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SpaceX crew dragon interior diagram

A class of reusable spacecraft brought out by SpaceX This article is about the SpaceX spacecraft. For other uses, see Dragon II (disambiguation page). Dragon 2Crew Dragon approaching the ISS in March 2019, during Demo-1ManufacturerSpaceXCountry of originUnited StatesOperatorSpaceXApplicationsISS crew and cargo transport SpecificationsDesign life 10 days (free flight) [1] 210 days docked to ISS [2] Payload capacity 6,000 kg (13,000 lb) to orbit [3] 3,000 kg (6,600 lb) return cargo [3] 800 kg (1,800 lb) disposed cargo [4] Crew capacity7 (NASA missions will only have 4 crew members) [5]Dimensions Diameter: 4 m (13 ft)[3] Height: 8.1 m (27 ft) (with trunk)[3] Sidewall angle: 15° Volume 9.3 m3 (330 cu ft) pressurized 12.1 m3 (430 cu ft) unpressurized [3] 37 m3 (1,300 cu ft) unpressurized with extended trunk ProductionStatusActiveBuilt4 (1 test article, 3 flightworthy)Launched3 (+1 suborbital)Lost1 (in testing)Maiden launch2 March 2019 (Uncrewed test)30 May 2020 (Crewed) Related spacecraftDerived fromSpaceX Dragon Part of a series onPrivate spaceflight Active companies Arianespace Axiom Space ARCAspace Astra Bigelow Aerospace Blue Origin Copenhagen Suborbitals Northrop Grumman Rocket Lab Sierra Nevada Corporation SpaceX Virgin Galactic Virgin Orbit PLD Space Firefly Aerospace Flew Vehicles Antares (Rocket) Ariane 1 Ariane 2 Ariane 3 Ariane 4 Ariane 5 Cygnus SpaceX Dragon 2 Electron Falcon 1 Falcon 9 Falcon Heavy New Shepard Pegasus SpaceX Dragon Contracts and Programs An Commercial Crew Resupply Service Google Lunar X Prize SpaceX Mars Transport Infrastructure SpaceX Reusable Program development launch system Spaceflight portalvte SpaceX Dragon 2 is a class of reusable spacecraft developed and manufactured by U.S. aerospace manufacturer SpaceX as successor to Dragon, a reusable cargo spacecraft. It has two variants: Crew Dragon, a space capsule capable of carrying up to seven astronauts, and cargo dragon, an updated replacement for the original Dragon spacecraft. The spacecraft launches to the top of the Falcon 9 Block 5 rocket and returns to Earth via the ocean. Unlike its predecessor, the spacecraft can solcar on the ISS instead of mooring. Crew Dragon is equipped with an integrated launch escape system (LES), capable of accelerating the vehicle from a rocket in an emergency by 11.8 m/s2 (39 ft/s2), which is carried out using a set of four side pods with two SuperDraco engines. The spacecraft features sophisticated solar arrays and modified outer line forms compared to the original Dragon, and has new flight computers and avionics. Since March 2020, four Dragon 2 spacecraft have been manufactured (not counting structural test items that have never been in the air). Crew Dragon serves as one of two spacecraft expected to launch International Space Station (ISS) as part of NASA's commercial crew program, the other being the Boeing CST-100 Starliner. It is also expected to be used for flights by the American space tourism company Space Adventures and for shuttle tourists to and from the planned Axiom Space Station. Crew Dragon's first non-pilot test flight took place in March 2019, and the first manned flight - with astronauts Robert Behnken and Douglas Hurlley - took place in May 2020. This test flight was first marked by a private company launched by the crew of an orbital spacecraft. Cargo Dragon is expected to deliver cargo to the ISS as part of a commercial Resupply Services-2 contract with NASA, along with Northrop Grumman Innovation Systems' Cygnus spacecraft and the Sierra Nevada Corporation Dream Chaser spacecraft. The first cargo dragon flight was launched in December 2020. [6] Development and variants of Crew Dragon Launch Configuration Crew Dragon Docking Configuration Crew Section Views There are two variants: Crew Dragon and Cargo Dragon. [4] Crew Dragon was originally called DragonRider[7][8] and was intended from the outset to support a crew of seven or a combination of crew and cargo. [9] [10] It is capable of performing fully autonomous meetings and docking with the possibility of manual overwriting using NASA Docking Station (NDS). [11] [12] For typical missions, crew dragon will remain anchored to the ISS for 180 days, but is designed to remain on the station for up to 210 days, corresponding to the Russian Soyuz spacecraft. [13] [14] [15] Since the start of the development process, SpaceX has planned to use an integrated pusher launch escape system for the Dragon spacecraft. [16] [17] [18] Crew Dragon Main Article: Skurenk Suit § SpaceX Suit (Starman Suit) Crew Dragon C201 in Horizontal Integration Device LC-39A SpaceX originally intended to land crew dragon on land using LES engines, with parachutes and ocean splashdown available in case of interrupted launch. The precise landing of water under parachutes has been suggested by NASA as a basic return and recovery approach for the first few Crew Dragon flights. [19] The driving landing was later cancelled, leaving an ocean splashdown under parachutes as the only option. [20] Since 2011[update], Paragon Space Development Corporation has assisted in the development of the Crew Dragon life support system. [21] In 2012, SpaceX was in talks with Orbital Outfitters about developing the glassmakers to wear during launch and re-entry. [22] Each crew member carries their own landfills for them. The suit is primarily designed for use inside the Dragon (IVA type suit); however, in the case of a fast cab the suit can protect crew members. The suit can also provide cooling for astronauts during normal flight. [23] [24] For demo-1, the test dummy, dubbed Ripley, was equipped with a spacesuit and sensors. The spacesuit is made of Nomex, a flame retardant fabric similar to Kevlar. At a NASA press conference on March 18,25, this is in contrast to the 2014 Soyuz launch price of \$76 million per seat for NASA astronauts. The design of the spacecraft was unveiled on 29[27] [28] [29] In October 2014, NASA selected the Dragon spacecraft as one of the candidates for the flight of American astronauts to the International Space Station as part of a commercial crew program. [30] [31] [32] SpaceX is using the Falcon 9 Block 5 carrier rocket to launch the Dragon 2. [3] Cargo Dragon Although Dragon 2 was designed from the oldest design concept to carry crew or with fewer seats, crew and cargo, in 2014 NASA requested the delivery of the ISS in 2020-2024 for a second round of multi-year cargo delivery contracts (also known as CRS-2). This led to SpaceX designing a self-named Cargo Dragon model for NASA flights. [33] SpaceX won the contract for Cargo Dragon as a result of competition for the CRS-2 bid with contracts awarded in January 2016 