Test of

Lockheed C-5M Super Galaxy

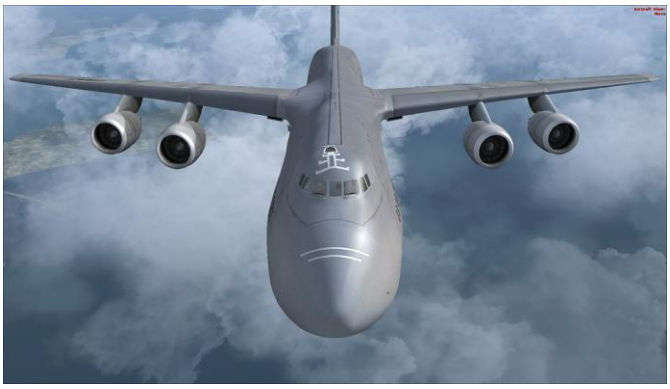
Produced by Area-51 Simulations

The C-5 Galaxy is a four engine, high wing and heavy lift, military transport aircraft built by Lockheed since the late 1960s. It is used as a heavy intercontinental strategic airlift capability, which can carry external and oversize cargo including all air-certifiable cargo.

United States Air Force has since 1969 operated with the C-5 Galaxy and the aircraft has been used for several military operations throughout the world. The Galaxy has furthermore also been used to distribute humanitarian aid and disaster relief and also in support of the US Space Shuttle program run by NASA. The C-5M Super Galaxy is an upgraded version with new and improved engines and modernized avionics designed to extend its service life beyond 2040.

Specs:

- **Produced by** *Lockheed*
- **First flight** *June 30th 1968*
- **Introduction** *June 1970*
- **Role** *Strategic airlifter*
- **Status** *In service*
- **Built** *131*
- **Unit cost** *US$ 168 million (1987)*
- **Primary user** *United States Air Force*



I received this add-on directly from Area-51 Simulations and the download went as usually quick, easy and without any problems. A good connection to the download server provided me with a very short download time and no connection errors.

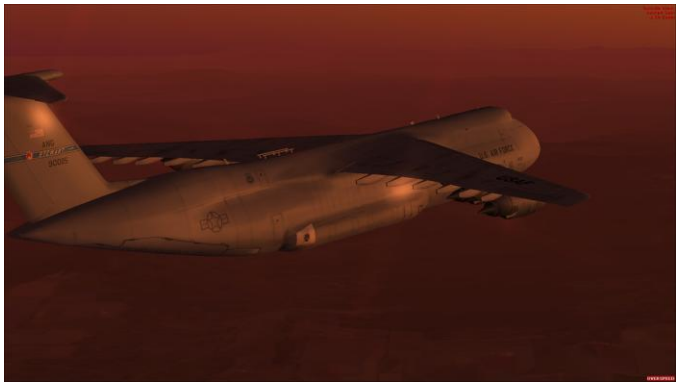
After the download was finished I activated the installation wizard, which by the way is very user friendly, and after only a few seconds the complete add-on was installed. I opened up my FSX folder to verify if everything was installed correctly and discovered that I could not find the aircraft in the FSX Aircrafts folder. This was a bit strange so I searched various destinations on my computer and

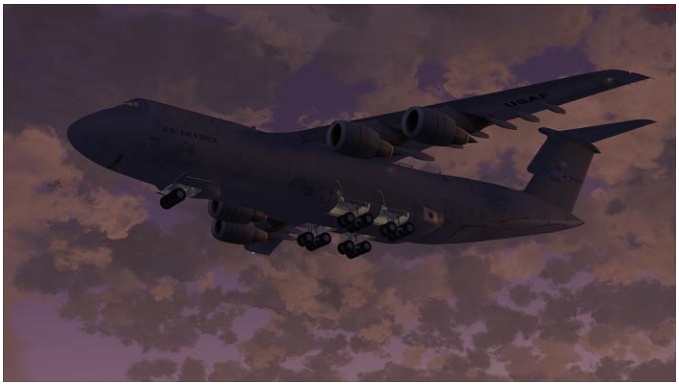
discovered that the aircraft had been installed directly in the main FSX folder and not in the correct subfolder. I found all files and manually moved them to the correct subfolder to get the add-on working in FSX.

