

Test of

## **Rockwell B-1B Lancer**

Produced by Virtavia

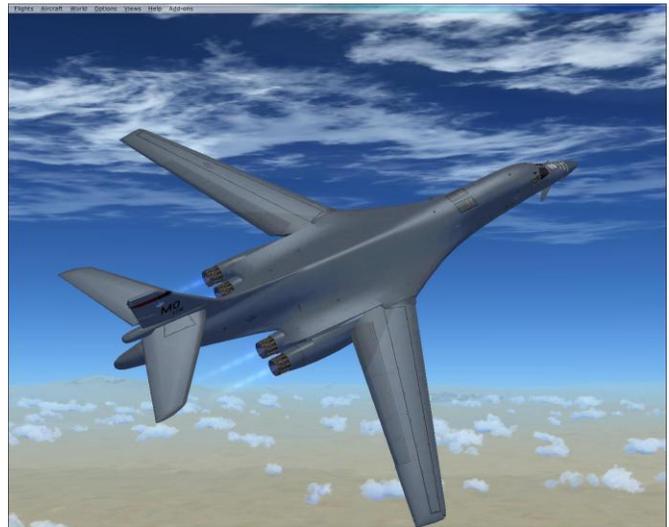
The Rockwell B-1B Lancer is a four-engine strategic military bomber equipped with variable-sweep wing technology and with a maximum speed of Mach 1.25. Original design was first envisioned in the 1960s as a supersonic, high altitude bomber with sufficient range and payload to replace the B-52 Stratofortress.

The original replacement for the B-52 was the supersonic B-70 Valkyrie which had a maximum speed of Mach 3 and was able to fly in altitudes similar to the U-2 Spy plane. However when the Soviet Union developed the ground-to-air missile SAM the US Air Force changed the strategy to the B-1. They developed the B-model for low level penetration and where now able to take advantage of the ground surface as camouflache (terrain masking). By using low level penetration you now avoided the SAM missiles which were of no use at low altitudes.

Rockwell (now Boeing) built in total 100 B-1B's but ended the production due to the enormous unit cost that these aircrafts represent. App. US\$ 280 million (1998 currency)

### Specs:

- **Produced by** *Rockwell*
- **First Flight** *23rd of December 1974*
- **Introduction** *01st of October 1986*
- **Role** *Supersonic Strategic Bomber*
- **Status** *Active Service*
- **Primary User** *US Air Force*
- **Built** *100 aircrafts*
- **Unit cost** *US\$ 283,1 million (1998)*

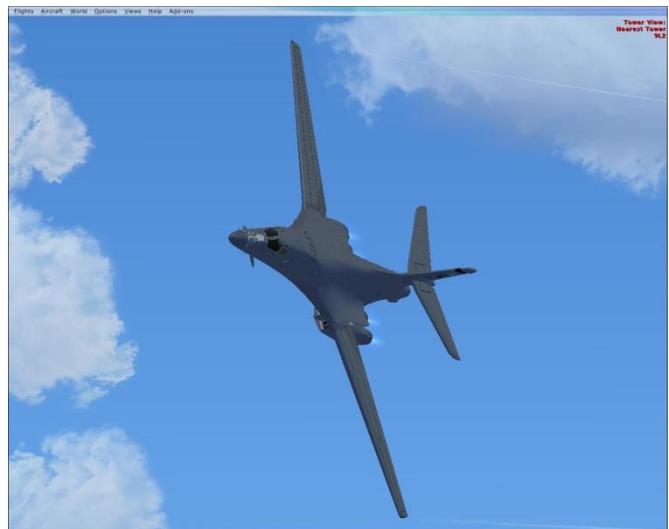


I got this add-on directly from Virtavia – download went without any problems and with a quite good and stable connection. Installation was easy and very user friendly – just follow the install wizard. I

downloaded and installed the complete package in less than 10 minutes. Together with this add-on you also get a 37 pages manual, so if you were to have any questions, you already have a lot of information described. This is indeed a huge plus.

When I opened FSX to find the B-1B I got a pleasant surprise. Virtavia has included a lot of repaints for this model. You have multiple camou versions and also the original gray versions. Lots of repaints which I think is very nice indeed.

The Model is very nicely made, and if you start with an external view-around you will quickly notice how many fine details that Virtavia has modeled. The textures used are of high quality and the aircraft appears really nice. As far as I could see, Virtavia has animated everything possible. You get all the standards as gear, spoilers, control surfaces etc, but you also get the wing sweep, the moving exhaust blades and the latter for boarding the B-1B. The model is equipped with a very cool afterburner effect which really contributes to add more realism to this model and you now realize that you are dealing with a huge beast of an aircraft.