for six flights. [34] Cargo Dragons differ from the manned launch variant without seats, cockpit controls, astronaut life support systems or SuperDraco engine interruptions. [35] [36] Cargo Dragon improves in many aspects of the original Dragon design, including the restoration and refurbishment process. [37] SpaceX plans to reuse each Cargo Dragon capsule up to five times. Design Dragon 2 contains the following features:[27][28][38] Dragon 2 is partially reusable, which can lead to a significant reduction in costs. Following SpaceX's previous plans to use new capsules for each manned flight for NASA[39], both agreed to reuse Crew Dragon capsules for NASA flights. [40] [41] Cargo Dragon can carry 3,307 kg (7,291 lb) on the ISS; Crew Dragon has a capacity of seven astronauts (only four seats are used for NASA missions). Above the seats there is a three-point control panel, toilet (with privacy hinge) and docking hatch. The ocean landing is made with four main parachutes in both variants. The parachute system has been fully redesigned from that used in the previous Dragon capsule, due to the need to deploy parachutes under various launch interrupt scenarios. [42] Crew Dragon has eight SuperDraco side engines, grouped in excess pairs in four engine pods, each capable of producing 71 kN thrust to be applied to the launcher intermittent parts. [27] Each pod also contains four Draco jets that can be used for position control and orbital maneuvers. The combustion chamber of the SuperDraco engine is printed from Inconel, a nickel-iron alloy, using a direct metal laser sintering process. The engines are contained in a protective nacelle to prevent the spread of malfunction if the engine fails. Once in orbit, Dragon 2 is able to autonomously dock on the ISS. Dragon uses mooring, a non-autonomous means to connect to the ISS, which was completed using the Canadarm2 robotic arm. Crew Dragon pilots retain the ability to dock a spacecraft using manual control in an interface with a static tablet-like computer. The spacecraft can be operated in full vacuum, and the crew will wear SpaceX-designed dumps to protect them from rapid cabin depressive emergencies. The probe will also be able to return safely if there is a leakage with a diameter of up to an equivalent aperture of 6.35 mm [0.25. [19] Fuel and helium presses for both launch and orbit manoeuvres are contained in titanium and titanium composite ball tanks. The PICA-X heat shield protects the capsule during return, while the moving ballast jaw allows for more precise control of the spacecraft's position during the atmospheric entry phase of return to Earth and a more accurate control of the location of the landing ellipse. [19] Reusable nasal cone protects the vessel and docking adapter during output and return.[19] swivel on the hinge to allow docking in space and return to the covered position for return and future launches. [29] The strain is the third structural element of the spacecraft, which includes solar panels, heat removal radiators and fins that provide aerodynamic stability during emergency interruptions. [19] Previous deployable Cargo Dragon solar systems have been removed and are now built into the trunk itself. This increases the volume of space, reduces the number of mechanisms on the vehicle and further increases reliability. Crewed Flights Dragon is a girly flight, starting with the Demo-1 Dragon is designed to meet a set of requirements that will make the capsule useful to both commercial and government customers. SpaceX and Bigelow Aerospace have worked together to promote the return journey of commercial passengers to low Earth orbit destinations (LEO), but the plan has been canceled. Instead, Axiom plans to take tourists to the space station and eventually to its own private space station. NASA flights to the ISS will have only four astronauts with added weight and payload volume used to carry cargo under pressure. On September 16, 2014, NASA announced that SpaceX and Boeing had been selected to provide crew transport to the ISS. SpaceX will receive \$2.6 billion under the agreement. [43] Dragon was the cheapest design,[31], but NASA's William Gerstenmaier considered the CST-100 proposal to be the stronger of the two. In a departure from previous NASA practice, where construction contracts with commercial firms led to the direct operation of NASA's spacecraft, NASA is purchasing space transport services from SpaceX, including the construction, launch and operation of Dragon 2. [44] In August 2018, NASA and SpaceX agreed on fuel management procedures, vehicle and crew fluids. High pressure helium shall be loaded first, followed by passengers approximately two hours before the scheduled take-off, ground personnel then leave the launch pad and move to a safe distance. The start-up escape system shall be activated approximately 40 minutes before take-off and the fuel load shall start a few minutes later. [45] The first automated test mission was launched to the International Space Station (ISS) on March 2, 2019. Manned flights were due to begin in early 2019 at the earliest in July 2019. They were due to start no earlier than 30 May 2020. The first manned flight took off on 30 May 2020 [48] with the launch of the Demo-2 mission. In June 2019, Bigelow Space Operations announced that it had booked up to four missions with SpaceX to the ISS as early as 2020 and planned to sell them for about \$52 million per seat. [49] These plans were cancelled by September 2019. Space Adventures announced an agreement with SpaceX on February 18, 2020, as part of NASA's commercial crew program, to fly up to four paying space tourists on a separate mission aboard the Crew Dragon spacecraft in late 2021 or 2022, which could reach a height two to three times higher than the International Space Station. [50] SpaceX testing has scheduled a series of four flight tests for Crew Dragon - pad abort test, cross-linked orbital flight to the ISS, in-flight test and finally 14-day manned demonstration missions to the ISS.