



In Search of El dorado

A daily journal of my travels and adventures in my.....Search for Eldorado

Hello to Family & Friends



I spent the last week at Morgan's, putting in about 6-8 hours per day getting the website ready to roll. Sunday night after we watched Drew Brees' last game and knew that Brady was coming to Lambeau for a rematch, I packed up the RV and drove about 20 minutes southeast to spend the night in a Sam's Club parking lot.

Just after noon today Morgan joined me for a visit to the Houston/Johnson Space Center.

A good day to visit since it was a real slow day for visitors. Right - the front of the building, the Houston Space Center, which houses most of the displays. Later we will take the tram tour onto the Johnson Space Center grounds.



Left is lunar landing module LTA-8. Built in 1965 it helped astronauts simulate life support systems, firing of the engines and climbing in and out of the hatch for missions in Apollo 9 and Apollo 11. The LM spent over 161 consecutive hours in a space environment (here at Johnson Space Center) and was crewed for 48 hours and 25 minutes

A NEW SPACECRAFT FOR ASTRONAUTS

I believe this is a mock-up of the next capsule planned for the moon.



TRAM TOUR



JOHNSON
SPACE CENTER



Top – Morgan takes an usie as we get comfortable on the tram. Our tram, above, is titled Earth. We get row D all to ourselves.

Recall that I mentioned above that the LM spent 161 hours in a space environment? This is the building where it happens, Building No. 32, The Space Environment Simulation Laboratory.



Chambers A & B inside the building can be flooded with liquid nitrogen to simulate the conditions of outer space.



Ok, ya got me, I don't remember which building this is and what it's used for, but it must be important or I wouldn't have taken a picture of it.





This building was the coolest part of the entire visit. Just outstanding. Unfortunately, today is a holiday, Martin Luther King, Jr's Birthday (91), so most employees had the day off.

These are training modules from every space agency on the planet. All astronauts come here to simulate life in the space environment they will be living and working in.





In pre-covid days an extra perk, if you wanted to pay for it, was a walk down on the floor with the engineers, astronauts, technicians, etc. For safety that tour has been placed on hiatus. I took this pic because of the SpaceX sign. Below is a Russian Soyuz module.



Artemis, to the right, is the program that will land another man, and the first woman, on the moon. Below are several more spacesuits.



NASA's Orion spacecraft is built to take humans farther than they have ever gone before. Orion is NASA's deep space vehicle.

The Boeing CST-100 Starliner is a reusable capsule expected to transport crew to the International Space Station (ISS) and to private space stations such as the proposed Bigelow Aerospace Commercial Space Station. This is the first time I've heard of private space stations.

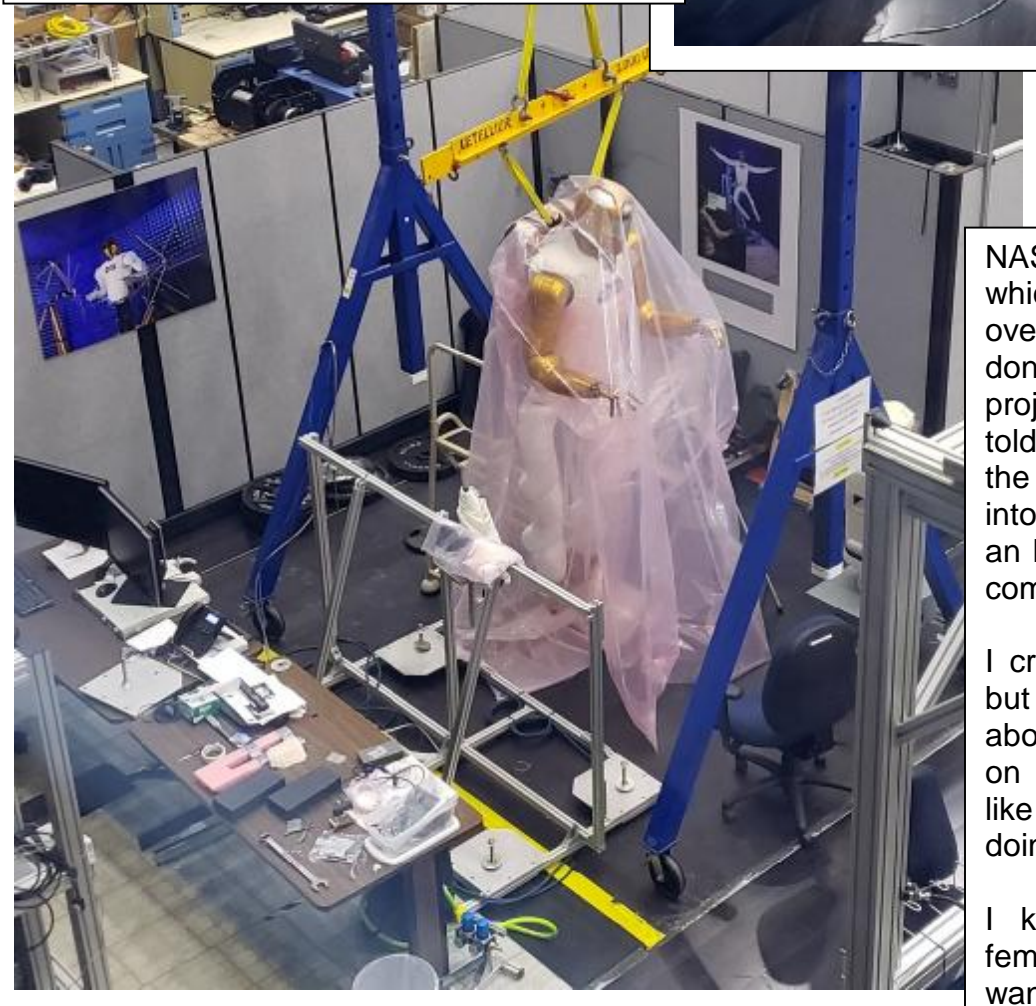
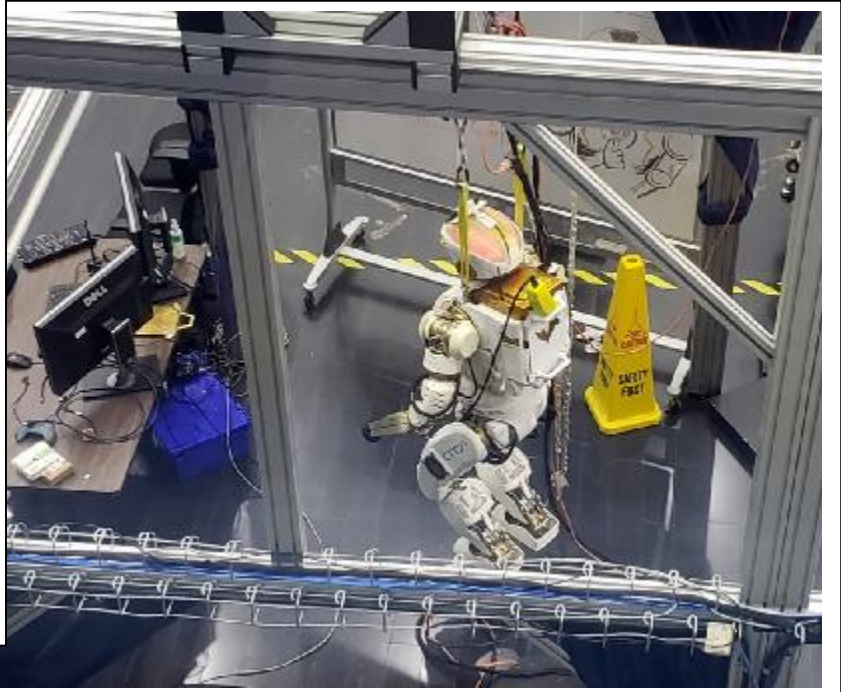
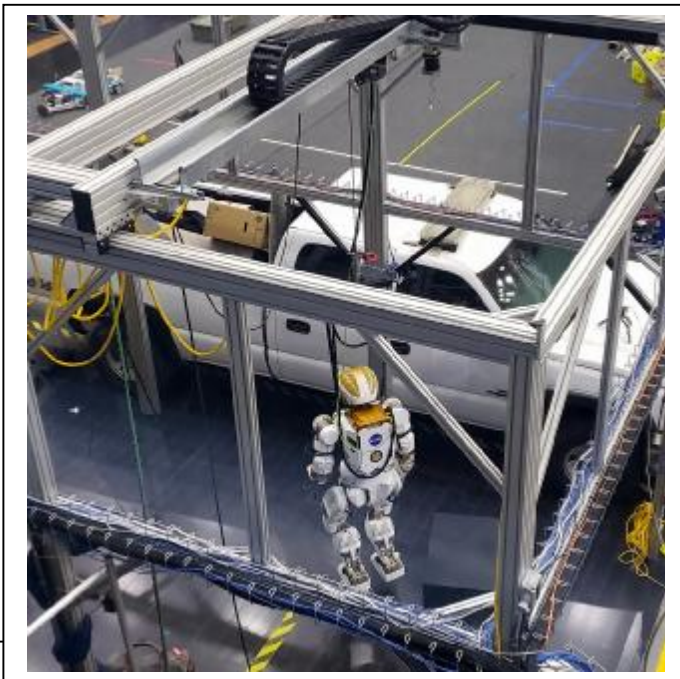


