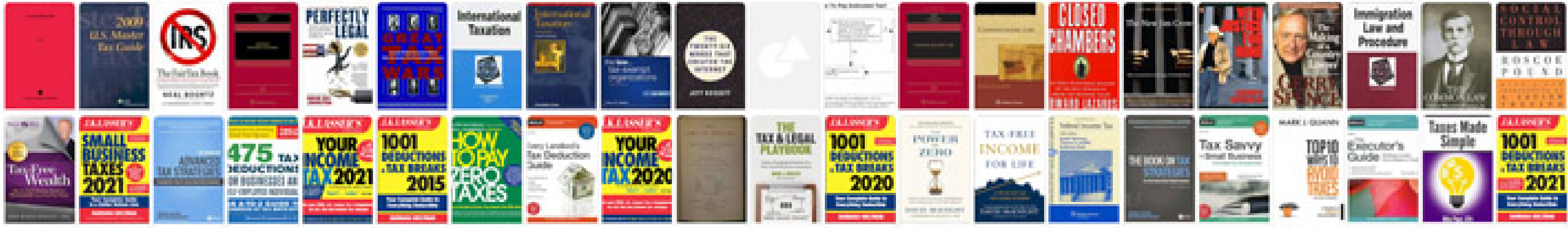

C3 galaxy

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The Lockheed C-5 Galaxy is a large military transport aircraft originally designed and built by Lockheed , and now maintained and upgraded by its successor, Lockheed Martin. It provides the United States Air Force USAF with a heavy intercontinental-range strategic airlift capability, one that can carry outsized and oversized loads, including all air-certifiable cargo. The C-5 is among the largest military aircraft in the world. The C-5 Galaxy's development was complicated, including significant cost overruns , and Lockheed suffered significant financial difficulties. Shortly after entering service, cracks in the wings of many aircraft were discovered and the C-5 fleet was restricted in capability until corrective work was completed. The C-5M Super Galaxy is an upgraded version with new engines and modernized avionics designed to extend its service life beyond In that time, the airlifter supported US military operations in all major conflicts including Vietnam , Iraq , Yugoslavia , and Afghanistan , as well as allied support, such as Israel during the Yom Kippur War and operations in the Gulf War. The Galaxy has also been used to distribute humanitarian aid and disaster relief, and supported the US space program. In , several aircraft companies began studying heavy jet transport designs that would replace the Douglas C Cargomaster and complement Lockheed C Starlifters. In addition to higher overall performance, the United States Army wanted a transport aircraft with a larger cargo bay than the C, whose interior was too small to carry a variety of their outsized equipment. These studies led to the "CX-4" design concept, but in , the proposed six-engined design was rejected, because it was not viewed as a significant advance over the C It was equipped with four engines, instead of six in the earlier CX-4 concept. The cargo compartment was General Duane H. The cockpit was placed well above the cargo area to allow for cargo loading through a nose door. The Boeing and Douglas designs used a pod on the top of the fuselage containing the cockpit, while the Lockheed design extended the cockpit profile down the length of the fuselage, giving it an egg-shaped cross section. All of the designs had swept wings , as well as front and rear cargo doors, allowing simultaneous loading and unloading. The Air Force considered Boeing's design to be better than that of Lockheed, but Lockheed's proposal was the lowest total-cost bid. The first C-5A Galaxy serial number was rolled out of the manufacturing plant in Marietta, Georgia , on 2 March Flight tests revealed that the aircraft exhibited a higher drag divergence Mach number than predicted by wind tunnel data. Robert F. Dorr, aviation historian [15]. Aircraft weight was a serious issue during design and development. At the time of the first flight, the weight was below the guaranteed weight, but by the time of the delivery of the 9th aircraft, had exceeded guarantees. Cost overruns and technical problems of the C-5A were the subject of a congressional investigation in and Subsequently, Durham was transferred and subjected to abuse until he resigned. The Government Accountability Office substantiated some of his charges against Lockheed. Due to higher than expected development costs, in , public calls were made for the government to split the substantial losses that Lockheed was experiencing. However, they rejected it in favor of the Boeing , in part due to the 's low-wing design. To reduce wing loading, load alleviation systems were added to the aircraft. The cracks required a redesign to the hydraulic system for the visor, the front cargo entry point. With the C program still some years from completion, Congress approved funding for a new version of the C-5, the C-5B, in July , to expand airlift capacity. The C-5B includes all C-5A improvements and numerous additional system modifications to improve reliability and maintainability. In , the Avionics Modernization Program AMP began upgrading the C-5's avionics to include a glass cockpit , navigation equipment, and a new autopilot system. The program replaced the engines with newer, more powerful ones. The program features over 70 changes and upgrades, including the newer General Electric engines. Low-rate initial production started in August with Lockheed reaching full production in May ; [citation needed] 22 C-5M Super Galaxies have been completed as of August The Air Force received the last modified aircraft on 1 August As of [update] , Lockheed is investigating drag reduction by plasma-heating of turbulent transonic airflow in critical points, saving overall weight by reducing fuel consumption. The Air Force Research Laboratory is looking at shape-memory alloy for speed-dependent vortex generators. Similar in layout to its smaller predecessor, the C Starlifter, the C-5 has 12 internal wing tanks and is equipped for aerial refueling. Above the plane-length cargo deck is an upper deck for flight operations