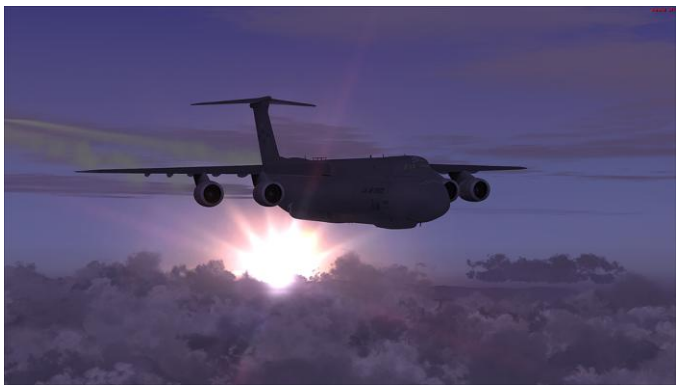
I now opened up FSX to check my virtual hangar to see if I had found and moved all files. I had and now the aircraft was perfectly shown in my virtual hangar together with the other add-ons that I have from Area-51 Simulations.

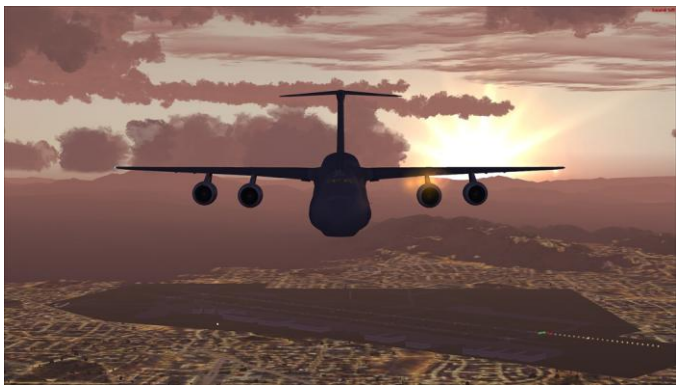
I started my test with a walk-around the outside of the aircraft to check the external model. The model is indeed very well made and looks very realistic according to the various pictures that I found on the internet. The aircraft is covered with good quality textures and has a great and realistic finish – furthermore the aircraft also features lots of details that characterize this specific aircraft as e.g. the wings and the huge T-tail.

There are many animations such as various control surfaces, door, loading ramp, wheels turning, nose wheel steering, suspension, gear up/down and several others, and they are all very nicely created. The lights are placed in accordance with pictures of the real C-5 and the light effect is made very well with a clear and bright shine.





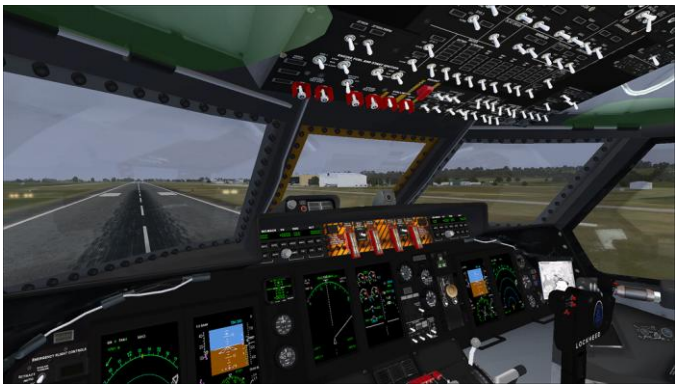


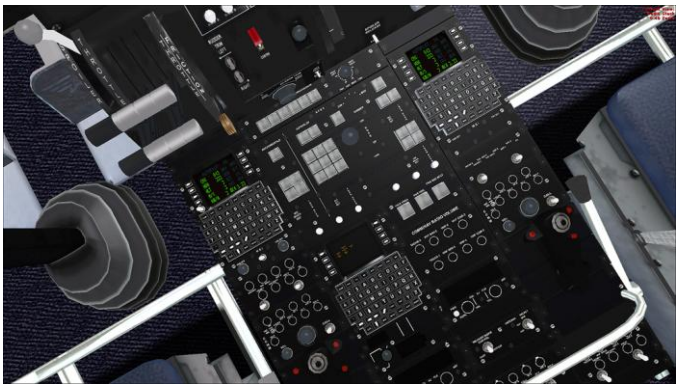


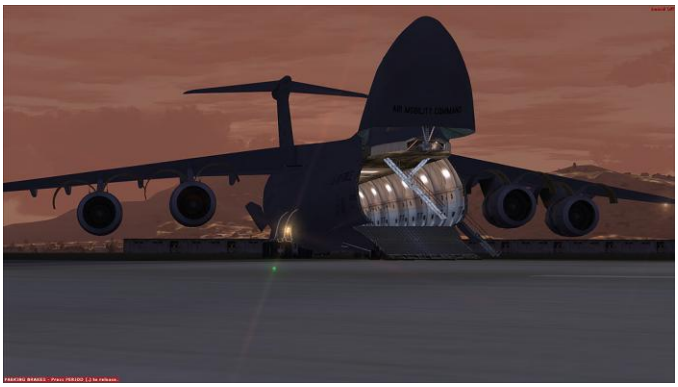
After the outside walk-around I went inside this huge beast of an aircraft and found both a 2D and a virtual cockpit. The 2D cockpit is fair and features a realistic cockpit with various animated buttons and switches together with various systems and in general a good and useable 2D cockpit.