I think this vehicle may just be for transporting stuff around the building and not for use on a planet surface as I thought when I took the picture.



Below is the Northrop/Grumman cislunar (huh?) habitat mockup. Cislunar means between the earth and the moon. The Orion spacecraft will be able to dock with this facility which will provide sleep stations, galley, exercise area and workstations for a crew of four.





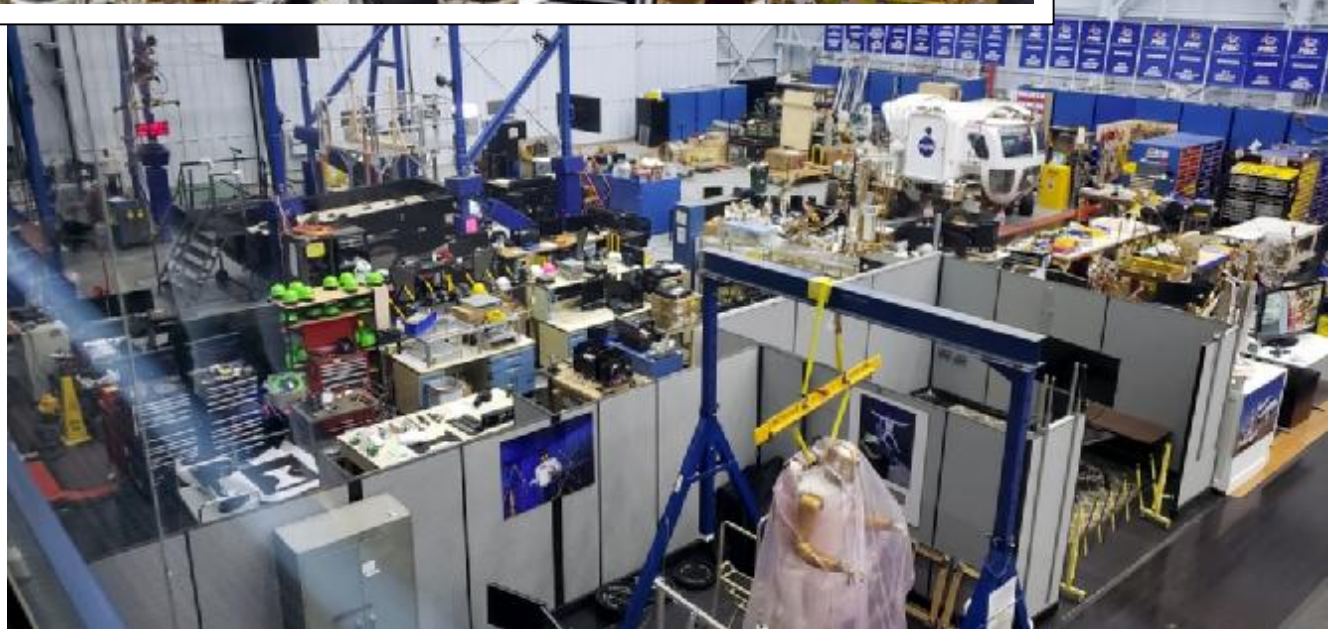
NASA is building robots, some of which can walk up stairs, to take over many of the tasks currently done by the astronauts. This project, or as our female tour guide told us, "she, is called Valkyrie". By the time an astronaut would get into his/her spacesuit to perform an EVA, Valkyrie will have already completed it.

I cropped them out of this photo, but the one below shows where about 20-25 award banners hang on the wall for robotics. Sounds like these guys know what they're doing.