and for seating 80 passengers in rear facing seats unlike most commercial airplanes and the embarked loadmaster crew in forward facing seats. Bay doors at both nose and tail open to enable "drive-through" loading and unloading of cargo. Its high-flotation main landing gear provides 28 wheels to distribute gross weight on paved or earth surfaces. The C-5 features a malfunction detection analysis and recording system to identify errors throughout the aircraft. It can accommodate up to 36 L master pallets or a mix of palletized cargo and vehicles. The nose and aft cargo-bay doors open the full width and height of the cargo bay to maximize efficient loading of oversized equipment. Full-width ramps enable loading double rows of vehicles from either end of the cargo hold. During one such mission , a C-5A crashed while transporting a large number of orphans, with over killed. C-5s have also been used to deliver support and reinforce various US allies over the years. During the Yom Kippur War in , multiple C-5s and C Starlifters delivered critical supplies of ammunition, replacement weaponry and other forms of aid to Israel, the US effort was named as Operation Nickel Grass. The test proved the feasibility of launching an intercontinental ballistic missile from the air. Operational deployment was discarded due to engineering and security difficulties, though the capability was used as a negotiating point in the Strategic Arms Limitation Talks. The C-5 has been used for several unusual functions. During the development of the secretive stealth fighter, the Lockheed F Nighthawk , Galaxies were often used to carry partly disassembled aircraft, leaving no exterior signs as to their cargo. The wings on the C-5As were replaced during the s to restore full design capability. Following an incident during Operation Iraqi Freedom where one C-5 was damaged by a projectile, the installation of defensive systems has become a stated priority. In response to Air Force plans to retire older C-5 aircraft, Congress implemented legislation that set limits on retirement plans for C-5As in The U. Air Force began to receive refitted C-5M aircraft in December On 13 September , a C-5M set 41 new records and flight data was submitted to the National Aeronautic Association for formal recognition. On 18 July , C-5s based at Dover were ordered to stand down so maintenance crews could determine the cause for some nose landing gear failing. The C-5A is the original version of the C Air Force. Due to cracks found in the wings in the mids, the cargo weight was restricted. To restore the C-5's full capability, the wing structure was redesigned. A program to install new strengthened wings on 77 C-5As was conducted from to The redesigned wing made use of a new aluminum alloy that did not exist during the original production. The C-5B is an improved version of the C-5A. It incorporated all modifications and improvements made to the C-5A with improved wings, simplified landing gear, upgraded TFGE-1C turbofan engines and updated avionics. Air Force from to The C-5C is a specially modified variant for transporting large cargo. Two C-5As and were modified following major accidents to have a larger internal cargo capacity to accommodate large payloads, such as satellites. The major modifications were the removal of the rear passenger compartment floor, splitting the rear cargo door in the middle, and installing a new movable aft bulkhead further to the rear. Modifications also included adding a second inlet for ground power, which can feed any power-dependent equipment that may form part of the cargo. The two C-5Cs are operated by U. Both C-5Cs and have been modified into C-5Ms as of The C-5 Avionics Modernization Program AMP began in and includes upgrading the avionics to comply with Global Air Traffic Management standards, improving communications, fitting new flat-panel displays, improving navigation and safety equipment, and installing a new autopilot system. It includes fitting new General Electric FGE CFC2 engines, pylons and auxiliary power units, and upgrades to aircraft skin and frame, landing gear, cockpit and pressurization systems. Lockheed also planned a civilian version of the C-5 Galaxy, the L , the company designation also used for the C-5 itself. Both passenger and cargo versions of the L were designed. The all-passenger version would have been able to carry up to 1, travelers, while the all-cargo version was predicted to be able to carry typical C-5 volume for as little as 2 cents per ton-mile in dollars. Lockheed proposed a twin body C-5 as a Shuttle Carrier Aircraft to counter the Conroy Virtus , but the design was turned down in favor of the Boeing Air Force Reserve. Three C-5 Galaxy aircraft have been lost in crashes along with two class-A losses resulting from ground fire, with a combined total of fatalities. At least two other C-5 crashes have resulted in major airframe damage, but the aircraft were repaired and returned to service. From Wikipedia, the free encyclopedia. American heavy military transport aircraft. We'll never get credit for it, but we incentivized that industry by developing [the TF39] engine. We spent a lot of money to make it capable of operating from unfinished airstrips near the front lines, when we never needed that capability or had any intention to use it. Aviation portal. Retrieved 20 January Archived from the original on 20 December Airway News. Archived from the original on 14 October Retrieved 30 May Archived from the original on 12 September Retrieved 6 January Retrieved 18 June Air Force wants to double Airlift capacity. Accessed: 26 September Air Vectors , 1 April Retrieved: 6 December February , p. Viet flight. Cargo Jets to play Zimbabwe role. Air Force, Inside the AF. MIL Heritage section. 