

REMARKS FOR ADMINISTRATOR BOLDEN
ARMY & NAVY CLUB TRIBUTE TO THE ARMED FORCES

Nov. 16, 2013

It's a pleasure to be here among all of you who have served and are serving our country so bravely. I wish you a belated Happy Veterans Day and – for the Marines in the room – Happy 238th birthday! (Thank Jack Klimp for invitation to speak to this gathering tonight.)

At NASA, we've been moving toward the missions of tomorrow and the capabilities we'll need to visit new places, launch cutting edge science missions, and help develop the next generation of aviation and space systems from which we'll all benefit.

A lot of that work will be with the help of people who gained valuable skills through their military service and I'm happy to honor that legacy today.

NASA and the military have a long and storied history. Our earliest astronauts came from the military because we wanted that test pilot experience and the willingness to face dangerous situations.

Military veterans have been aboard NASA spacecraft from the first Mercury flight through wheels stop on the final space shuttle mission, to crew aboard the International Space Station (ISS) today. Mike Hopkins of the Air Force is currently serving as a flight engineer on the station until next March.

Among our early astronaut were Marine Corps COL John Glenn, Navy CAPT Jim Lovell, who commanded Apollo 13, and the late CDR Scott Carpenter, a Navy legend from the earliest days of the space program through his subsequent undersea exploration, whose death we mourned last month. Neil Armstrong was at one time a Naval Aviator and his two crewmates aboard Apollo 11, Michael Collins and Buzz Aldrin, came from the Air Force.

John Young and Bob Crippen, who first took our space shuttle to orbit, were both Naval Aviators.

Right now, NASA's head of the General Counsel's office (my lawyer), Mike Wholley, was a Marine Corps F-4 pilot in Viet Nam who transitioned to the legal field, eventually serving as the Staff Judge Advocate to two Commandants. The current KSC Center Director, Bob Cabana, was a Marine Corps A-6 pilot and BN who flew four missions as a NASA Space Shuttle Astronaut. His Deputy Center Director, Janet Petro, a former Army officer, is a West Point graduate with a bachelor's degree in engineering. Terry Wilcutt, Chief of our Safety and Mission Assurance Office and a former astronaut, studied math and was a high school teacher before joining the Marine Corps and becoming an F/A-18 pilot.

My dual careers in the Marine Corps and at NASA have been very complementary and have enabled me to enlarge my perspective and use a wide range of skills. As a pilot flying combat missions, I never imagined I might someday be piloting a spacecraft to orbit, but the mental preparedness and skills were essentially the same.

When I was flying those combat missions over Vietnam, there were times when I didn't think I would come back – five of my squadron mates did not. That's just one of the many reasons that military service is like no other career in the world. Not every veteran has faced enemy fire, but they've all made sacrifices for our country and fulfilled a public duty that demands our highest respect.

Space travel has a similar component in that it will never be completely safe, although we continue to make improvements and learn from every flight.

When you have 7 million pounds of thrust beneath you, you realize that at some point there is very little you can do to change the outcome of your flight. But during that time and once in orbit, you depend on your crewmates completely.

The transformations in our technologies I've seen in my lifetime have been amazing. Not that long ago, crossing the country by air was the big goal. Now we seek to cross the great divide of space to distant planets, and we'll do that, too.

NASA is building the next big rocket and the *Orion* multipurpose crew vehicle to take astronauts to deep space again. We're developing the technologies to reach new destinations like an asteroid and Mars. We just launched a new satellite called *LADEE* to the moon in September and will launch *MAVEN* to study the upper atmosphere of Mars on Monday.

Just last month Orbital Sciences launched its *Antares* rocket carrying the cargo module, *Cygnus*, and completed its demonstration mission to the International Space Station. With that mission complete, we now have two American companies able to provide cargo resupply to the ISS. I'm confident our work with commercial crew will also progress to a successful outcome.

I also want to emphasize that we now have another active launch site for our nation. The Mid-Atlantic Regional Spaceport, or MARS, in Virginia has now launched its first mission to the ISS with the Orbital demo mission, and its first mission beyond Earth orbit with *LADEE*. It's a tangible sign that our launch capabilities and our commitment to exploration are continuing to grow. I believe in American innovation and the superiority of American industry and I'm putting my money on our ability to maintain our technological lead in the world.

Six of the eight members of our newest class of astronaut candidates, selected this year, come to us from the military. Half of this class is women by the way, the highest percentage ever, and two of the women are currently serving in the Army and the Marine Corps.