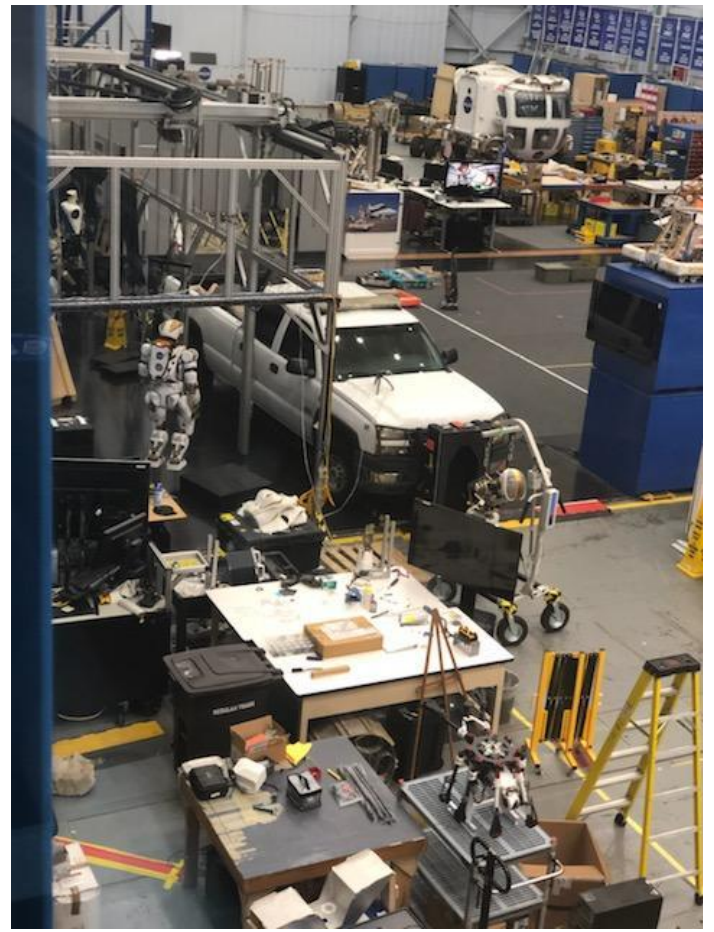
I know, I know, Valkyrie is a female in Norse Mythology. I don't want to hear any complaints. Especially since Morgan is a Converse Valkyrie.



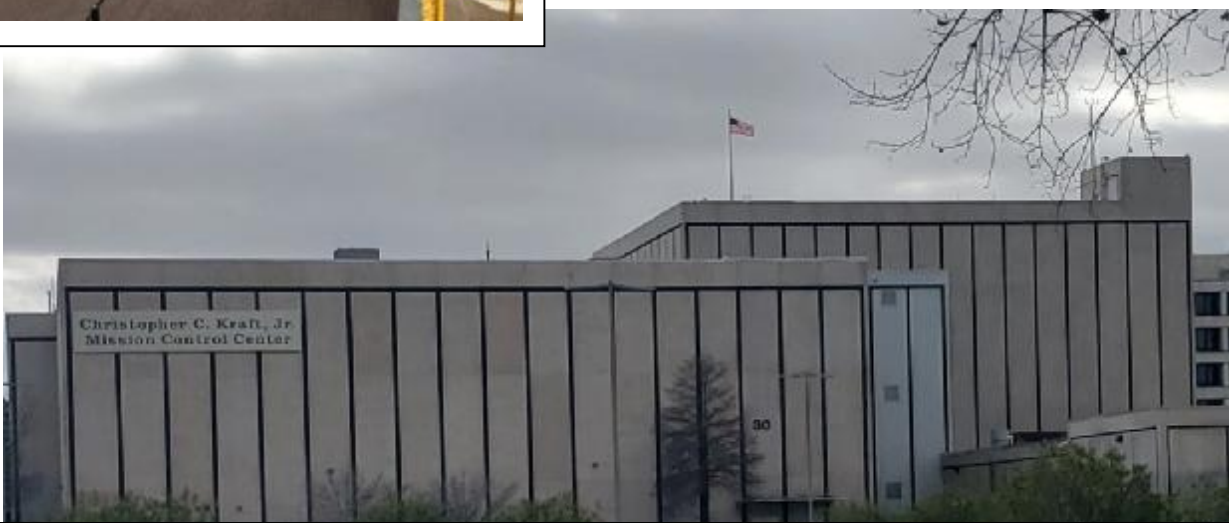
This is the SEV (Space Exploration Vehicle) prototype. It can have a wheeled chassis, as seen here, for roving the moon or mars, pressurized for a crew of two, or a flying platform to service satellites and missions to near-Earth asteroids.



The middle photo is just an overview of that entire work area, it just looks incredible. The photo above looks like a small lunar surface mockup for testing suspension and traction. This was the end of the Mockup Facility tour. Both Morgan and I thought it was really fantastic.



These three photos were taken by Morgan



This is the meat of the operation, Mission Control. It was from this building that Neil Armstrong's "One small step for man, one, giant leap for mankind" was first heard; where Gene Kranz, when referring to the problems of Apollo 13, uttered those historic words "Failure is not an option."

The flag flying above means an American astronaut(s) is currently in space.

Little Joe II and BP-22: Safety First



A rocket similar to this one-stage rocket, nicknamed Little Joe II, was used from 1963 to 1966 to test the Apollo/Saturn V Launch Escape System (LES). The LES was designed to propel the crew capsule to safety in the event of a rocket failure during launch.

Little Joe II was named after "Little Joe," a similar four-finned test rocket for Project Mercury, pictured left. Mercury spacecraft designer Max Faget coined the name based on the similar appearance in a cross section of the motor configuration and four large fins of the rocket to a roll of four ("Little Joe on the front row") in the dice game Craps.

The capsule on display is boilerplate BP-22 used for structural testing on the launch pad. It's attached to Service Module SM-102.



The Apollo capsule boilerplate (BP-22) atop this rocket survived an explosion. During an LES test, the rocket unexpectedly broke up 25 seconds after liftoff at 14,000 feet (4,300 m). The LES detected the malfunction, ejecting BP-22 to 19,000 feet (5,800 m)—away from the dangerous explosion. Parachutes lowered the boilerplate safely to the ground.

The unplanned malfunction demonstrated that the Launch Escape System performed successfully. It represented an important safety milestone in the Apollo program.

Morgan and Little Joe II



The info to the right goes with the photo of Morgan and Mercury-Redstone on the prior page.

Mercury-Redstone: Putting the First Americans in Space



Alan Shepard, the first American in space, is pictured above in his Mercury Freedom 7 capsule. NASA's first two manned flights were suborbital. Orbital flights were launched by the Mercury-Atlas rocket.