Going inside the B-1B you find a very well made virtual cockpit and you can once again see that Virtavia wants and do get, lots and lots of details and animations into the model. You get a virtual cockpit with a super well made depth and what I really like is the fact that this is an elder aircraft and Virtavia has modeled the virtual cockpit as an elder cockpit instead of a brand new one. Again this is a very good detail. Furthermore you have a lot of buttons that actually has a function and are animated and ready for use. Well made systems, high texture quality and a super nice finish. However I do have a small minus regarding the virtual cockpit – well it is not actually the cockpit, but the view from the cockpit. Normally you would be able to see the left wing from the captain's seat, if the wing was in e.g. landing position, but the wing is not visible. You can see the light on the wingtip but not the wing. I know it is a small detail, but I think it is worth mentioning.

I have previously tested the Alpha Sims B-1B Lancer for FSX, and this model here from Virtavia is an upgraded version of the old B-1B. This new version is years in front of the old version, and if you have the old version, I would defiantly suggest that you change to this new and modern version. The old version was okay and got a review rating of 3.5/5 stars but the added details in the new version is absolutely superb. E.g. you had empty bomb bays in the old version, but here in this version you have bomb bays filled with era-specific ordnances which are indeed a very cool detail. You also have an auto-deployed slipstream baffle plate to complete the updated version.



The sound set used is also very good – Virtavia has equipped this B-1B with a fantastic roar, especially when activating the afterburner. You don't have any doubts that something big and heavy are coming towards you. The sound set is superb both internally and externally. I have compared the sound set with several youtube videos and I can confirm that Virtavia has done an excellent job here. To create a sound set that matches your model is very very important in my opinion. However I do miss some sound effect when taxiing and going down the runway either at take-off or landing. You do have a quite good touch-down sound effect, but after touch-down the effect sounds stop. What I miss here is the sound of the ground roll, the wheels turning on the concrete, the suspension that is shaking etc. I know this also is just a small detail, but these small effects add to even more realism.



The first test flight was from Edwards AFB (KEDW), California, USA. Here I tested different systems, start-up, taxi, take-off, climb, cruise, decent and landing. You get an incredible superb feeling when starting up this aircraft. The engines that start to roar one by one, and then you apply some thrust to start the taxiing – Yes man – All I now need is a bass shaker underneath my chair, then it would be perfect.

The B-1B is quite easy to handle during taxi. You can turn it like a caterpillar and this even though you have an aircraft with a length of 146 feet and with a weight of app. 326.000 lbs. The aircraft is very stable and calm during taxi, but you do need to remember that when taxiing such a heavy aircraft it will have an impact on the reaction time when applying the brakes. Furthermore the cockpit is located high above the concrete, but this is actually not an issue when taxiing, but more when landing. You do need to flare the aircraft sooner then you normally would flying smaller aircrafts. Also the pilots are located in front on the nose wheel, which means that you need to calculate your turns when taxiing otherwise you will not be able to keep the aircraft on the taxiway. If you are used to fly and taxi with larger jet airliners as Boeing or Airbus I don't think this would be an issue.