The newest ASCANS (as we call them) have set their first destination as the International Space Station (ISS). These new astronauts will help NASA achieve its next generation exploration goals. They will be among the first to fly commercial spacecraft launched from American soil for the first time. They will also be among the first astronauts who fly the first crewed flight of *Orion* around the moon, launched aboard the Space Launch System in 2021. Some in their class may well be on the crew that heads to an asteroid by 2025, arguably one of the greatest human adventures ever undertaken.

These men and women are embarking on the journey of a lifetime, and they are doing it on behalf of the nation. So the military –NASA tradition remains strong.

That's what motivates me – the hope for a bright future. I'm a dreamer, but I'm not unrealistic. I know that we won't necessarily always have the budget to do everything the way we want to and when we want to, but we will continue to do great things.

In my travels, I've found that even in countries without a formal space agency, both our partners and the upcoming generation are very excited about the possibilities for our future in space.

I've been fortunate to speak several times in the past few years at the U.S. Naval Academy in Annapolis as well as at other events where young men and women are just embarking on their military careers, and let me tell you, they are excited to put their skills to good use.

They are smart and enthusiastic, and I have no doubt our nation and our space program will be in good hands with them.

Future test pilots like the Scott Carpenters and John Youngs, who got us to where we are today, are going to help us make air travel safer, cleaner, and more efficient. Our Aeronautics Mission Directorate right now is working on technologies and prototypes for the aircraft of tomorrow and technologies such as winglets to reduce fuel usage and design modifications for new aircraft that will help muffle the sound of sonic booms.

In concert with the FAA and agencies around the world, we're working to create a Next Generation of air transportation system (NextGen). All of this parallels our work on the technologies for the next spacecraft in which our military colleagues will likely be among the first flyers.

I'm excited that tomorrow I get to don one of the infamous bunny suits and get inside the *Orion* spacecraft currently at the Kennedy Space Center. Orion will fly its first test flight into space next year when we fly it on a profile to simulate reentry from a lunar mission.

My journey, from Columbia, South Carolina, to the Naval Academy, to space and where I am today as the leader of NASA, has been inspired by examples of courage and dedication against long odds.

Throughout my career, I've been fortunate to see first-hand the amazing effect the accomplishments and examples set by others can have on the lives of young people. As a young man, I knew that I had the drive and passion to succeed, and a lot of that came from seeing the examples of my father and uncles, who served in World War II.

Later in my life, I would learn of the Montford Point Marines and Tuskegee Airmen, who, because they were Black, had to fight for the right to defend this nation. Together, all of these brave men gave me a beacon to follow and it is on their giant shoulders that I have always stood! Their legacy is not measured in missions flown, nor enemies killed -- but in lives touched.

Military aviators will always play an invaluable role in the ongoing accomplishments of our nation's aerospace programs -- and in the lives of the young men and women who are writing new chapters in aviation and space history today.

Right now, all those people I mentioned – today's aviators, the astronauts who come from the military, people trying to enable our nation to do greater things tomorrow – they're all contributing to one of the greatest enterprises ever, the U.S. space program – the envy of the world.

We are the world's leader because of our boldness; because of the men and women who were willing to take risks and who continue to do so today. We lead because space flight is not easy nor will it ever be so; nor will landing a robot on another planet; nor will testing a new aircraft. But we are willing to do the hard work to be successful in these daring ventures.

So, again, I am honored to be here tonight among all of you. My choice of the military as a career path has changed my life and opened countless doors, and I'm proud that my son, who now commands VMU-2 at MCAS Cherry Point, NC, has also chosen to become a career Marine.

As we enter the next great chapter of exploration in space, we're going to need the gumption and ability to think on your feet that is drilled into our military personnel.

If we, as a people committed to a global exploration enterprise, are to reach the destinations we envision, like an asteroid, and Mars, we're going to need people like many of you, who have an unwavering commitment to national service and have demonstrated your willingness to sacrifice for our great nation.

NASA is hard at work meeting the challenges set forth by President Obama and the Congress for NASA to send humans to an asteroid by 2025 and to Mars in the 2030's. We are making steady progress in the development of the next generation deep space vehicles needed to achieve those goals.

The President is asking us to harness that American spirit of innovation, the drive to solve problems and create capabilities that is so embedded in our story and has led us to the Moon, to great observatories, and to humans living and working in space, possibly indefinitely. It's a spirit that is deeply embedded in the military as well.

The coming years are going to be an amazing ride and NASA and the men and women of the armed forces are going to ensure that America remains the leader in space exploration and that future generations have new opportunities with even more capabilities than we have today.

The future is literally happening right now, and I'm happy to be shaping it along with all of you.

Thank you.