The Mercury Faith 7 capsule that flew 22 orbits around Earth in 1963 is on display at Space Center Houston.

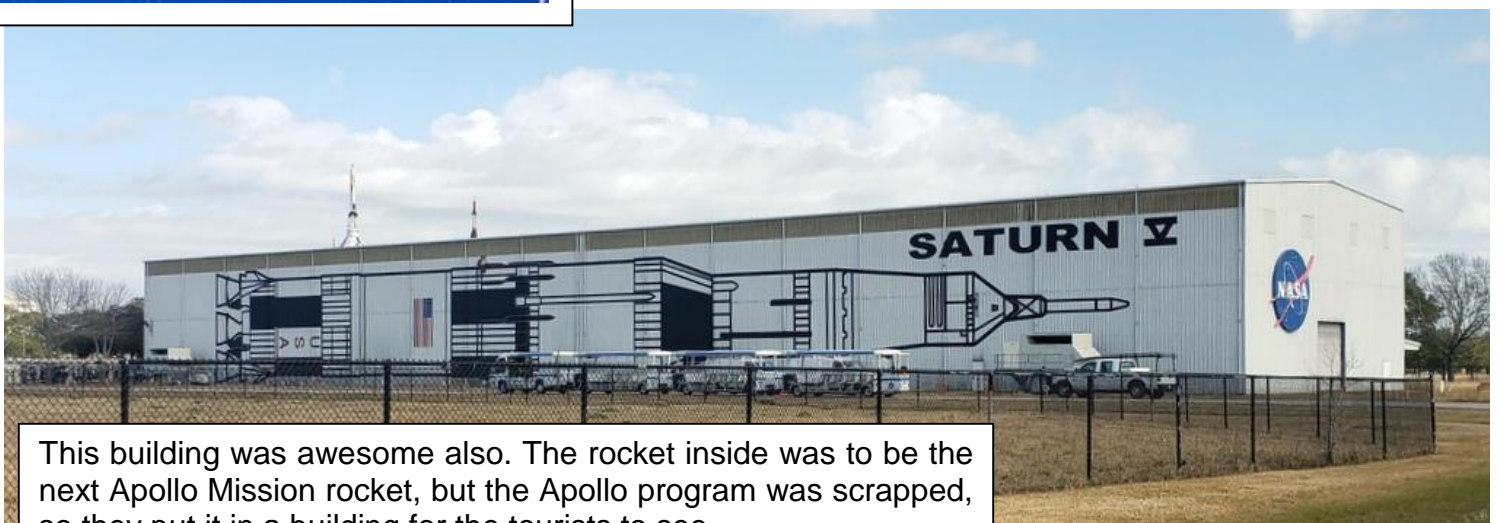
Mercury capsules were small, one-man spacecraft. The Mercury-Redstone rocket was designed to propel these capsules and the first American astronauts into space during Project Mercury.

The Mercury-Redstone rocket launched six suborbital Mercury flights in 1960 to 1961. Two of these flights were un-manned tests, one flight carried Ham, the chimpanzee. Two Mercury-Redstone flights made history when they took the first and second Americans into space.

Two astronauts launched into space on Mercury-Redstone rockets:

- Alan Shepard May 5, 1961
- Gus Grissom July 21, 1961

ENTRANCE TO SATURN V FACILITY



This building was awesome also. The rocket inside was to be the next Apollo Mission rocket, but the Apollo program was scrapped, so they put it in a building for the tourists to see.



Left is a normal view with Morgan.

Below is a panoramic view with Morgan not expecting it.

Below that is Morgan with another usie.



Hey, just because I took a photo of a plaque and put it out here, does not mean you HAVE to read it. Hopefully the plaques help tell the story and I don't have get two sore fingers from typing to tell you about it myself. If you don't want to read it, don't. Even with the teaching background of my readers, I don't think there'll be a quiz.

MISSION EXPLORATION SATURN V

SCIENCE OFFICER

The first rockets made by humans were launched using solid fuels, like gunpowder. To get a rocket the size of the Saturn V off the ground the science team is going to need something that allows for a more controlled release and is more efficient. The Saturn V was fueled by liquid oxygen, liquid hydrogen, and kerosene. During the launch sequence, these liquids were released in varied combinations at different rates and different times to give the Apollo missions the lift they needed to get to the Moon.

ENGINEER

The Saturn V is still the most powerful rocket ever flown. But engineering at NASA isn't just about making huge rockets or tiny capsules that go on top of huge rockets. Components of the Saturn V were built all over the United States, leaving it to NASA to put all the pieces together. To do that, engineers designed the largest single-story building in the world at the launch facility in Florida. The Vehicle Assembly Building is 716 feet (218 meters) long, 518 feet (158 meters) wide, and 525 feet (160 meters) tall. That is almost twice as long, over five and half times as wide, and a whopping 10 and a half times as tall as the building you are standing in.

SPACE CENTER
HOUSTON



SATURN V DESIGNED TO CARRY ASTRONAUTS TO THE MOON

NASA built the Saturn V rocket to send astronauts to the Moon. A heavy lift vehicle, the Saturn V could lift the equivalent of about 10 school buses into Earth orbit. The Saturn V launched manned Apollo Program missions from 1968 through 1972. It was also used in 1973 to launch Skylab, the first American space station.



THREE ROCKET STAGES TO THE MOON

To carry three astronauts to the Moon, the Saturn V carried massive amounts of fuel. Most of the weight of the rocket was fuel. The Moon rockets had three main components, technically called stages. Each stage burned its engines until it was out of fuel and then separated from the rocket to decrease the weight that had to be lifted. The engines on the next stage fired, and the rocket continued into space.

Only the relatively small command module which carried the crew, returned to Earth.