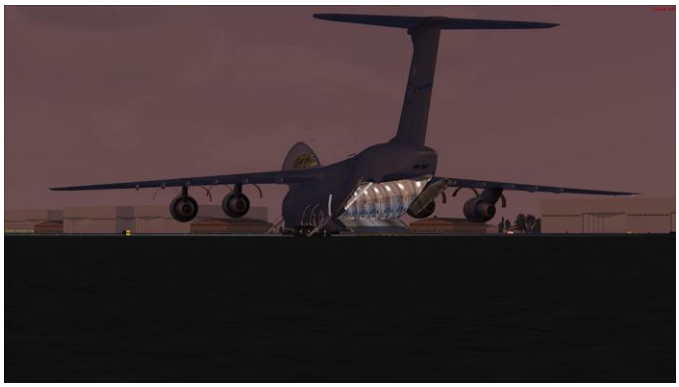
The virtual cockpit is good with fair quality textures, really superb depth, good quality gauges, various animated buttons and switches and a nice and clean finish around all edges. In the virtual cockpit you also have animated controls and various systems and overall the general atmosphere seems quite realistic.

The sound set included in this model is good. You have various standard environmental sounds that add to the realism and the engine sound is very similar to the real Galaxy according to sound clips that I found on the internet of the real Galaxy. I tested the sound set in both stereo and 7.1 surround sound and both settings worked perfectly.









I tested this aircraft on several flights and found it to be a very interesting aircraft. The flight dynamics resembles the default Boeing B747 with a twist which I think is quite realistic. I have of course never tried to fly this aircraft in real life, but when I compare the flight dynamics for this Galaxy to the data files I could find of the real Galaxy, than I would believe it to be quite accurate and realistic.

This aircraft can be used for several missions both in military operations but also as a civilian transport aircraft. I set up 2 different missions for my tests of this Galaxy. First I wanted to get a feeling of the aircraft, so my first mission was a troop and cargo transport from Nellis AFB to Edwards AFB. On this flight I tested the ground handling, in flight characteristics, approach and landing and the autopilot.

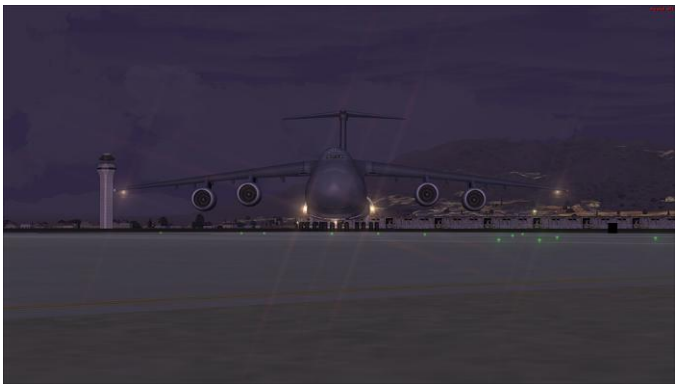
To handle this huge monster aircraft requires patience and skills. This is an aircraft bigger than the Boeing B747 and you have to be very careful when turning the aircraft. The cockpit it placed high above the ground and quite a bit in front of the nose wheel. Furthermore the aircraft is very long and very wide which requires that the pilot has to calculate every turn very precisely to keep the aircraft centered on the taxiway and not slip off and onto the grass. If that were to happen in real life you would probably get stuck there due to the enormous weight of the aircraft.

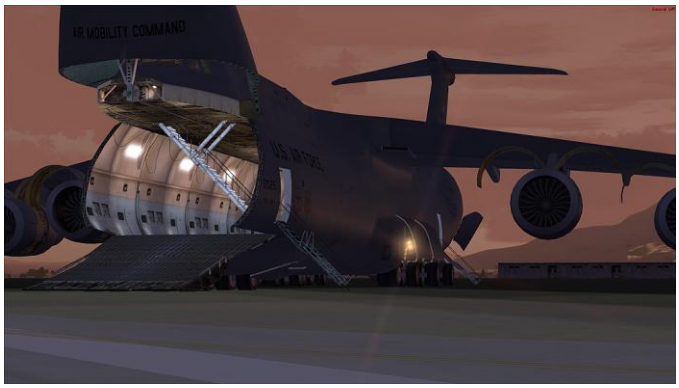
Throttling up and going down the runway is on the other hand very easy. The aircraft is extremely steady and the engines have a good amount of thrust so you have no problems reaching your take-off speed. Rotating the aircraft is like rotating a Boeing B747 and when you pitch up app. 10 degrees you get airborne.

