as he dives into the history of the iconic Beechcraft 18, explores its history as the C-45 Expeditor and ventures to Centennial Airport in Englewood, Colorado to link up with the Colorado State Patrol's (CSP) Aviation Section. If you are lucky, you may even get a ride in CSP's souped-up Beechcraft King Air.

Season Three

#301: Firefighting Fire from the Sky
Wildfires are growing in intensity, and firefighting aviation is becoming increasingly crucial to saving forests and lives in Colorado and beyond. Fire aviation teams are critical, complex efforts, made up of pilots, technicians, and coordinators who work together with ground crews to put out and contain wildfires. As environmental conditions set the stage for unprecedented fire seasons, night vision goggle technology is employed for the first time, and Colorado legislatures are

paying closer attention than ever to the importance of wildfires. The progress is clear, yet so much remains to be done.

#302: Innovations in Aviation Firefighting
New fire conditions call for new firefighting methods and tools. Looking at Calfire, we learn how the largest municipal fleet of firefighting aircraft in the world has developed over time. Live data feeds revolutionize how firefighting teams understand fires and communicate during missions. Colorado gets ready to purchase its first Firehawk helicopter, and interagency teams coordinate at the local, state, and federal levels. The challenges in fighting wildfires are greater than ever, but with new methods of fighting the fires, so are the opportunities.

#303: The Century Series Fighter Jets
In the 1950s, The Century Series defined an era of aviation during the Cold War, charting a metamorphosis from one era to another. Jets were in their infancy, and many milestones, including the sound barrier, loomed large. In an arms race with the Soviet Union, a rising superpower, the U.S. got to work developing a variety of impressive fighter jets, now known as the Century Series. Starting with the F-100, the first production airplane to break the sound barrier in level flight, we explore how the century series pioneered new airplane designs, including the aerodynamic coke bottle shape made famous by the F-102. The F-104, a missile with a man in it inspired a generation of pilots. The F-105 looked like a fighter but was a bomber in disguise. As a series, their legacy is evident in modern fighter jets.

#304: The Learjet Legacy
For nearly sixty years the Learjet came to define a new class of luxury airplane – the business jet. Now, the last Learjet ever is being assembled at the Wichita-based production facility in "The Aviation Capital of the World". Speaking with aviation icons past and present, we get an intimate look at a company that shaped aviation as we know it today. From its record-setting performance achievements to its outsized role in popular culture, the Learjet's place in history is here to stay, long after the production lines shut down.

Season Four

#401: Early Space Exploration
Early Space Exploration was defined by a Space race between the United States and the Soviet Union in a quest for national bragging rights. Major milestones like the first artificial Earth satellite, landing on the moon, and eventually creating the International Space Station (ISS) in 1993. Astronauts experience a psychological sensation called The Overview Effect. The ISS marked a new focus on international collaboration in Space. On the ISS, scientists are conducting novel research that is revolutionizing our understanding of life on earth -- from monitoring air pollution to fermenting beer. With the ISS expected to shut down in the coming decades, private space stations may play a larger role in the future of space- and exploration.

#402: Earth from Space
From cave drawings to the identification of star constellations in the night sky, the cosmos has fascinated humankind. Space exploration also provides a unique vantage to look back at Earth. Satellite sensing enables new discoveries about climate change, natural disasters, and civilization. Researchers high in the Rocky Mountains are using satellites, and more than 50 different sensor types to create prediction models of complex watersheds. Mapping technology has become an irreplaceable part of our daily lives and helps plan everything from vaccine distribution, to chimpanzee populations. With the exponential increase in satellites in recent years, comes a need for more space infrastructure, and new challenges like space debris. The opportunities in space exploration are greater than ever but for a burgeoning space economy, so are the challenges.

#403: The New Space Race
Technological advances and private investments have enabled a new era in space exploration. Billionaires and private equity are leading the charge, at times in partnership with public space agencies. The impacts are profound in the variety and frequency of space activity. One where anyone can be a citizen astronaut, and for companies – a customer. Space for Humanity is working towards a vision where anyone can be an astronaut, and Astro Access took that even further when they crewed a training mission entirely with people with disabilities. Space exploration is more ambitious today than ever before, yet the impact of commercialization – with private astronauts, and private space stations - remains to be seen.

#404: The Next Frontier in Space
A return to the moon is imminent, and space exploration continues into deep space. NASA is preparing for their Orion missions, including the first crewed mission to the moon in about 50 years! Plans for a lunar gateway will teach us more about working and living in Space. In the Utah desert, researchers are simulating what it would be like to be on Mars. There are still problems to solve before humans are ready to make a trip to the Martian planet, but when we do it could change everything.