STAGE 1 FLIGHT PROFILE

STAGE 1	S-1C-14
Propellants	Kerosene 200,000 gallons (757,000 l)
	O ₂ -F ₂ 133,000 gallons (503,000 l)
	Liquid Oxygen 334,500 gallons (1,266,000 l)
Weight	133,000,000 lbs (60,300,000 kg)
Diameter	33 feet (10.06 m)
Engines	Five F-1's
Thrust	7,500,000 pounds-force (33,400 kN)
Burn Time	about 2.3 minutes

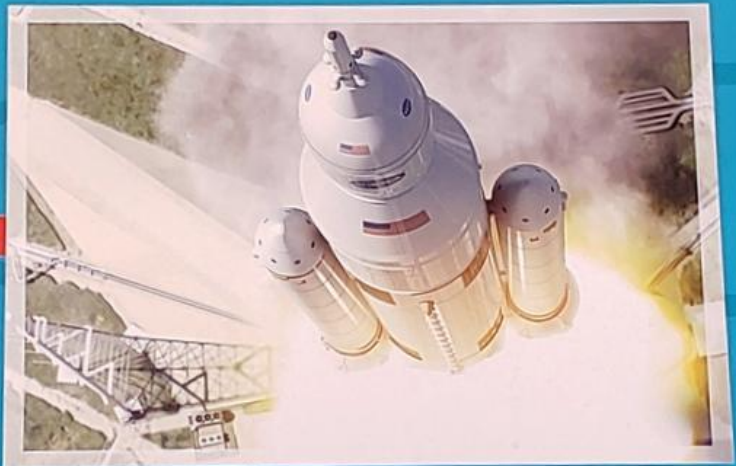
Above F-1 engines ignite, it takes 9 seconds to build enough thrust for liftoff. Rocket attains speed of about 6,000 miles (9,700 km) per hour. At about 58 miles (93 km) altitude and 50 miles (80 km) downrange, explosive bolts detach the now empty first stage. It falls to the Atlantic Ocean.

An F-1 engine is on display outside.

On display at NASA's Johnson Space Center since 1972, the Saturn V rocket is on loan from the Smithsonian's National Air and Space Museum. Construction and maintenance was by the contractor Lockheed Martin Space Research Company, Inc., of Huntington, N.C.

SLS: MOST POWERFUL NEW ROCKET

NASA's new rocket, the Space Launch System (SLS), is a heavy lift vehicle like the Saturn V. The new 143-ton-class (130-metric-ton-class) rocket is to be upgraded over time with more powerful versions. The SLS is designed to travel beyond Earth orbit—to the Moon, Mars, and other destinations in the Solar System.



ORION: NEW CREW CAPSULE

The Space Launch System (SLS) is a space shuttle-derived launch vehicle which uses two solid rocket boosters. The first stage of the SLS is an elongated version of the space shuttle's external tank and has the same diameter, so that Shuttle-Era mechanisms can be reused.

Like the Saturn V, the SLS crew blocks will carry a capsule for the crew. NASA's new crew vehicle is called Orion. Orion borrows its shape from Apollo capsules which splashed down in the ocean like Orion will when it returns from space at very high speed. Orion takes advantage of 21st-century technology in computers, life support, electronics, propulsion, and heat protection.

The new rocket uses RS-25 engines which performed flawlessly during 135 shuttle launches and became the gold standard for reliability and power. The new system uses a single upper stage to boost the crew capsule into deep space.



SLS BLOCK 1 Crew		SLS BLOCK 2 Cargo	
Capacity	77 tons (70 metric tons)	Capacity	143 tons (130 metric tons)
Height	322 feet (98 m)	Height	365 feet (111 m)
Not quite as tall as the Saturn V but delivers 10% more thrust		Two feet taller than the Saturn V, with 17% more thrust	



Apollo 12.8 ft (3.9 m) Orion 16.4 ft (5 m)

THIS ROCKET WAS FLIGHT READY

This rocket is the only remaining Saturn V rocket assembled with components certified for flight.

STAGE	PART NUMBER	SCHEDULED MISSION
1	S-IC-14	Apollo 19; canceled
2	S-II-15	Apollo 20; canceled
3	S-IVB-513	Apollo 18; canceled
COMMAND MODULE	CM-115	canceled



TO THE LAUNCH PAD ONE INCH AT A TIME

NASA assembled the Saturn V on a mobile platform which included a launch tower with eight swing arms and the crew access arm. When assembly of the rocket was completed, the entire stack was moved to the launch pad using the Crawler Transporter. The size of a baseball diamond, the transporter maintained the huge rocket level as it traveled about three and a half miles (5.6 km) to the launch pad during a six-hour trip at about 1 mph (1.6 kph).

STAGE
2



STAGE 2 FLIGHT PROFILE

STAGE 2 S-II-15

Propellants	
Liquid Hydrogen	260,000 gallons (984,000 l)
Liquid Oxygen	83,000 gallons (314,000 l)
Height	81.6 feet (24.9 m)
Diameter	33 feet (10 m)
Engines	five J-2s
Thrust	1,125,000 pounds-force (5,000 kN)
Burn Time	about 6 minutes

Five J-2 engines on stage 2 take the rocket into the upper atmosphere at an altitude of 115 miles (185 km) and about 1,000 miles (1,600 km) downrange.

A J-2 engine is on display outside.

Sorry, I can't make them any larger on this platform. You will have to use the magnify/zoom feature of whatever you're using to read this to blow it up.

STAGE 3 FLIGHT PROFILE

NASA'S 15 FLIGHT-READY SATURN V ROCKETS

- 2) Apollo 4 & 6: Unmanned flights tested the Test flights: powerful new rocket in 1967 and 1968.
- 3) Apollo 8: Humans escaped Earth's gravitational Lunar orbit field and orbited the Moon for the first time.
- 4) Apollo 9 & 10: Manned test flights worked out the final complexities for the first Moon landing.
- 7 Moon landing Apollo 11: The first Moon landing.
- 8) Apollo 12 and Apollo 14-17: successful landings.
- 9) The Moon landing during Apollo 13 was aborted due to an explosion in the service module.
- 3 canceled When Apollo 16-20 were canceled, remaining Apollo rocket components were used in the Skylab mission Program and for public display.

ONE OF ONLY THREE REMAINING

This rocket is one of three Saturn V vehicles on display. The other two remaining Saturn V rockets are at:

- ▶ NASA Kennedy Space Center in Florida: flight-ready segments and non-operational stages.
- ▶ NASA Marshall Space Flight Center in Alabama: prototype used for vibration load testing.

STAGE 3 S-IVB-513

Propellants	
Liquid Hydrogen	69,500 gallons (263,100 l)
Liquid Oxygen	20,150 gallons (76,300 l)
Height	58.6 feet (17.9 m)
Diameter	21.7 feet (6.61 m)
Engine	one J-2
1st Burn Time	almost 3 minutes
2nd Burn Time	about 5 minutes

About 12 minutes after liftoff, the third stage boosts spacecraft to Earth orbit. About two and a half hours later, after safety and trajectory checks, the J-2 engine restarts, sending spacecraft out of Earth orbit and into trans-lunar trajectory at 24,500 mph (39,400 kph).