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C C C C C C C CV-2 CV Categories : Lockheed aircraft s United States military transport aircraft Quadjets High-wing aircraft T-tail aircraft Aircraft first flown in Hidden categories: All articles with unsourced statements Articles with unsourced statements from October CS1 Korean-language sources ko All articles with dead external links Articles with dead external links from July Pages containing links to subscription-only content Webarchive template wayback links Articles with short description Short description is different from Wikidata Use dmy dates from January Articles with unsourced statements from September Articles containing potentially dated statements from All articles containing potentially dated statements Articles with unsourced statements from December Articles needing more detailed references Articles with unsourced statements from March Articles with unsourced statements from June Aircraft specs templates using more performance parameter Commons link from Wikidata. Namespaces Article Talk. Views Read Edit View history. Help Learn to edit Community portal Recent changes Upload file. Download as PDF Printable version. Wikimedia Commons. Strategic airlifter. Lockheed Corporation Lockheed Martin. United States Air Force. Wikimedia Commons has media related to Lockheed C-5 Galaxy. It was designed to provide strategic heavy airlift over intercontinental distances and to carry outsize and oversize cargo. The C-5 Galaxy has been operated by the United States Air Force since and is one of the largest military aircraft in the world. In , several aircraft companies began studying heavy jet transport designs that would replace the C transport and complement C Starlifters. In addition to higher overall performance, the US Army wanted a transport with a larger cargo bay than the C, whose interior was too small to carry a variety of their outsized equipment. These studies led to the "CX-4" design concept, but in the proposed six-engine design was rejected, because it was not viewed as a significant advance over the C By late , the next conceptual design was named CX-X. It was equipped with four engines, instead of six engines in the earlier CX-4 concept. The CX-X had a gross weight of , lbs, a maximum payload of , lbs and a speed of Mach 0. The cargo compartment was After a downselect, Boeing, Douglas and Lockheed were given additional study contracts for the airframe, along with General Electric and Pratt and Whitney for the engines. All three of the designs shared a number of features. In particular, all three placed the cockpit well above the cargo area so that in a crash the cargo would not crush the crew as it moved forward. The Boeing and Douglas designs used a "pod" on the top of the fuselage containing the cockpit, while the Lockheed design extended the cockpit line the length of the fuselage, giving it an egg-shaped cross section. All of the designs featured swept wings , T-tails , and front and rear cargo doors allowing simultaneous loading and unloading. In Lockheed's aircraft design and General Electric's engine design were selected for the new transport. On June 30, Lockheed-Georgia Co. In contrast, the Soviet Union chose to transport its shuttles using the high-winged An , which is derived from the An , which is very similar to the C-5 in terms of design and function. During static and fatigue testing, cracks in the wings occurred before completion of testing. To reduce wing loading, load alleviation systems were added to the aircraft. To restore full payload capability and service life, a program to rewing the 76 C-5As began in After design and testing of the new wing design, the C-5As received their new wings from to The C-5B includes all C-5A improvements and numerous additional system modifications to improve reliability and maintainability. In , the Avionics Modernization Program AMP began upgrading the C-5's avionics to include a glass cockpit, navigation equipment, and a new autopilot system. The program will mainly replace the engines with newer, more powerful ones. The C-5 is a large high-wing cargo aircraft with a distinctive high T-tail , 25 degree wing sweep, and four TF39 turbofan engines mounted on pylons beneath the wings. The C-5 is similar in appearance to its smaller predecessor, the C