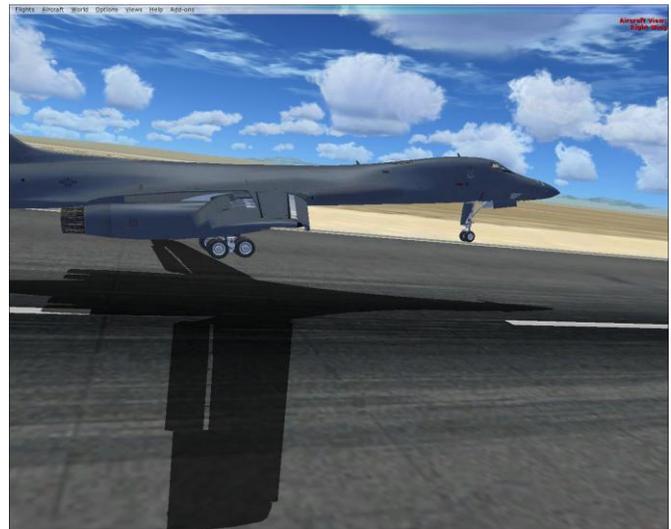
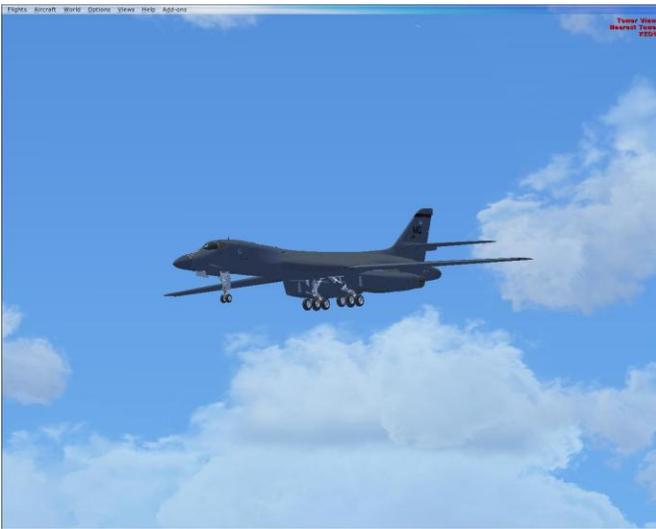
Take-off and climb went perfectly. When spooling the engines to maximum and applying the afterburner, the engines begins to roar very violent which I love, but you only gain speed slowly in the beginning, but that is no problem because the B-1B is so easy and stable to control going down the runway. When I got into the air I started a manual climb to get a feeling of the aircraft. The B-1B reacts very quickly on the control surfaces and you quickly get a feeling that you are one with the aircraft. To fly this bird is actually very easy. It stays where you place it and if you change your pitch or course, the aircraft turns steadily. It reacts quickly on the ailerons and elevator but when turning it turns smoothly.

You can also fly the aircraft on autopilot, but that I think is actually much more challenging than manual flight. This could however be because I'm not that familiar with this autopilot. The autopilot is placed to the left of the captain just below the glare wing, and the first officer has also one place to the right and again just below the glare wing. After using this autopilot a few times, you of cause do get used to it, and it would be an advantage on longer flights, but if you trim the aircraft properly, you don't have much use of the autopilot – the aircraft is really that steady when flying.



After flying for about one hour I started my approach to Edwards AFB. The approach and landing cycle went without any problems, but when I reached the final I felt that this was indeed an aircraft that I wasn't used to fly. Again you need to remember the size of this bird – you cannot just make a Cessna landing and throwing the aircraft down on the runway – No – with a weight this big you need to set it down smoothly otherwise you could end up with damaged gears or what could be even worse.

To land this B-1B was a challenge and I have to say I was really concentrated the first couple of times that I tried that. If you are a newbie within flightsimming I would not recommend to start with this aircraft. I have myself flown the B747 a lot (virtually) and are very familiar with it, and still I find it challenging to make a proper landing with this B-1B. This I do find to be very positive.



My second test flight was from Nellis AFB (KLSV), Nevada, USA. Here I wanted to test take-off and landings in different weather conditions and with wind coming from various direction and with different wind speeds. To spice it all up I also tested both morning, day, dusk and night flight.

I think I flew for more than two hours just making take-off and landings. I probably made 12-15 where some was just touch and go's. This was indeed a very good exercise and it helped me getting familiar with the B-1B. What I discovered was that no matter which settings I chose, I found the aircraft easy to fly. The wind and rain does not have a huge impact on the B-1B and it just flies perfectly stable. Of course the setting with thunderstorm and cross wind with gusts of severe was a bigger challenge than clear weather and no wind, but when you have landed 7-8 times without issues, then a little thunderstorm should not be a big problem anymore.

The third test flight became a mission instead. A low level penetration as the B-1B is built to do. To do this I had to go all the way down to the treetops to feel the ground and to gain the terrain masking. I started out from Karup AFB (EKKA), Denmark, with a take-off to the east 270 degrees. After take-off I climbed to my cruise level of 40.000' and continued flying out over the North Sea. When I reached the cruise altitude I turned 120 degrees to the right and set my course towards Skagen. I wanted to

attack the small airstrip on the island of Anholt, but I wanted to come in from Skagen side instead of just going directly to Anholt from Karup. When I reached Skagen I made a aggressive decent down to +60' MSL and with an indicated airspeed (IAS) of Mach 0.91 (app. 700 mph). I sat the course directly at Anholt and the route was just next to the island of Læsø. A few seconds later I could see Anholt in the horizon and again just a few seconds later I flew over the airstrip with full throttle with a radio altitude of not more the 100' – WOW – cool, this was indeed a superb adrenalin kick. I sat the throttle to idle and climbed to 15.000' with a new course directly back to Karup. This mission was flown with settings of fair weather, wind calm and the time of day and season was an early summer morning.