COMMAND & SERVICE MODULE

COMMAND & SERVICE MODULE
The Command and Service Module (CSM) remained coupled for most of the mission

Height 36.2 feet (11 m)
Diameter 12.8 feet (3.9 m)

COMMAND MODULE CM-115
Crew Capacity 3
Spacecraft controls; LM docking and transfer tunnel; reentry parachutes

SERVICE MODULE SM-115
Crew Capacity 0
Oxygen, water, fuel cells; helium, CSM propulsion system

LAUNCH ESCAPE SYSTEM
The slender tower attached to the CM is the Apollo Launch Escape System (LES) rocket. Though it was never needed, it was intended to pull the CM away from the rocket to safety in case of an emergency during launch.

An LES test rocket is on display outside.

The Apollo 17 Command Module is on display at Space Center Houston.




3

THE APOLLO SPACECRAFT HAD THREE MODULES

CM Command Module: crew quarters and flight controls;
SM Service Module: propulsion and support hardware for CM;
LM Lunar Module: transport from lunar orbit to and from lunar surface.

COMMAND & SERVICE MODULE FLIGHT PROFILE

A On the way to the Moon, CSM turns around to dock with LM stowed inside the Spacecraft-LM Adapter (SLA).

B The coupled spacecraft enter Moon orbit. The third stage crashes onto Moon or enters orbit around the Sun.





COMMAND & SERVICE MODULE FLIGHT PROFILE

A On the way to the Moon, CSM turns around to dock with LM stowed inside the Spacecraft-LM Adapter (SLA).

B The coupled spacecraft enter Moon orbit. The third stage crashes onto Moon or enters orbit around the Sun.


3
2
1

LUNAR MODULE FLIGHT PROFILE

A In Moon orbit, LM separates from CSM and descends to Moon surface. One astronaut remains in lunar orbit in CSM.

B When surface mission ends, LM ascent stage lifts off from descent stage, which remains on the Moon.

C Ascent stage docks with CSM. Astronauts transfer to CSM and ascent stage is released.

D CSM returns to Earth orbit. SM is jettisoned and crew of three reenter Earth atmosphere in CM. Parachutes slow down CM for splashdown in ocean.



LUNAR MODULE

NOT ON DISPLAY

LUNAR MODULE ASCENT STAGE

Height 9.25 feet (2.82 m)
Width 14 feet (4.2 m)
Depth 13.25 feet (4.039 m)

DESCENT STAGE

Height 10.5 feet (3.25 m)
Width 31 feet (9.4 m) with extended landing gear

Lunar Module LFA-3 used in vacuum chamber tests is on display at Space Center Houston.

Awesome sight! Awesome size!



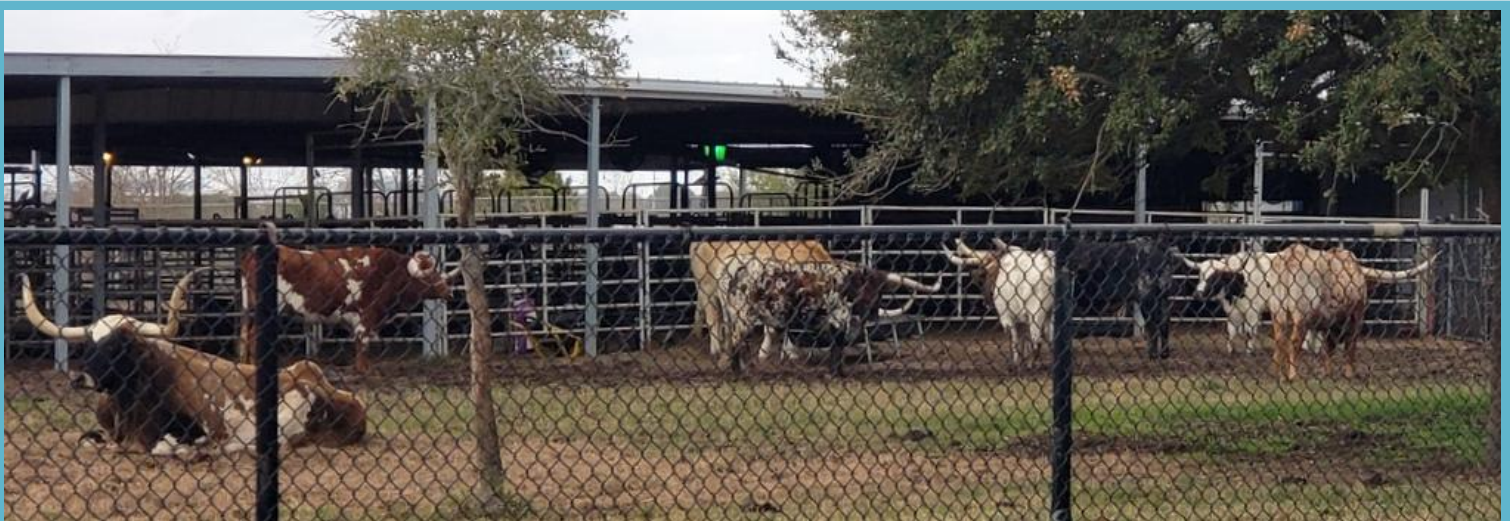


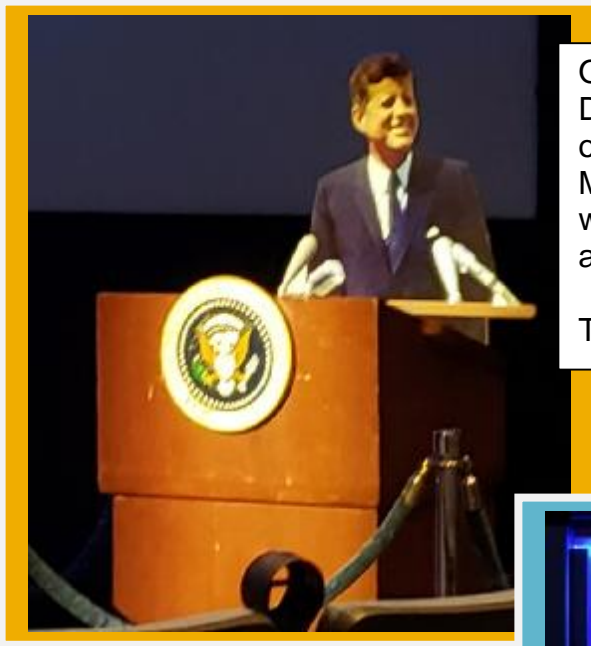
This one is from Morgan

Let's see, the last time we saw Texas Longhorns was.....Texas in 2018, when Morgan and I went to Big Bend National Park.