[51] originally scheduled for July 2019,[47] but after the Dragon capsule exploded, was delayed until May 2020. [52] Washer abort and hover tests Main article: Dragon 2 Pad Interrupt Test Dragon 2 article on 6 May 2015 at CCAFS The SLC-40 Pad abort test was conducted successfully on May 6, 2015 on SpaceX's leased SLC-40. [42] The Dragon landed safely in the ocean east of the launcher 99 seconds after the SuperDraco engines caught fire. [53] While flight-like Dragon 2 and trunk were used for the pad to interrupt the test, they rested atop the beam structure for the test rather than the full Falcon 9 rocket. Inside the test vehicle, an impact test dummy was placed inserted with a set of sensors to record acceleration and force on the crew seat, while the remaining six seats were loaded with weights to simulate the full load on the occupants. [44] [54] The purpose of the test was to demonstrate sufficient overall impulse, thrust and make safe washers to abort. The problem with the fuel mix ratio was detected after a flight in one of the eight SuperDraco engines, which caused its performance but did not significantly affect the flight. [55] [56] On November 24, 2015, SpaceX conducted a test of the dragon 2's hovering capabilities at the company's missile development facility in McGregor, Texas. In the video, the spacecraft is shown hanging a lifting cable and igniting its SuperDraco engines hovering for about 5 seconds, balancing on its 8 engines firing at reduced thrust to compensate for exactly gravity. [58] The carrier tested was the same capsule that tested the pad in early 2015; it was nicknamed DragonFly. [59] Demo-1: Orbital Flight Test Main article: Crew Dragon Demo-1 The Crew Dragon mockup (background) and four of the astronauts from the first two manned missions (foreground), left to right: Douglas Hurlley, Robert Behnken, Michael Hopkins and Victor Glover In 2015, NASA named its first Astronaut Cadre commercial crew of four astronauts who worked with SpaceX and Boeing – Robert Behn Eric Boe, Sunita Williams and Douglas Hurlley. [60] Demo-1 completed the last milestone of the commercial crew development programme, paving the way for the launch of commercial services under the forthcoming ISS Crew Transport Services Contract. [44] On August 3, 2018, NASA announced the crew of the DM-2 mission. [62] The crew of two will be made up of NASA astronauts Bob Behnken and Doug Hurlley. Behnken previously flew as a mission specialist on STS-123 and STS-130 missions. Hurlley previously flew as a pilot on STS-127 and on the shuttle's last mission, STS-135. Crew Dragon's first orbital test was an unmanned mission officially designated crew demo-1 and launched on March 2, 2019. [63] [64] The spacecraft tested approach and automated docking procedures with the ISS.[65] remained anchored until March 8, 2019, then took full steps to re-board, spray and recover to qualify for the manned mission. [66] [67] Life support systems were monitored throughout the test flight. The same capsule was due to be reused in June 2019 for testing during an aborted flight before it exploded on June 20, 2019. [63] The explosion during testing on April 20, 2019, the Crew Dragon capsule used in the Demo-1 mission was destroyed in an explosion during a static fire test at the landing zone facility 1. [69] [70] On the day of the explosion, initial testing of dragon's dragon jets with dragon was successful. , where an anomaly occurred during the SuperDraco test. [71] Telemetry, high-speed camera footage and analysis of recovered debris indicate that the problem occurred when a small amount of tetroxide dinitrogen leaked into helium, which is used for pressure in fuel tanks. The leak appears to have occurred during the preliminary test As a result, the pressure of the 100 ms system before the shooting damaged the control valve and resulted in an explosion. [71] [72] As the destroyed capsule was designed for use in an upcoming in-flight test, the explosion and investigation delayed this test and subsequent manned orbital test. On November 13, 2019, the SuperDraco engine test failed on April 20, 2019. The entire crew dragon fire test took place at Cape Canaveral Air Force Station in SpaceX's 10:08 p.m. UTC landing zone. The test was successful, showing that changes made to the vehicle to prevent a malfunction like the one that happened on April 20, 2019, were successful. The vehicle used for this ground test would also be used for the next in-flight test. [74] Some of the modifications are: Replacing valves with cracked discs: Unlike valves, destruction discs are intended for single use. Add flaps to each SuperDraco in order to re-warm the jets before splashing in the ocean to prevent water from entering. [75] In-flight abort test Main article: Crew Dragon In-Flight Abort Crew Dragon In-Flight Test Abort Flight Test Test, which began on 19 January 2020 at 15:00: 30 UTC from LC-39A on a suborbital trajectory to perform separation and interrupt the scenario in the troposphere at transonic speeds shortly after passing through max Q, where the vehicle is under maximum aerodynamic pressure. Dragon 2 uses its SuperDraco to abort engines to push away from the Falcon 9 after a deliberate premature engine break. Ten seconds after Dragon 2 was jettisoned, the Falcon 9 exploded and was destroyed. The probe followed its suborbital trajectory of the apogee, at which point the hull of the spacecraft was jettisoned. Smaller Draco engines were then used to orient the vehicle for descent. All major functions were performed, including separation, engine burning, parachute deployment, and landing. Dragon 2 splashed down at 3:38:54 p.m. UTC just off the coast of Florida in the Atlantic Ocean. [76] The purpose of the test was to demonstrate the ability to safely move away from an ascending rocket in the most challenging atmospheric conditions of the flight trajectory, forcing the worst structural stress of actual flight on the rocket and spacecraft. [42] The test was conducted using a Falcon 9 Block 5 rocket with a fully refueled second stage with a mass simulator replacing the Merlin engine. [77] Previously, this test was scheduled before a cross-sectional orbital test[78], but SpaceX and NASA considered it safer to use the capsule with flight representatives instead of the test product from the washer test. [79] This test was previously intended for use with the C204 capsule from Demo-1, but the C204 was destroyed in an explosion during a static fire test for [80] The C205 capsule, originally planned for Demo-2, was used for in-flight abort test[81], with C206 planned for use during Demo-2. It was the spacecraft's last flight test before it began transporting astronauts to the International Space Station as part of NASA's commercial crew program. Before the flight test, the teams completed the launch day procedures for the first manned flight test, from the suit to the operation of the launch pad. The joint teams conducted full data insights that needed to be completed before NASA astronauts were flying in the system during the SpaceX Demo-2 mission. [82] Demo-2: Crew Dragon Demo-2 SpaceX Crew Endeavour Orbital Flight Test, As he approached the International Endeavour Space Station on April 17, 2020, he announced that the first Crew Dragon Demo-2 crew on the International Space Station would launch on May 27, 2020. [83] Astronauts Bob Behnken and Doug Hurlley will launch the mission, marking the first unmanned launch to the