After testing this magnificent aircraft I can only say that I am completely satisfied with it. It is worth every penny and I will recommend all simmers to try out this new and improved modern version of the legendary Rockwell B-1B Lancer. It does beat the old version multiple times. Even though I found a few minuses , Virtavia has done a superb job on this model and created an perfect add-on.

If you do like military aircrafts then this model is a **“Must Have”** in your virtual hangar. It is indeed a sure winner and is now placed for good in my own virtual hangar. I rate this B-1B with 4.5/5 stars and thank Virtavia for creating this very beautiful and superb add-on.

As a future project I would very much like to see a payware version / quality of the B-2 Spirit, however there is just a little problem with that which is that no one, except for a few people, has seen the real virtual cockpit, and therefore it will be a challenge to model it. But it could be cool to have both aircrafts in my virtual hangar – This was just an idea.



**Rays Aviation**



## Variants

**B-1A** was the original B-1 design with variable-sweep wings and a maximum speed of Mach 2.2 – 4 prototypes were built but the aircraft was never put into actual production.

**B-1B** is the B-1 design specified to reduce the aircrafts radar signature and optimized for low level penetration with a maximum speed of Mach 1.25. There were built in total 100 aircrafts, but due to the huge unit cost of more than US\$ 280 million, the production was cancelled.

**B-1R** is the new version, but it has not yet started production. This is an updated version of the B-1B with more advanced radar systems, air-to-air missiles and new Pratt & Whitney F119 engines. This version will have a maximum speed of Mach 2.2 but with a minimized range of about 20%



## Specifications B-1B

### In general:

Crew	4
Load ability	56.700kg (125,000lb) (internal & external combined)
Length	44,5m (146 ft)
Width	Extended = 41,8m (137 ft) Swept = 24,1m (79 ft)
Height	10,4m (34 ft)
Wing Square	181,2m <sup>2</sup> (1,950 ft <sup>2</sup> )
Airfoil	NA69-190-2
Empty Weight	87,100kg (192,000lb)
Max take-off Weight	216,400 kg (326,000lb)
Engines	4 x General Electric F101-GE-102 forstærkede turbofans Dry thrust 69.9kN hver (14,600 lbf) Incl efterbrænder 136,92 kN hver (30,780 lbf)
Fuel Capacity	10.000 US gal (38.000L) for 1-3 interne våben bays hver

### Performance:

Max Speed	High alt= M1,25 (721 kts / 830 mph / 1340 kmh at 50000ft (15000m) Low alt= M0,92 (700 mph / 1130 kmh at 200 ft (60m)
Range	11998km (6478nmi eller 7456 mi)
Combat Range	5543km (2993nmi eller 3445 mi)

Service Ceiling                      18000m (60 000 ft)

Wing Load                            816 kg/m<sup>2</sup> (167 lb/ft<sup>2</sup>)

### Weapons:

6 external hard points each with a load capability of 22700kg (50 000 lb) plus 3 internal cargo slots each with a load capability of 34000kg (75 000 lb)

- 84× Mk-82 Air inflatable retarder (AIR) general purpose (GP) bombs
- 81× Mk-82 low drag general purpose (LDGP) bombs
- 84× Mk-62 Quick strike sea mines
- 24× Mk-65 naval mines
- 30× CBU-87/89/CBU-97 Cluster Bomb Units (CBU)
- 30× CBU-103/104/105 Wind Corrected Munitions Dispenser (WCMD) CBUs
- 24× GBU-31 JDAM GPS guided bombs (Mk-84 GP or BLU-109 warhead)
- 15× GBU-38 JDAM GPS guided bombs (Mk-82 GP warhead)
- 48× GBU-38 JDAM (using rotary launcher mounted multiple ejector racks)
- 48× GBU-54 LaserJDAM (using rotary launcher mounted multiple ejector racks)
- 24× Mk-84 general purpose bombs
- 12× AGM-154 Joint Standoff Weapon (JSOW)
- 96× or 144× GBU-39 Small Diameter Bomb GPS guided bombs (not fielded on B-1 yet)
- 24× AGM-158 Joint Air to Surface Standoff Munitions (JASSM)
- 24× B61 nuclear variable-yield gravity bombs (no longer carried)
- 24× B83 nuclear gravity bombs (no longer carried)

### Avionics

- 1×AN/APQ-164 forward-looking offensive passive phased-array radar
- 1× AN/ALQ-161 radar warning and defensive jamming equipment
- 1× AN/ASQ-184 defensive management system
- 1× Lockheed Martin Sniper XR targeting pod (optional)