Starlifter. The C-5 has 12 internal wing tanks and is equipped for aerial refueling. It has both nose and aft doors for "drive-through" loading and unloading of cargo. The C-5 features a cargo compartment feet long, The compartment can accommodate up to 36 L master pallets or a mix of palletized cargo and vehicles. The cargo hold of the C-5 is actually a foot longer than the length of the first powered flight by the Wright Brothers ' flyer at Kitty Hawk. The nose and aft doors open the full width and height of the cargo compartment to permit faster and easier loading. Ramps are full width at each end for loading double rows of vehicles. The volume of unusable space in a C-5's tail assembly aft of the ramp is larger than the available cargo space of a Lockheed C Hercules. It has an upper deck seating area for 73 passengers. The passengers face the rear of the aircraft, rather than forward. Its take off and landing distances, at maximum gross weight, are 8, ft 2, m and 4, ft 1, m respectively. Its high flotation landing gear has 28 wheels to share the weight. The "kneeling" landing gear system permits lowering of the parked aircraft so the cargo floor is at truck-bed height to facilitate vehicle loading and unloading. The C-5 requires an average of 16 hours of maintenance for each flight hour based on data. Through the rest of the war, C-5s were used to transport equipment and troops. Equipment included Army tanks, and various aircraft. During the s the C-5As were re-winged to restore full design capability. The C-5 is the largest aircraft to ever operate in the Antarctic. Fourteen C-5As have been retired as of Data from inspection will be used to evaluate structural integrity and estimate remaining fleet lifespan. The remaining 12 will eventually be reclaimed as destructive inspection is performed on the airframes to test for corrosion and fatigue. Sources have cited that the Air Force might be looking to replace some of these aircraft and have expressed interest in a military version of the new Airbus A The C-5A is the original version of the C Due to cracks found in the wings in the mids, the cargo weight was restricted. To restore the plane's full capability, the wing structure was redesigned. A program to install new strengthened wings on 77 C-5As was conducted from to The redesigned wing made use of a new aluminum alloy that didn't exist during the original production. The C-5B is an improved version of the C-5A. It incorporated all modifications and improvements made to the C-5A with improved wings, upgraded TFGE-1C turbofan engines and updated avionics. From to , 50 of the new variant were delivered to the US Air Force. The C-5C is a specially modified variant for transporting large cargo. Two C-5s and were modified to have a larger internal cargo capacity to accommodate large payloads, such as satellites for use by NASA. The major modifications were the removal of the rear passenger compartment floor, splitting the rear cargo door in the middle, and installing a new movable aft bulkhead further to the rear. The C-5 Avionics Modernization Program AMP began in and includes upgrading avionics to Global Air Traffic Management compliance, improving communications, new flat panel displays, improving navigation and safety equipment, and installing a new autopilot system. Another part of the plan is a comprehensive Reliability Enhancement and Re-engining Program RERP , which includes new General Electric CFC2 engines, pylons and auxiliary power units, with upgrades to aircraft skin and frame, landing gear, cockpit and the pressurization system. Two of the three and aircraft may be identified by the distinctive colored nose boom used to acquire test data. Unlike its Soviet Ukrainian counterpart, the civilian- and military-operated Antonov An Ruslan or An Mriya , use of the C-5 is confined entirely to the military and government use. There have been five C-5 Galaxy aircraft lost in crashes along with two class-A losses resulting from ground fire and one loss resulting from damage sustained on the ground. There have been at least two other C-5 crashes that resulted in major airframe damage, but the aircraft were repaired and returned to service. This wiki. This wiki All wikis. Sign In Don't have an account? Start a Wiki. November 20, Air Force News. January 19 , Categories :. Cancel Save. Universal Conquest Wiki. FandomShop Newsletter GalaxyQuest. The C-5 is delivering four fuel trucks to help the fuels management flight of the th Supply Squadron keep up with the increasing demand to fuel more KCR Stratotankers for Operation Allied Force. Air Force photo by Tech. Brad Fallin. Justin D. Thomas Davis. The C-5 Galaxy is one of the largest aircraft in the world. This workhorse is part of a modernization program to extend the life of the aircraft into the 21st century. Air Force illustration. Skip to main content Press Enter. Related Links. Its primary mission is to transport cargo and personnel for the Department of Defense. Currently the U. It can carry oversized cargo over intercontinental ranges