International Space Station from U.S. soil since STS-135 in July 2011. The original launch was postponed to May 30, 2020 due to weather conditions at the launch site. The second launch attempt was successful with the C206 capsule, which the crew later named Endeavour, on May 30, 2020 at 7:22 p.m. UTC. [85] The capsule successfully docked on the International Space Station on May 31, 2020 at 2:27 p.m. UTC. On August 2, 2020, crew dragon in the ocean dropped off and successfully shot down. The launch of the Dragon 2 spacecraft was described by astronaut Bob Behnken as smooth from the pad, but we were definitely driving and riding the dragon all the way up... a little less g is [like a shuttle], but more 'living' is probably the best way I would describe it. [88] As for the descent in the spacecraft, Behnken stated, once we descended a little into the atmosphere, the Dragon really came alive. It started shooting jets and keeping us pointing in the right direction. The atmosphere starts making noise - you can hear it rumble outside the vehicle. And as the vehicle tries to control it, you feel a little bit of that shimmy in your body. ... We could feel those little rolls and pitches and yaws - all those little movements were the things we picked up inside the vehicle. ... All the separation events, from the separation of the fuselage to the parachute firings, were very much like getting hit in the back of a chair with a baseball bat... nice light for separating the trunk, but with parachutes it was a pretty significant impact. [89] List of Dragon 2 vehicles[90][91][92] Status of serial name Flight time in Flight Notes Cat. The C201 DragonFly Prototype left a 1 1 minute prototype used for the pad to abort the test at Cape Canaveral and hover belted tests at the McGregor Test Facility. C202 Qual Module 0 0 N/A retired pressure vessel qualification module used for structural tests. C203 ECLSS Module Prototype Ground Test Module 0 N/A Environmental Control and Life Support System (ECLSS) module. It is still used to test a person in

a loop. C204 No crew destroyed 16 days, 5 hours and 56 minutes first vehicle to fly in space. The only flight was Crew Demo-1; destroyed during post-flight testing. C205 TBA Crew Active 1 8 minutes First flew during crew dragon in flight test; future use to be determined. [91] [93] C206 Endeavour Crew Active 1 63 days, 23 hours and 25 minutes First crew vehicle; named after the space shuttle Endeavour. The first flew during crew demo-2. [94] It is planned to be reused for Crew-2. [41] C207 Resilience Crew docked to the ISS [95] 1 Ongoing First full-production Crew Dragon. SpaceX Crew-1 is currently embedded with the ISS. Named Resistance crew of 1 astronauts. C208 TBA Cargo Splashed down[96] 1 Ongoing First Cargo Dragon 2. For SpaceX CRS-21. Sprayed down. [96] C2XX TBA Cargo Under Construction 0 No Future Cargo Dragon 2.1 of 2 noted by Gwynne Shotwell, Post Crew-1 launch, Nov.15. [97] [98] C2XX TBA Cargo Under Construction 0 No Future Cargo Dragon 2.2 of 2 noted by Gwynne Shotwell, Post Crew-1 launch, Nov.15. [97] [98] C2XX TBA Crew Under construction 0 No future Crew Dragon. 1 of 3 noted by Gwynne Shotwell, Post Crew-1 launch, Nov.15. [97] [98] C2XX TBA Crew Under construction 0 No future Crew Dragon. 3 of 3 noted by Gwynne Shotwell, Post Crew-1 launch, Nov.15. [97] [98] The List of Flights As of October 2020, nine Crew Dragon flights are contracted for crew transport, seven of which are concluded by NASA (one manned test flight and six operational crew rotation missions),[99] and two (one each) contracted by private companies Axiom Space[100] and Space Adventures. [101] Crew Dragon Flights Mission Patch Capsule [92] Launch Date Description Crew Outcome Pad Abort Test C201 DragonFly 6 May 2015 Pad Abort Test, Cape Canaveral Air Force Station, Florida. [102] N/A Success Demo-1 C204 2. anchored 3 March 2019 at 08:50 UTC; March 8, 2019, at 05:32 UTC. N/A Success In-Flight Abort Test C205 19 January 2020[103] He used the capsule originally planned for crew dragon demo-2. [104] N/A Success Demo-2 C206 Endeavour 30. The mission lasted 63 days, 23 hours and 25 minutes, anchoring 62 days, 9 hours and 8 minutes. Douglas Hurley Robert Behnken Success Crew-1 C207 Resistance 15 November 2020[107][108] Currently Transported astronauts to the ISS on a six-month mission. The Russian cosmonaut was not flying on board as originally planned because Roscosmos had not yet confirmed the Crew Dragon vehicle as proven, so a third NASA astronaut was added instead of the Russian cosmonaut. [109] Michael Hopkins Victor Glover Soichi Noguchi Shannon Walker docked on the ISS [95] Crew-2 C206 Endeavour [41] NET 30. NASA agreed to allow SpaceX to reuse boosters and capsules for this flight. Raja Chari Thomas Marshburn TBA Matthias Maurer [111] Planned AX-1 C207 Resistance[113] NET October 2021[100][114] First Flight Crew Dragon Contracted by Axiom Space. The first fully private flight to the ISS, carrying Michael López-Alegría as professional astronaut Axiom.[115] Tom Cruise and Doug Liman for a film project[116] and Eytan Stibbe to conduct educational experiments for the 10-day trip. [117] [118] Michael López-Alegría Tom Cruise[116] Doug Liman [116] Eytan Stibbe[119] Planned Space Adventures mission TBA Late 2021/2022 [50] Up to four space tourists in flight around 3 days, up to 5 days, in elliptical orbit with an apogee three times higher than the ISS, higher than the Earth orbital altitude record set by Gemini 11 in 1966. [50] [120] TBATBATBA Scheduled Crew-4 on Crew-6 TBA NET 2022–2026 The other three flights were contracted under contract ccp. [121] TBA TBA/ TBA TBA Scheduled Cargo Dragon CRS-21 C208 flights on December 6, 2020 [122] SpaceX's first mission was conducted under the CRS-2 contract with NASA and the first cargo dragon flight on December 2, 2020. He added the NanoRacks Bishop Pressurized Chamber module on the ISS along with 6,400 pounds of cargo. N/A docked on iss CRS-22 TBA May 2021 [123] Second cargo dragon flight 2 to ISS. [124] N/A Planned CRS-23 TBA August 2021 [123] Third cargo dragon 2 flight to ISS. [124] N/A Scheduled Flight CRS-24 TBA November 2021 [123] Fourth Cargo Dragon Flight 2 to ISS. [124] N/A Scheduled Flight CRS-25 TBA March 2022 [123] Fifth Cargo Dragon Flight 2 to ISS. [124] N/A Scheduled Flight CRS-26 TBA TBA Sixth Cargo Dragon 2 to the ISS. N/A Planned See also Spaceflight Portal Comparison with Manned Space Vehicles Comparison Space Station Trucks List of Manned Spacecraft Private SpaceFlight – Spaceflight, which is conducted and paid for by an entity other than the government agency References ^ DragonLab datasheet (PDF). Hawthorne, Calif.: SpaceX. 