The general flight dynamics are as described earlier, quite similar to the Boeing B747 or other aircrafts this size. The Galaxy is not super fast on the control surfaces, so you do need to plan ahead, but other than that, the flight dynamics are very realistic and the aircraft is flown with ease.

The autopilot requires some time to get used to, but if you are used to fly heavy bird on autopilot (as the B747) than would will very quickly get used to the Galaxy. The autopilot is not completely similar to the B747 but it is still very user friendly and simple.

Flying the approach and landing the Galaxy does require patience from the pilot. You do need to make a slow descent and come in on a long final, but if you do that you will have absolutely no problems landing this huge aircraft. In general I would say that this aircraft can be flown by simmers on a level of intermediate and if you are used to fly heavy airliners, then this aircraft will not be that difficult to learn to fly.



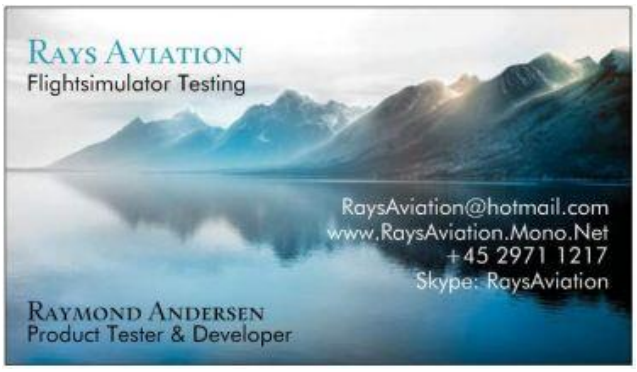


My second test flight was a civilian transport flight from O'Hara Intl, USA to Billund Intl, Denmark. On this test I got to experience the Galaxy on a long flight and at maximum altitude. This flight was just as if I had flown a regular heavy jet airliner but still if was much fun live in-to the role of a Galaxy pilot. The most special thing about the Galaxy I would say is the view from the cockpit. When sitting in the captains seat and looking at the buildings around you when taxiing, you can really see how high your seat is placed according to the ground. This was something that I really had to get used to, and this of course will also be a tricky part when landing because you do need to flare quite high according to your view from the cockpit.

In general this huge aircraft is very well made with lots of details and a great external finish. The textures used are good quality both for the external model but also for the virtual cockpit. The model and virtual cockpit features various animation that are all very nicely made and the light effect is also good quality. The sound set included fit the model and overall the Galaxy is very realistic also when looking at the flight dynamics.

I rate this add-on aircraft 3½/5-stars and thank Area-51 Simulations for this very special huge beast. It was really a pleasure to test and review the Galaxy because there are not many payware versions of this specific aircraft.

Rays Aviation



Variants

C-5A

The original version from 1969 to 1973

C-5B

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 TF-39-GE-1C turbofan engines and updated avionics

C-5C

The C-5C is a specially modified variant for transporting large cargo. Two C-5s (68-0213 and 68-0216) 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 official C-5 technical manual refers to the version as C-5A (SCM) *Space Cargo Modification*. Modifications also included adding a second inlet for ground power, which can feed any power-dependent equipment that may form part of the cargo

C-5 AMP and C-5M Super Galaxy

Following a study showing 80% of the C-5 airframe service life remaining, AMC began an aggressive program to modernize all remaining C-5Bs and C-5Cs and many of the C-5As. The C-5 Avionics Modernization Program (AMP) began in 1998 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. The first flight of a C-5 with AMP (85-0004) occurred on 21 December 2002

The Reliability Enhancement and Re-engining Program (RERP) began in 2006. It includes new General Electric F138-GE-100 (CF6-80C2) engines, pylons and auxiliary power units, upgrades to aircraft skin and frame, landing gear, cockpit and pressurization systems. The CF6 engine produces 22% more thrust (for 50,000 lbf/220 kN) from each engine, providing a 30% shorter takeoff, a 38% higher climb rate to initial altitude, an increased cargo load and a longer range. Upgraded C-5s are designated *C-5M Super Galaxy*.