Season Five

#501: How Drones and eVTOL are Changing the World
From the delivery of packages and medical supplies to the potential of Electric Vertical Takeoff and Landing (eVTOL) aircraft as a form of urban transportation, drone and eVTOL technologies are rapidly changing the future of how we move. In Silicon Valley, a startup is working towards FAA certification on a first-generation flying taxi that could revolutionize how we commute and travel. On a drone test site on the Choctaw Nation of Oklahoma, drone companies test new ways to transport medical supplies by drone. In Baltimore a drone delivers the first organ for human

transplant. And in Bentonville, Arkansas, DroneUp and Walmart partner to deliver packages by drone to more than six million Americans. It sounds like the future, but it's happening today!

502: Design, Deploy, Discover: The James Webb Space Telescope
Explore the design, deployment, and discoveries of the James Webb Space Telescope, one of the most ambitious scientific instruments ever built. Meet the Engineers and scientists who dedicated their careers to designing and building Webb. From the development of new technologies to the intricate process of deploying the telescope in space, Webb is unlike any telescope ever made. Now Webb's data is rolling in, enabling new scientific discoveries about the formation of galaxies and the origins of life. Webb is changing our fundamental understanding of the universe and our place in it.

503: The F-35 Lightning II
Come behind the scenes of one of the most advanced military aircraft in the world. From its 5th generation design to its technological breakthroughs, the F-35 is a formidable machine. At Lockheed Martin's mile-long assembly line in Fort Worth Texas, F-35s are meticulously built. At the Air Force Academy in Colorado Springs, cadets learn how the F-35 fits into a modern combat environment. And at Miramar Naval Base in San Diego, CA, get an inside look at the training and daily life of the pilots who fly the F-35 operationally.

504: The Moon, to Stay
A continued exploration of the Artemis missions, building on Episode 404 of Behind the Wings. Look back at Apollo to understand what we learned from going to the moon for the first time. Follow the progress of the program, from the development of new lunar architecture to the training of the astronauts who will take the next steps on the moon. In a Virtual Reality lab at Lockheed Martin Space, Engineers discuss the design of the Orion spacecraft. At Kennedy Space Center, technicians reflect on the learnings from Artemis I. At NASA's Johnson Space Center, astronauts are training for Artemis II, the first Artemis crewed mission. Meet the diverse team working on the program and discover how returning to the Moon is a crucial step towards new scientific discoveries, a cis-lunar economy, and inspiring the next generation of explorers.

Season Six

601: AI in Military Aviation
Follow the journey of AI in military aviation, from initial concepts in the lab to flight testing. On the outskirts of the Mojave Desert at Edwards' Test Pilot School, a revolution is taking place in AI piloted aircraft. The one-of-a kind X-62A VISTA in-flight simulator provides a sandbox for flight-testing AI technologies in a controlled setting. AI progress is iterative, and each flight reveals new capabilities and shortcomings. As AI technology progresses towards operationality, the stakes of lethal AI are so high that we've got to get it right.

602: Collaborative Combat Aircraft
Explore the critical balance in advancing ethical AI technology with Collaborative Combat Aircraft (CCA). Above the white sandy beaches of Eglin Air Force Base, an XQ-58A test aircraft soars by at 35,000 feet. However, there is no pilot, and there's not even a cockpit! As the capabilities of AI pilots progress, managing the risks of its ethical deployment, and of falling behind in a global race for technological superiority become central to its feasibility.

603: The Super Guppy
From its incredible history to its unique design features, we're taking an inside look at the Super Guppy! In 1962, President Kennedy made the bold claim to put an American on the moon by the end of the decade. However, the components required for Apollo were massive and assembled nationwide. For Apollo to launch on time, NASA needed an aircraft larger than anything the world had ever seen. Since Apollo, the Super Guppy has completed hundreds of missions for NASA, the DOD, and even worldwide. Five Super Guppies were constructed, and today only one remains flying.

604: Hypersonic Flight Testing
Hypersonic flight remains one of aviation's most elusive challenges. Defined by speeds greater than Mach 5, it is a realm where air becomes fire and the laws of physics wage war against human ambition. Against a rapidly progressing global competitive landscape the need for repeatable hypersonic flight testing is greater than ever. Meet the Stratolaunch Roc, the largest operational aircraft in the world. From its development history to the engineering firsts along the way, Roc, and the missions it enables, are unlike anything else on Earth.