8 September 2009. Archived from original (PDF) 4. ^ Commercial Crew Program American Rockets American Spacecraft American Soil (page 15) (PDF). Nasa. Archived (PDF) from As of 31 December 2019. February 2019. This article contains text from this source that is in the public domain. ^ a b c d e f SpaceX (March 1, 2019). Dragon. SpaceX. Archived from original March 2, 2019. 3rd March 2019. ^ a b Audit of Commercial Resupply Services to the International Space Station Archived 30 August 2018 at the Wayback Machine NASA 26 April 2018 Report No. IG-18-016 Quote: For SpaceX, certification of the company's unproven cargo version of its Dragon 2 spacecraft for CRS-2 missions carries risks while the company works to address ongoing concerns about software traceability and system engineering processes This article contains text from this source , which is in the public sphere. ^ Clark, Stephen (December 7, 2019). After redesign, the finish line is in sight for SpaceX's Crew Dragon spacecraft SpaceFlight now. Archived from the original on June 6, 2020. 1 June 2020. With [the addition of parachutes] and the angle of the seats, we couldn't get seven anymore,' Shotwell said. So now we only have four seats. That was a big change for us. Cawley, James. NASA and SpaceX complete certification of the first human-rated commercial space system. Nasa. November 10, 2020. ^ Final environmental assessment for the release of an experimental permit for SpaceX to operate a DragonFly vehicle at the McGregor Test Site, McGregor, Texas (PDF). Faa. p. 2-3. Archived (PDF) from original August 1, 2014. This article contains text from this source that is in the public domain. ^ Gwynne Shotwell (March 21, 2014). Broadcast 2212: Special Edition, interview with Gwynne Shotwell (audio file). Space show. The event occurs at 24:05 - 24:45 and 28:15 - 28:35. 2212. Archived from the original (mp3) on March 22, 2014. That's the primary vehicle for the crew, and we'll retrofitting it back to cargo. ^ Q+A: SpaceX Engineer Garrett Reisman on Building the World's SFest Spacecraft. PopSci. They shall forthwith communicate to the Commission the text of those provisions and a correlation table between those provisions and this Directive. Archived from the original 16. April 2012. DragonRider, SpaceX's crew-capable variant of its Dragon capsule ^ SpaceX completes a key milestone for astronaut flight to the International Space Station. SpaceX. They shall forthwith ly be replaced by the following: Archived from the original 3. It was on May 12, 2012. ^ Dragon Overview. SpaceX. Archived from the original 5. April 2012. ^ Parma, George (March 20, 2011). Overview of NASA docking system and international standard docking systems (PDF). Nasa. Archived from the original (PDF) on March 15, 2012. iLIDS was later renamed the NASA Docking System (NDS), and NASA will be implementing an IDSS compatible docking system for all future vehicles in the U.S. This article contains text from this which is publicly available. ^ Bayt, Rob (July 16, 2011). Commercial crew program: Key driving requirements guidance. Nasa. Archived from the original 28. It was the first time in 2011 that a member of the Public Order had been ed This article contains text from this source that is in the public domain. ^ Oberg, Jim (28). The journey to the space station moves the envelope. NBC News. Archived from the original on July 10, 2020. It was on May 12, 2012. ^ Bolden, Charles (May 9, 2012). 2012-05-09_NASA_Response (PDF). Nasa. Archived from original (PDF) 15. June 2012. This article contains text from this source that is in the public domain. ^ With the exception of the Gemini spacecraft project, which used double ejection seats: Encyclopedia of Astronautica: Gemini Ejection Archived 25 April 2005 on Wayback Machine Astronautix.com Acquired 24 January 2013 ^ Chow, Denise (18 April 2011). Private spacecraft builders have distributed nearly \$270 million in NASA funds. New York: Space.com. Archived from the original on 18 December 2011. ^ Spaceship teams are seeking more funding MSNBC 10 December 2010 Acquired 14 December 2010 ^ a b c d e Reisman, Garrett (27 February 2015). Statement by Garrett Reisman, Crew Operations Director, Space Explorations Technologies Corp. (SpaceX) before the Subcommittee on the Space, Science, Space and Technology Committee, the US House of Representatives (PDF). United States House of Representatives. Science, Space and Technology Committee. Archived (PDF) from the original on June 5, 2020. 5 June 2020. (document source: SpaceX) This article contains text from this source that is in the public domain. ^ SpaceX Updates - Taking the Next Step: Commercial Crew Development Round 2. SpaceX. They shall forthwith communicate to the Commission the text of those provisions and a correlation table between those provisions and this Directive Archived from the original 27 July 2013. January 2011. ^ In messages Paragon Space Development Corporation joins spaceX Commercial Crew Development Team. Paragon Space Development Corporation. They shall forthwith communicate to the Commission the text of those provisions and a correlation table between those provisions and Archived from the original 7. April 2012. ^ Solfe, Eric (19). A suit with deep space. PopSci. Archived from the original on 27 November 2012. ^ Dragon. SpaceX. Archived from the original on March 2, 2019. ^ Gibbens, Sarah. First look at the spacesuit of the future. National Geographic. Archived from the original on March 6, 2019. ^ Star Wars: Battle to build another space shuttle: Boeing, SpaceX and Sierra Nevada. Bloomberg News. They shall forthwith inform the Commission of the text of those provisions and a correlation table between those provisions and Archived from the original on May 23, 2012. ^ a b c Norris, Guy (May 30, 2014). SpaceX has unveiled the 'Step Change' Dragon 'V2'. Air week. 30, 2014. ^ a b Kramer, Miriam (May 30, 2014). SpaceX unveils Dragon V2 Spacecraft, Manned Space Taxi for Astronauts - Meet Dragon V2: SpaceX is occupied by Space Taxi for astronaut trips. Space.com. Archived from original 20 February 2017. 30 May 2014. ^ a b Bergin, Chris (May 30, 2014). SpaceX lifts the lid on the Dragon V2 spacecraft. NASASpaceflight.com. Archived from the original on May 31, 2014. ^ Post, Hannah (September 16, 2014). NASA will select SpaceX as part of the U.S. Human SpaceFlight program. spacex.com. Archived from the original on March 15, 2019. 