and can take off and land on relatively short runways. Both the nose and aft doors open, allowing ground crews to simultaneously load and off-load cargo from both ends, reducing cargo transfer times. The full-width drive-on ramps at each end enable double rows of vehicles to be transported. The maintenance diagnostics system has the ability to record and analyze data from more than 7, test points, reducing maintenance and repair time. The C-5M, with a cargo load of , pounds , kilograms , can fly 2, nautical miles, offload, and fly to a second base nautical miles away from the original destination â€" all without aerial refueling. With aerial refueling, the aircraft's range is limited only by crew endurance. History Lockheed-Georgia Co. The C-5B included more than additional system modifications to improve reliability and maintainability. Based on a study showing 80 percent of the C-5 airframe service life remaining, Air Mobility Command began an aggressive program to modernize the C-5s in The C-5 Avionics Modernization Program included upgrading the avionics to improve communications, as well as upgrading the navigation, surveillance and air traffic management systems to maintain compliance with national and international airspace requirements. It also added new safety equipment and installed a new autopilot system. Another part of the C-5 modernization plan was a comprehensive Reliability Enhancement and Re-engineering Program. The rest of the C-5 fleet entered retirement by September This engine delivers a 22 percent increase in thrust, a 30 percent shorter take-off roll, a 58 percent faster climb rate, and will allow significantly more cargo to be carried over longer distances. This modernization program also made the C-5 fleet quieter Federal Aviation Administration Stage 4 Compliant , enhanced aircraft reliability, maintainability, maintained structural and system integrity, reduced cost of ownership and increased operational capability well into the 21st century. Looking to the future, modernization efforts include incorporating advanced weather radar, mission computing, communication systems and air traffic management to meet FAA mandates and survivability in theater. Crew: Pilot, co-pilot, two flight engineers and three loadmasters Current as of February Popular Fact Sheets. Guion Bluford was the first African American in space? He went on to become one of the mosâ€¦. Many USAi â€¦. Check out some of our SparkTank finalists! A broader scope of spiritual care First Lt. Saleha Jabeen, the U. The HH-6â€¦. Have you voted on the finalists for the Spark Tank? The newest Air Force Podcast recently dropped. Listen to a small snippet of CMSA Wright talk with Staff Sgt. New about resiliency. Our mantra, "Always ready! Need some motivation to get your week started off right? Wright weighs in The U. Air Force Academy gives its cadets some unique opportunities. Ride alon Ride along one of this opportunities. Central Command operations deter adversaries and demonstrate support for allies and partners in the region. Video by Staff Sgt. Daniel Snider. Although the Silver Star is the third-highest military medal, it's not given oft Department of Defense DoD. Tune in as our Air Force musicians along with other military musicians are award Tune in as our Air Force musicians along with other military musicians are awarded the National Medal of Arts. CV Osprey. MQ-1B Predator. Sniper Pod. One of the largest aircraft in the world, the C-5 Galaxy is the primary lift aircraft in the U. The newest C-5M Super Galaxy has the capability to lift two M1 Abrams tanks and can transport nearly a company of troops and gear anywhere in the world with aerial refueling. The C-5 is distinct for having both front and rear cargo ramps, allowing for much faster load and offload operations. The C-5 also has the distinctive high T-tail, degree wing sweep, and four turbofan engines mounted on pylons beneath the wings. Developed in the s to replace the C Cargomaster and to compliment the

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smaller C Starlifter, the C-5 Galaxy experienced a rocky design phase, plagued with wing cracks that delayed deployment of the aircraft until The latest C-5M Super Galaxy is designed with modern avionics and flight instruments and is set to remain in service through The world-renowned U. The wreckage of a plane lost near Hawaii during World War II has been relocated and digitally scanned. During World War II, pigeons played a pivotal role and were outfitted with a vest made of bra material Marines will be able to use the X variable-powered SCO to identify targets at both close and long distances. The U. Air Force is looking for ways to better protect its B-2 Spirit bombers from a future electromagnetic pulse attack. This is the latest step in the Army's decade-long quest to protect its armored vehicle crews without adding extra armor. My Profile News Home Page. Latest Equipment Videos. Thunderbirds Prep for Daytona Flyover. Thunderbirds Perform Flyover at Daytona Latest Equipment News.