A couple items of note – Johnson Space Center occupies 1620 acres which they purchased from Rice University back in the 60's for \$20. Quite the deal. Before that, mission control was in a hotel room in Washington DC.

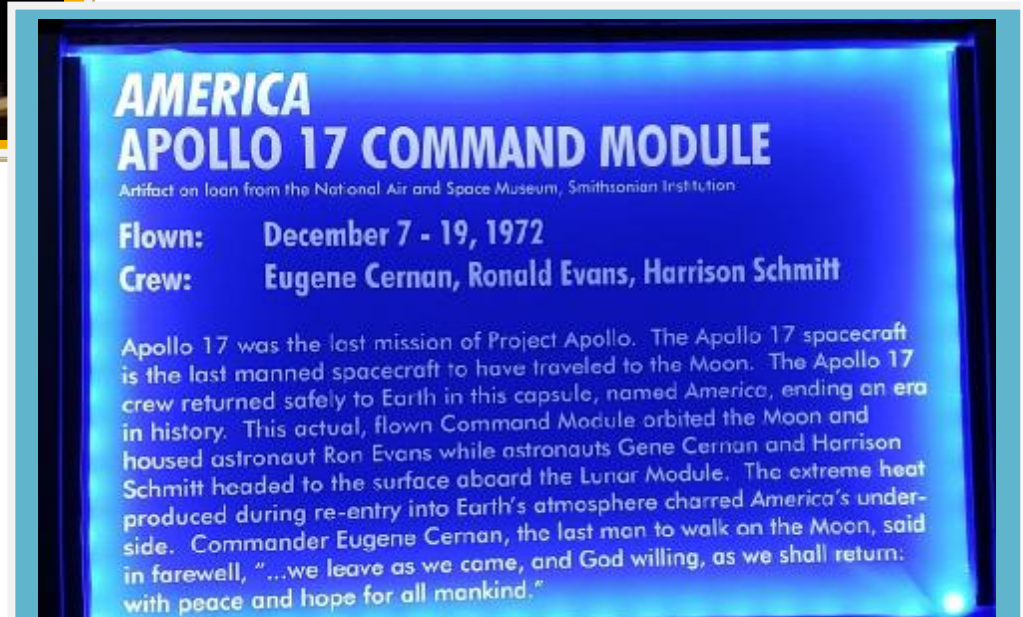
There are Longhorns on the grounds because of The Longhorn Project, which provides young learners with educational experiences. There are lots of deer on the grounds also as well as a lot of turtles and a couple alligators.





Our next stop was the Destiny Theater for "History Up Close". Down in front of the screen is the podium to the left, the actual one from which JFK made his historic "We choose to go to the Moon" speech. I am very disappointed in myself because, when I first heard what it was, I told myself to go down and get a picture by it after the movie, and I forgot. Aaarrgghhh!

The theater exit leads into the Starship Gallery





Moon Rocks



MISSION EXPLORATION SKYLAB TRAINER

ASTRONAUT



Welcome to Skylab, America's first space station! Before you unpack your bags, you need to fix some things. During the launch of Skylab, things didn't go exactly as planned. A big shield designed to protect the station from the Sun and small meteoroids tore off, and a solar panel did not open as intended. Before you can get to the real work of long duration human space exploration, you will have to fix the solar panel to power Skylab and unroll a giant sun shade over the station to limit overheating from the Sun's rays. Don't worry! You got the job done and celebrated with ice cream from the Skylab freezer.

SCIENCE OFFICER



Skylab was the first American space station. As a scientist you have the opportunity to observe how the human body and mind react after being in weightlessness for longer periods than missions to the Moon - 28 days, 59 days, and 84 days. The station also had science experiments such as the Apollo Telescope Mount, the first solar telescopes ever placed in orbit, and a Materials Processing Facility that let scientists watch how different materials react in zero gravity.



PLASTIC DEBRIS

This 4-inch thick aluminum block was hit by a 1-inch, half-ounce plastic cylinder at 15,200 mph. The plastic went almost all the way through the block, showing even plastic can be damaging at orbital speeds.

Most debris is metal, but some is plastic.

This is pretty amazing



There was this nice model of a shuttle, piggyback on its transport plane.....

....and then we walked out into Independence Plaza and, lo and behold, there was the real thing!



THE LAST MISSION



Private industry, city officials, and government agencies strategized for months to plan the move.

After Shuttle Carrier Aircraft 905 transported shuttles into retirement, it embarked on an unprecedented two-day land journey to its present location.

SCA 905 was disassembled into seven large pieces for the eight-mile (13-kilometer) journey from Ellington Airport. The Boeing Aircraft on Ground (AOG) team of mechanics and engineers removed the tail, aft section, landing gear and wings, marking the first time Boeing separated both wings from a 747 outside of a hangar.

Travelling at night, special hydraulic trailers were used to move the 920-foot (280-meter) convoy of pieces to Space Center Houston.

Once in place, the high-fidelity shuttle replica *Independence* was mated to the aircraft.

Well, not 100% real. The airliner is the actual shuttle carrier, but the Independence Shuttle on top is a replica. A very good replica. This ties in neatly with my visit to the shuttle Endeavour a year ago in Los Angeles and the shuttle Columbia monument in the 1-9-21 newsletter. (Later on this trip I hope to see the SpaceX launch facility)

Both shuttle and airplane were open for inspection. Not much to see in the airliner except info plaques (don't worry, I didn't take any photos).



The john



The cargo bay



Flight Deck



Panoramic of the control panel

MISSION EXPLORATION SPACEX FALCON 9

ASTRONAUT



Are you willing to be the first person to launch on top of this rocket? The first crewed mission of a SpaceX Dragon capsule on a Falcon 9 rocket happened May 30, 2020. Astronauts Doug Hurley and Bob Behnken were the first Americans to launch from U.S. soil since the end of the Space Shuttle Program in 2011. In a sign of the times, the capsule was piloted using touchscreens— just like your phone or home computer!

MISSION CONTROLLER



Mission Control is not just one room at NASA Johnson Space Center. There are mission controllers all over the world who work together to feed information to the main control room in Houston. SpaceX's Mission Control is in California where they monitor the launch of the Falcon 9 rocket and approach of the Dragon capsule to the International Space Station. When the capsule gets close to the International Space Station, both Houston and California Mission Controls work together for successful docking.