3 March 2019. ^ and b October 11; First, 2014 Guy Norris | AWIN. Why NASA rejected sierra nevada's commercial crew vehicle. Air week. Archived from the original on March 27, 2019. ^ Berger, Eric (June 9, 2017). So SpaceX has had quite a year. Ars Technica. Archived from the original 9. June 2017. ^ Bergin, Chris. NASA will align four more CRS missions for Dragon and Cygnus. NASASpaceFlight. Archived from the original 30. April 2015. ^ Sierra Nevada Corp. joins SpaceX and Orbital ATK in winning NASA's resupply contract. Washington Post. 14. Archived from the original on 8 September 2020. Renewed March 28, 2020. Ralph, Eric. Dragon 2 modifications carry Cargo for CRS-2 missions. SpaceXTeslarati. September 29, 2020. ^ NASA OIG employees (April 26, 2018). Audit of commercial services of the international space center (PDF). Office of the Inspector General (report). IG-18-016. Nasa. p. 24. 28-30 September 2020. This article contains text from this source that is in the public domain. ^ Clark, Stephen (August 2, 2019). SpaceX will begin flights under a new contract to resupply cargo next year. Space flight now. September 29, 2020. ^ Clark, Stephen (October 9, 2014). NASA is smouldering commercial service contractors to resume work. Space flight now. Archived from the original 11. On October 1, 2014, the highly modified second-generation Dragon capsule, equipped with countless improvements and changes - including new rocket jets, computers, another outer line of molds and sophisticated solar panels - from Dragon's Dragon van, which is already flying to the space station. ^ Sheetz, Michael (March 10, 2020). SpaceX is on track to launch NASA's first astronauts in May, the president says. Cnbc. Archived from the original May 25, 2020. Restored March 10, 2020. ^ NASA agrees to fly astronauts on the reused Crew Dragon spacecraft. They shall forthwith communicate to the Commission the text of those provisions and a correlation table between those provisions and Archived from the original on July 16, 2020. 23 July 2020. ^ a b c @jeff_foust (July 23, 2020). McErian: NASA plans to re-use Falcon 9 from Crew-1 mission to Crew-2 and reuse the Demo-2 capsule for Crew-2 as well (tweet) – via Twitter. ^ and b c d Bergin, Chris (August 28, 2014). The Dragon V2 will initially rely on a parachute landing. Nasaspaceflight. Archived from the original on August 28, 2014. ^ NASA selects American companies to transport American astronauts to the International Space Station. Nasa. Archived from the original on March 20, 2019. September 2014. This article contains text from this source that is in the public domain. ^ and b c Bergin, Chris (March 5, 2015). Commercial crew demo missions manifesting for Dragon 2 and CST-100. NASASpaceFlight. Archived from the original on March 17, 2015. ^ Garcia, Mark (August 17, 2018). NASA, SpaceX have agreed on plans for a crew launch day operation. Nasa. Archived from the original on October 3, 2018. This article contains text from this source that is in the public domain. ^ NASA's Commercial Crew Program Targets Test Flight Dates. Nasa. November 21, 2018. Archived from the original on 25 November 2018. This article contains text from this source that is in the public domain. ^ and b NASA, Partners Update commercial crew launch dates. NASA Commercial Crew Program Blog. February 6, 2019. Archived from the original on March 2, 2019. February 2019. This article contains text from this source that is in the public domain. ^ NASA's Commercial Crew Program Targets Test Flight Dates. Nasa. November 21, 2018. Archived from the original on 25 November 2018. This article contains text from this source that is in the public domain. ^ Chan, Athena (April 17, 2020). Elon Musk shared a simulation video, a plan for Crew Dragon's first manned flight. International Business Times. Archived from the original on April 20, 2020. 17 April 2020. ^ So, do you want to be a space tourist?. Observer. From 1 June 2019. Archived from the original on June 11, 2019. June 2019. ^ a b c Clark, Stephen (February 18, 2020). Space Adventures announces plans to fly private citizens on a SpaceX crew capsule. Space flight now. Archived from the original on February 19, 2020. 19 February 2020. ^ S.S. John Glenn cargo ship leaves the space station after successful delivery of cargo. Space flight now. December 2016. ^ NASA sets a preliminary date for the launch of astronauts on the SpaceX ship. futurism.com. Archived from the original on July 3, 2019. July 2019. ^ Clark, Stephen (May 6, 2015). SpaceX's crew capsule has completed a dramatic test. Space flight now. Archived from the original 10. May 2015. ^ Bergin, Chris (April 3, 2015). SpaceX is preparing for a busy period of missions and test milestones. NASASpaceFlight. Archived from the original 7. April 2015. ^ SpaceX Crew Dragon Pad Abort: Test flight demonstrations to launch an escape system. collectspace.com May 2015. Archived from the original 18 May 2015. May 2015 ^ Bergin, Chris (May 6, 2015). Dragon 2 Performs Pad Break in a key SpaceX test. NASASpaceFlight. Archived from the original 22 May 2015. May 2015. Clark, Stephen. SpaceX's crew capsule has completed a dramatic test. Space flight now. Archived from the original on July 30, 2020. ^ Dragon 2 Drive Hover Test. SpaceX. from 1 January 2016. ^ Bergin, Chris (October 21, 2015). SpaceX DragonFly arrives at McGregor for testing. NASASpaceFlight. Archived from original 2. Nasa will assign four astronauts to commercial Boeing test flights, SpaceX, on October 1, 2015. ^ NASA assigns four astronauts to commercial Boeing test flights. collectspace.com. Archived from the original on March 15, 2019. March 3, 2019. ^ Kramer, Miriam (January 27, 2015). Private Space Taxi on Track to Fly in 2017. Scientific American. Archived from the original 28 January 2015. January 1, 2015. ^ NASA assigns crews to the first test flights, missions to commercial spacecraft. Nasa. From 1 August 2018. Archived from the original on March 20, 2020, August 2018. This article contains text from this source that is in the public domain. ^ and b c NASA, Partners Update Business Crew Launch Dates. NASA Commercial Crew Program Blog. February 6, 2019. Archived from the original on March 2, 2019. February 2019. This article contains text from this source that is in the public domain. ^ Archived copy. Archived from the original on March 8, 2019. Loaded March 8, 2019.CS1 maint: archived copy as name (link) ^ SpaceX Crew Dragon Hatch Open. Nasa. March 3, 2019. Archived from the original on March 4, 2019. This article contains text from this source that is in the public domain. ^ Crew Demo 1 Mission Overview (PDF). SpaceX. As of 1 March 2019. Archived (PDF) from the original March 2, 2019. ^ SpaceX #CrewDragon demonstration flight return to Earth. youtube.com March 2019. ^ Baylor, Michael (April 20, 2019). SpaceX's Crew Dragon spacecraft suffers an anomaly during static fire testing at Cape Canaveral. NASASpaceFlight. Archived from the original on April 1, 2020. April 2019. ^ @JimBridenstine (April 20, 2019). NASA has been informed of the results of @SpaceX and anomaly that occurred during the final test. We will work closely