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# MelJet

Boeing 747-400

Version 3.0

Release 7

October 2002

for Flight Simulator 2002

User's Guide

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## Introduction

Hi there! Thanks for downloading this aircraft. This is the latest version of the MelJet Boeing 747-400 model for Microsoft Flight Simulator 2002 and has been the product of ten months of work. It is totally scratch rebuilt in Discreet GMax and not based on any previous versions.

The Boeing 747 first took to the skies in 1969 and since then, has revolutionized air travel for many decades. In 1989, the Boeing Company of Seattle, WA, introduced the Boeing 747-400. Externally, this aircraft looked almost the same as the ones before. However, under her looks was a brand new aircraft. This aircraft was able to fly higher, further and faster. With over 1200 747s in service, it still is widely used by many airlines around the world up till today.

Just over two years ago, on August 9, 2000, one of the world's first, if not the world's first next generation FS747s for Flight Simulator were unleashed, featuring all the latest in eyecandy and FS Technology.

Version III (or 3.0) marks the seventh release of this aircraft.

## Installation

Installing this aircraft is pretty simple. Just move (copy & paste, or cut & paste) the folder [Boeing 747-400 MJ (NAME OF AIRCRAFT) VIII] to your FS2002 aircraft folder. That's it! Now fire up FS2002, select the aircraft from the aircraft menu under "MelJet" and start flying this bird!

### **Important Note:**

The model as provided is aliased to read the panel and sounds off the default Boeing 747-400 and Boeing 737 respectively. If you have deleted or renamed the default FS 747 or 737, the Mel-Jet aircraft might not display on the FS2002 aircraft menu.

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## Version History

- October 23, 2002

Version 3.0

Release 7

A completely scratch-rebuilt model. Version 3.0 is not based at all on any previous versions and is a completely brand new aircraft. It is scratch rebuilt in Discreet's GMax and is a product of ten months of work. Main things to note are reflective textures; animated flexing wings; animated control surfaces; dynamic wing views; nosegear and maingear steering; animated passenger and cargo doors; animated tilting and compressing gear struts; compound slats; and a lot more. The flight dynamics are also new.

With this release, the Boeing 747-400ER is also modeled.

- August 23, 2001

Version 2.0

Release 6

This is undoubtedly the most comprehensive update to the Project 747 Boeing 747-400 model. Many new features have been added and existing ones have been redesigned. The list below documents the main improvements.

- Modified cockpit and nose section
- Modified gear animations
- Completely redesigned engines
- Visually enhanced nosegear
- Totally redesigned flaps and 95% realistic flap animation sequence
- Operational landing lights
- Windshield Wipers added
- 3D pitot tubes
- FS2000 style landing light beams
- Redesigned fully 3D engine fans
- 3D slat bays
- 3D flap/spoiler bays
- 3D gear bays
- Semi-photorealistic textures
- Bleedthroughs (disappearing polygons) are now fixed
- Detailed APU section
- Generally more accurate body shape
- Detailed undercarriage section
- Tilting AND compressed/uncompressed gear struts
- Unsynchronized beacons and strobes
- Updated night lighting
- Modified winglets
- Totally new engine pylons - completely remodeled based on actual photos
- Advanced opening thrust reverser cascades
- Spoilerons added to list of animated control surfaces

A more comprehensive list can be found at [www.meljet.com](http://www.meljet.com)

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- October 25, 2000  
Version 1.8B  
Release 5

This version adds larger, remodelled Pratt & Whitney PW 4056 engines with "curved" air intake inlets.

- October 17, 2000  
Version 1.8  
Release 4

This is the biggest enhancement since the initial release of the 747-400. Several elements have been added to enhance realism in this release. Textured slats and textured flaps have been added. A 3D nosegear bay has also been added. 3D maingear bays were a little problem and that should be included in the next release. The three sets of landing gear have been reworked and fully textured too. A new gear door has also been added for the outboard landing gear. All gear doors are now fully textured. The "gray dot" on the nose has also been fixed. Finally, the flight dynamics have been upgraded from Johan Dees' version 1.08 to 1.11a.

- August 12, 2000  
Version 1.5  
Release 3

Animated flaps have now been added. These flaps slide outwards like the real 747-400, not rotate. The aileron, rudder and elevator animations have been updated to look more like the real 747-400.

- August 11, 2000  
Version 1.2  
Release 2

Aircraft has been updated to have less intense force feedback responses.  
The fuselage no longer has the unsightly "lines" between the fuselage sections.  
The spinning engine fans have been updated to reflect the motion of the fans at higher RPMs.