MISSION EXPLORATION SPACEX FALCON 9

SCIENCE OFFICER



As the Science Officer, the team needs you to suggest materials for the construction of the Falcon 9. How about cork? Cork makes good drink coasters for the same reason it is a successful part of the Falcon 9— it is a great thermal insulator! That means it protects things from temperature extremes. Just below the paint, the landing legs of this Falcon 9 are covered in cork. The material protects the underlying structure from the heat of reentry and allows the rocket to be reused.

ENGINEER



Being an engineer means you must think about the goal of your design before you start to work. When engineers at SpaceX planned the Falcon 9, they wanted a reusable rocket to cut down on cost and reduce the time between missions. After launching a payload, the Falcon 9 rocket returns to Earth where the legs at the bottom of the rocket flip down for landing. SpaceX has successfully landed and reused Falcon 9s that touched down on land and barges floating at sea. The rocket in front of you made the launch and return trip twice.

ORBITER ACCESS ARM



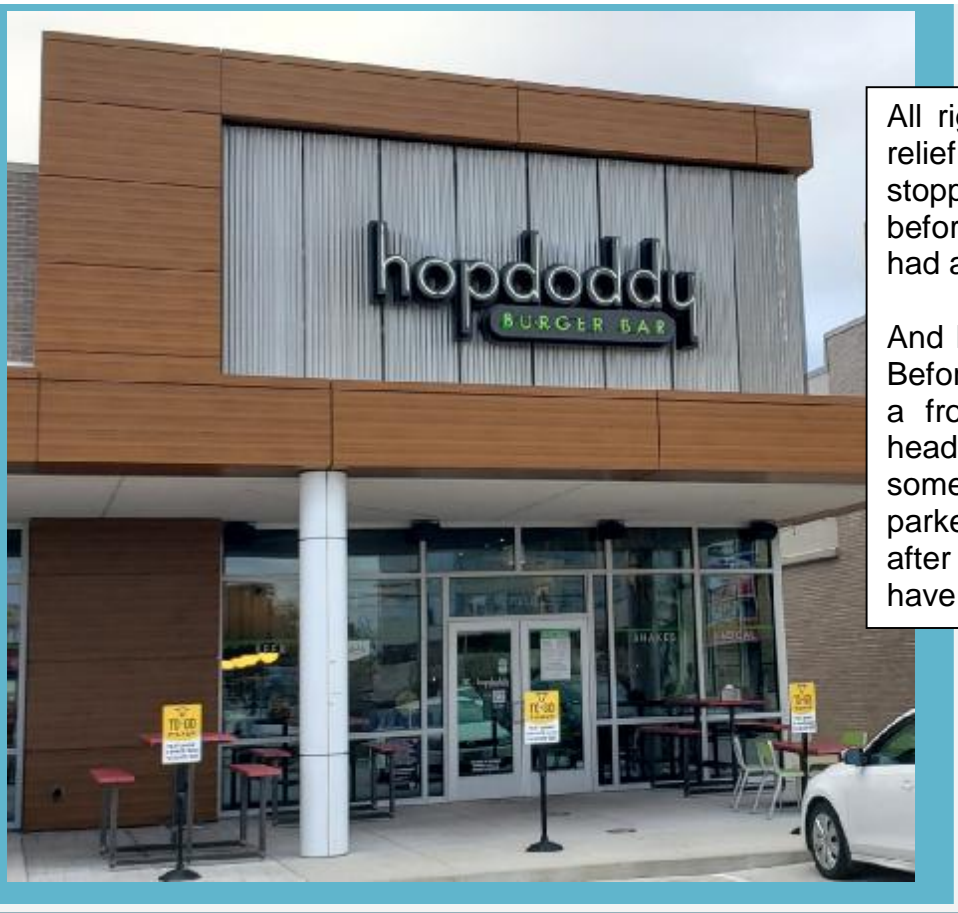
Originally part of an Apollo launch tower at Launch Pad 39B at NASA's Kennedy Space Center, this access arm was modified for the Space Shuttle Program. It was used for 53 shuttle missions between 1986 and 2006.

Shuttle astronauts walked across this 65-foot-long (20 meters) gantry, technically called the Orbiter Access Arm, to reach their spacecraft before launch. More than 147 feet (45 meters) above the ground, the access arm spanned the gap between the launch tower and the shuttle orbiter's entry hatch.

The arm remained extended until seven minutes, 24 seconds before launch to serve as an emergency escape route for the flight crew. If needed, it could be automatically or manually repositioned in about 15 seconds.

The first astronauts to use this walkway for a shuttle mission were the seven astronauts of Challenger mission STS-51L which exploded shortly after liftoff January 28, 1986. The next time astronauts used this walkway, they boarded Discovery for STS-26, the Space Shuttle Program's "Return to Flight." The final use of this access arm was by the crew of Discovery STS-116 in December 2006.





All right, you can all breathe a sigh of relief, it's almost over. Morgan and I stopped at hopdoddy (never heard of it before) for dinner. Naturally we each had a burger. It was good.

And here I am upset with myself again. Before dinner I mentioned having to find a frozen yogurt place before Morgan headed back home, I even searched some out on my phone before we parked. Then I completely forgot about it after dinner. Sorry Morgan, guess I'll have to stop for one on my own.

You're going to wonder what's up with this one. My next stop was supposed to be the propeller to the right. Tom Tom could not find it so I had to use my phone. All I had was an intersection. It was getting dark and I ended up walking around this park until I found the anchor I was looking for. Wait, anchor? That's not what I want. Back to Roadside America for directions. I found it, but there was no place to park and it was too dark to get decent photos anyways, so I just pulled to the side of the road and took this one.

The story below is thanks to Roadside America



One of the largest man-made non-nuclear explosions in history occurred in the port of Texas City. On April 16, 1947, a fire broke out on the SS Grandcamp, which, unfortunately, was packed with 2,300 tons of explosive ammonium nitrate. The ship blew up, which then caused other nearby ships to blow up, including the High Flyer, whose propeller became airborne and flew a mile before crashing here. At least 600 people died. The few surviving witnesses compared the scene of devastation to the firebombings of World War II.

My note – Each of those propeller blades are about 10' long.

Well, I bet you're glad that's over. It was a long one, especially for the second day out. Just think how I feel. Its 1:00 a.m. and I still have to proofread and post it to the webpage.

From the propeller in Texas City I drove onto Galveston Island. Don't worry, I definitely won't be parking under any tree knots. Those of you in the know, know what I mean. We don't want to hear that story again, do we Bob?

I charged up the bike battery today but I have not had a chance to clean it up and get air in the tires. I would like to do some biking around Galveston (no trees to worry about that way).

Yawn. Time to finish this up and go to bed.

Until next time.....