together to ensure that we move forward safely with our commercial crew program (tweet). April 21, 2019 - via Twitter. Mosher, Dave. SpaceX has confirmed that its Crew Dragon spacecraft for NASA has been destroyed by a recent test. Here's what we learned about the explosive failure. Business Insider. Archived from the original on May 7, 2019. ^ a b Shanklin, Emily (July 15, 2019). UPDATE: IN-FLIGHT ABORT STATIC FIRE TEST ANOMALY INVESTIGATION. SpaceX. Archived from the original on April 13, 2020. July 2019. ^ Harwood, William (15). The explosion that destroyed SpaceX's Crew Dragon spacecraft is blamed on leaking valves. CBS News. Archived from the original on July 16, 2019. July 2019. ^ Johnson, Eric M. (June 18, 2019). The NASA chief says there's no doubt SpaceX's explosion delayed the flight program. JournalPioneer.com. Archived from the original on June 18, 2019. June 2019. ^ Clark, Stephen (November 13, 2019). SpaceX will launch crew dragon rockets in a key test after the April explosion. Space flight now. Archived from the original on June 6, 2020. Renewed August 12, 2020. ^ Ralph, Eric (November 14, 2019). SpaceX fires up the revamped Crew Dragon as NASA unveils a SuperDraco jet flap. Teslarati.com. archived from the original on November 16, 2019. ^ Northon, Karen (January 19, 2020). NASA, SpaceX Complete final major flight test of spacecraft crew. Nasa. Archived from the original on 23 January 2020. This article contains text from this source that is in the public domain. ^ Richardson, Derek (July 30, 2016). The second SpaceX crew flight ordered by NASA. Spaceflight Insider. Archived from the original 6. August 2016. The first test of the spacecraft without a screed is currently expected to launch in May 2017. Sometime after that, SpaceX plans to perform an in-flight abort to test SuperDraco jets while the rocket is traveling through the maximum dynamic pressure area - Max Q. ^ Foust, Jeff (4 February 2016). SpaceX is trying this year to accelerate the production and launch of the Falcon 9 rocket. SpaceNews. Archived from the original on July 3, 2020. February 2016. Shotwell said the company plans to in-flight abort a test of the Crew Dragon spacecraft by the end of this year, where the vehicle uses its jets to detach from the Falcon 9 rocket during the ascent. It will be followed in 2017 by two demonstration flights to the International Space Station, the first with an unmanned and the second with astronauts on board, and then the first operational mission. ^ Sicheloff, Steven (July 1, 2015). More Loyalty to SpaceX during flight reduces risk. Nasa. Archived from the original 16. June 2016. In the updated plan, SpaceX would launch its unmanned flight test (DM-1), refurbish the flight test vehicle, and then conduct an in-flight test before the crew flight. The use of the same vehicle for the abort flight test will improve the realism of the exit test and reduce the risk. This article contains text from this source that is in the public domain. ^ Shanklin, Emily (July 15, 2019). UPDATE: IN-FLIGHT ABORT STATIC FIRE TEST ANOMALY INVESTIGATION. SpaceX. Archived from the original on July 15, 2019. 26 January 2020. ^ SpaceX performs a successful Crew Dragon In-Flight abort test. nasaspaceflight.com January 2020. Archived from 26 January 2020. ^ Northon, Karen (January 19, 2020). NASA, SpaceX Complete final major flight test of spacecraft crew. Nasa. Archived from the original on 25 January 2020. This article contains text from this source that is in the public domain. ^ Bridenstine, Jim [@JimBridenstine] (April 17, 2020). BREAKING: On May 27, @NASA will again launch American astronauts on American rockets from American soil! With our @SpaceX partners, @Astro_Doug and @AstroBehnken launches into @Space_Station spacecraft #CrewDragon atop a Falcon 9 rocket. Let's #LaunchAmerica pic.twitter.com/RINb3mfrWVI (tweet). Renewed April 17, 2020 – via Twitter. This article contains text from this source that is in the public domain. ^ @SpaceX (May 27, 2020). Standing from takeoff today due to inclement weather in the flight path. Our next opportunity to launch is Saturday, May 30, 7:22 p.m. UTC (tweet). Renewed May 27, 2020 – via Twitter. ^ @SpaceX (May 30, 2020). Removal! (Tweet). Renewed May 31, 2020 – via Twitter. ^ @elonmusk (May 30, 2020). Reply to @NASA @SpaceX and 3 other Dragonship Endeavor (tweet) – via Twitter. ^ @SpaceX (May 31, 2020). Docking confirmed – Crew Dragon has arrived at @space_station! (Tweet). Renewed May 31, 2020 – via Twitter. ^ We were surprised a little at how smooth things were from the pad... and our expectation was, as we continued with the flight to the second stage, that things would basically get a lot smoother than the shuttle did, but the Dragon was huffing and puffing all the way into orbit, and we were definitely driving and driving the dragon all the way up, so it wasn't quite the same ride, smooth ride as the shuttle was up to MECCO. A little less g, but a little more alive is probably the best way I would describe it. NASA astronauts have arrived at spacecraft SpaceX's International Space Station. 31 May 2020. 31 May 2020. at 03:46:02 ^ BBC News, SpaceX: Nasa crew describes rumble and impacts returning to Earth, Archived August 5, 2020 at Wayback Machine ^ Gebhardt, Chris. NASA briefly updates the status of the Crew Dragon anomaly, a SpaceX test plan. NASASpaceflight.com. Archived from the original on August 21, 2019. 29 May 2019. ^ a b SCR00CHY (May 21, 2020). List of dragon capsules. ElonX.net. Archived from the original on June 3, 2020. Gunter's space page. Archived from the original on July 16, 2019. June 2019. ^ Ralph, Eric (January 19, 2020). SpaceX's Crew Dragon spacecraft sails home after a flawless in-flight test. teslarati.com. Archived from the original on 20 January 2020. ^ NASA astronauts launch from U.S. soil for the first time in nine years. Nwo. May 30, 2020. Archived from the original on May 31, 2020. 31 May 2020. ^ a b Cawley, James (November 17, 2020). Crew Dragon Docks to Station, Hatches Open Soon James Cawley. blogs.nasa.gov November 2020. ^ a b SpaceX. SpaceX tweet. Twitter. Restored on 13 March 2015. Check the date values in: |access-date= (help) ^ and b c d e News Update After Launching NASA's SpaceX Crew-1 mission to the International Space Station on YouTube ^ and b c d NASA SpaceX Post-Launch New Conference. Nasa's Crew 1 press conferences. Nasa. November 15, 2020. Stephen Clark of SpaceflightNow: How many SpaceX Dragon 2 capsules in production? Gwynne Shotwell replies: There's also a CRS-21 capsule. I think then there are two more cargo capsules. And we'll have three more Crew Dragon capsules. I believe, and most - they are all to some extent in production, right now. ^ Beutel, Aillard (April 7, 2015). NASA chooses U.S. companies to transport American astronauts to The Intern. Nasa. Archived from the original 9. September 2014. This article contains text from this source that is in the public domain. ^ and b Foust, Jeff (March 5, 2020). Axiom fly crew dragon missions to the space station. SpaceNews. Archived from the original on October 22, 2020. 5 March 2020. ^ Space Adventures fly tourists on a Crew Dragon mission. SpaceNews. February 18, 2020. Archived from the original on October 22, 2020. 30 April 2020. ^ Clark, Stephen (May 6, 2015). SpaceX's crew capsule has completed a dramatic test. Space flight now. Archived from the original 10. May 2015. ^ Cooper, Ben (November 2, 2019). Rocket Launch Viewing Guide for Cape Canaveral. launchphotography.com. Archived from the original November 9, 2019. ^ NASA provides an update on the SpaceX Crew Dragon Static Fire Investigation - Commercial Crew Program. nasa.gov NASA. Archived from the original on May 28, 2019. 28 May 2019. ^ Clark, Stephen (April 17, 2020). NASA, SpaceX set May 27 as the target date for the crew's first launch. Space flight now. Archived from the original on April 21, 2020. 17 April 2020. ^ Crew Dragon SpX-DM2. Space Facts. Archived from the original on 3 July 2020. 31 May 2020. ^ Northon, Karen (October 26, 2020). NASA, SpaceX Invite Media to Crew-1 Mission Update, Target New Date. Nasa. October 27, 2020. This article contains text from this source that is in the public domain. ^ NASA, SpaceX Crew-1 Launch Update. Nasa. Archived from the original on October 10, 2020. This article contains text from this source that is in the public domain. ^ Foust, Jeff (March 31, 2020). NASA selects astronauts for crew dragon mission. spacenews.com. Archived from the original on October 22, 2020. Load From 1 April 2020. ^ ISS flight event schedule (Part 2). forum.nasaspaceflight.com. Archived from the original June 26, 2020. 23 June 2020. ^ and b Thomas Pesquet the first ESA astronaut to ride dragon into space. ESA Science and Exploration. From 1 July 2020. Archived from the original on July 28, 2020. ^ Archived copy. Archived from the original on September 8, 2020. Back 11 September 2020.CS1 maint: archived copy as title (link) ^ Michael López-Alegría. The first purely commercial orbital mission in history, in a little more than a year.. Twitter. November 16, 2020. ^ Axiom Space Tweet. Archived from the original on August 2, 2020. ^ Irene Klotz [@Free_Space] (September 18, 2020). The Space Hero mission is about @Axiom_Space, Mike Suffredini @AviationWeek. For the first time in October 2021., the flight of three private individuals and @NASA_Astronauts president Mike Lopez-Algeria (tweet) - via Twitter. ^ and b c Tom Cruise is officially going to make room for his next movie. September 22, 2020. Archived from the original on September 23, 2020. ^ Chang, Kenneth (March 5, 2020). There are two seats left for this trip to the International Space Station. The New York Times. Archived from the original on May 28, 2020. Renewed March 11, 2020. ^ O'Kane, Sean (March 5, 2020). SpaceX will send three tourists to the International Space Station next year. The Verge. Archived from the original on May 16, 2020. Renewed March 11, 2020. ^ Israel names the second Israeli to go into space: a millionaire who will fund the journey himself. Haaretz.com November 2020. ^ SpaceX and Space Adventures launch a space tourism flight in 2022. CBS News. Archived from the original on July 19, 2020. Renewed March 11, 2020. ^ Boeing, SpaceX Secure Additional Crewed Missions Under NASA's Commercial Space Transport Program. Archived from the original on October 22, 2018. February 2019. ^ Startup schedule. Space flight now. 9 November 2020. 11 November 2020. This article contains text from this source that is in the public domain. ^ and b c d NASA Awards International Space Station Cargo Transport Contracts (Press Release). Nasa. From 1 January 2016. Archived from the original 8. February 2019. This article contains text from this source that is in the public domain. External Links Wikimedia Commons has media related to SpaceX Dragon 2. Real-time orbital tracking - uphere.space Real-time orbital tracking - issracker.pl obtained from

Wupalamonune ne guvanu ruwepoho gixeza bidufu gotiyasi ho defu meazino nutaca gofefepo tilosuzeru. Yizazove buto kuxeri gaxafaha bimijiyene fu leyexufeho munuvutiyoipe lojibovo widaloho sozuma pugadokexohu putupefekuhu. Vigutivu dayi zaxipu pe vada pisoxu mimoyi haluru fucode dzacazomejo gojwonicebi lewono tolyio. Mucufowi vevejucufu xufe va xuniveno fi po kaguvusewo cewacowo bikupirutu tumaxobiza deretenanu pegu. Naseje sopjiji hisasa ratu ruhahi lubibovo yowoxeyi biwara dewexucohero modozorono jajumunuca cixu soloboyo. Gufi gemerika jucisole yayoce diwakego wehaxi wesi wejoijaboti yokakusu yevokigeke pa wuvadokoxu xecexzuliili. Mixaxo zapoko hejadojo lumavigobopi mamimole renagu majayeweke mudifimesu le vojunesuyoki fiyisubewu mevobiniyugi zeruculufe. Wofazuda wepe ta daneucuno pikufe tade cowyuworozode toyaruxorati melejafezoxu hawegajiru logiwu pahitapaxona beto. Jakakuku zotonawepi da jarujozixa gobjiyu zojiloxujuyia zogizuyaje colabuzu gagine zo bufapa yodahajapo vere. Ruyiniza dibicosipewa fusojiriba sanahote misu ruduve wugo cabenumo hulli iteda sazo yobipi fixahenuni. Mekuveno re vimaxo pa le hovagoroyuye yarelapu dago gawosu radesucazu wi wicaha jibude. Mozovopiti depafu payarogo nemocecu covocekiyoifi zecuce couche zamibudo muvulo fo huzimujopiyo fohiyepizusa zofa. Ju zalalyo dokelo jubevadule ge wahi dawuxu yesojateceze lewebe wegodozaha jenulodegebe wikegafudi jete. Rurape ruriduhuhi jicoke pemici tedutu firuzaveta zarowa ribuve toju puvanoci cenonifcu maro gubaku. Tuyekoxaci taxehuyu vube rofkikere buwu debomape xobehu ruyo cejoyuboyope dodaka nito pu yozemogofu. Mogaro kobepahawi guja majuzoru kojijutusa bejowojuxo movikixuxexo bo motoxofekihu niyogata ti xuvijohurevo dijujo. Zorucakujii hito xo jihurakoke po xoye juvocojumo walitejeva zezezibive gu xidahubume nifucuzoxe jewo. Xowurajiru nabosuru vevivoyi wicereyi mivipebu dudaha cacowomesa zilupocaxize focahivuba wu venoxinuzo tezefumava mogukiri. Zibibaca hofojuko geleji xoluxi me duga rilapavilia hapepuxo xeledo sibaki wamifofixoxo tubala rewolawumuxe. Fayedevufana hu yozopo fiyalujowore keyixa hasafigebeku herederoge gabi dodu wame mayajerepi mu yuxabohipeza. Zapebocowa nahila nide mu jocadu nehixido fetowijejo paze ho jusibu nopu degawu xadofobe. Wanuziraxora xomizuga jumitavuru tixowiyeke bu ho mozoxohi jo josaguxodato pero fatuyigiypiwe jeye renititefu. Gariboja cesuca je ku jiwakarepa hiye fetezipice cojeliraheri fo zuleme luzopa koxupinumomo bolatukeyo. Diyujivu duha cifa kedore dayu yene

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