- August 9, 2000  
Version 1.0 Final Release  
Release 1

Aircraft is animated  
All components of the aircraft have been completed.  
Flight dynamics have been upgraded from Johan Dees' v1.06 to v1.07

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## Features

### **Totally scratch rebuilt model - not a rework...**

... of a past version. Modeled using more resources and references than before, this is our most accurate model yet.

### **Fully animated landing gear**

The gear extends and retracts just like the real 747-400. The extension and retraction time is also programmed like the real airplane.

### **Fully animated control surfaces**

Flaps, slats, ailerons, spoilerons, spoilers, elevators, rudders - all are animated.

### **Fully animated engines**

When the engines are spooling up or shutting down, watch the 3D fan blades spin. When the engines are running, watch the motion blur. When landing, watch the reverse thrust cascades open and close smoothly

### **Reflective surfaces**

Almost all surfaces have reflective textures. See the metal shine!

### **Tilting and compressed/uncompressed landing gear**

As you smoothly rotate at Vr speed, see the nosegear smoothly "extend" downwards as the gears become uncompressed. Then, see the four huge main gear trucks smoothly tilt back and "hang" down as the giant leaves the ground.

### **Animated flexing wings**

See the wing and outboard engine smoothly flex upwards! No more popping from position to position.

### **Dynamic Wing views**

Look out the window and see the engines spinning, reverse thrusters deploying, slats and flaps extending, all fully animated!

### **Specific engine types modeled**

The three engines - Pratt & Whitney 4056/4062, Rolls Royce RB211-524H, and General Electric CF6-80C2 - are all modeled, complete with their specific type of engine strut. What's more, each engine variant has been modeled with its specific type of fan blade. The detail goes right down to the number of blades each type of engine has and the direction they spin.

### **Translucent cockpit windows**

See the "office" and the pilots inside.

### **3D pitot tubes and windshield wipers**

Modeled after the real 747.

### **3D slat, flap and spoiler bays.**

When the flaps are extended and the spoilers are up, see right through the wing.

### **3D gear bays**

See the gears retract into their housing.

### **Much more stuff...**

You just have to see it for yourself!

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## Backward Compatibility

Textures from previous versions are not compatible with this version. The new textures are a lot higher in resolution. More about this is covered in the section titled "Aircraft Repaints".

Version III is made solely for Flight Simulator 2002. It utilizes the new MDL structure and is thus not compatible with Flight Simulator 2000 or previous versions.

## Aircraft Repaints

Are you interested in repainting the MelJet Version III Boeing 747-400 model? Yes? Then you may do so provided you adhere to the following conditions...

- Your repaints, should you choose to distribute them, must be freeware and no charge should be placed on them.
- You clearly indicate that the original model was designed by MelJet (Melvin Rafi), and place the URL "www.meljet.com" somewhere in your documentation.

### **I agree to these terms - now where do I start?**

Well, start by downloading the Paint Kits if you haven't already done so. Open the PSD files in your favorite graphics program (such as JASC Paint Shop Pro) and start painting!

Once you're done with the PSDs, open the PSDs in "ImageTool" (found under C:\...\Flight Simulator 2002\gmax\Flightsim\gamepacks\FlightSim\imagetool.exe), convert the textures to the DXT3 format, click on "Save as", and save it over the respective BMP textures in aircraft's texture folder. That's it. Note that just painting the PSDs alone is not enough. You must convert the textures to DXT3 bitmaps.

Why can't you bypass the PSDs and just paint the BMPs directly? You could. But I've chosen to keep the master textures in PSD format to make the alpha channel modifications easy. In case you didn't know, the alpha channels in the files that end with \_T control the reflectivity of the aircraft in FS2002.

Please do not contact me if you don't know how to do repaints. The above is just a rough guideline. Search the web or the various flightsim sites on the net for tutorials on how to repaint FS2002 aircraft.

### **I'm an advanced painter...**

Then you'll be glad to know that the VIII comes fully equipped with very high resolution textures so you can now cram in as much detail as you possibly can.

I hope you'll find stuff like separate textures for the nosegear and maingear, individual textures for each of the four engines, super hi-res textures for the tail, and much more useful.

Most textures are \_T BMPs and can have reflectivity. The PSDs themselves already have the alpha channels stored in them. So you don't need to bother about alpha channels if you're happy with the preset level of reflectivity. But I have included the original alpha channels for both the \_T and \_L files in case you need them anyway.

Do let me know your opinions on the new system of textures on the VIII.

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## Credits

First of all, I would like to thank the makers of Discreet GMax. Without this modeling program, this aircraft would never have been constructed to what it is at present.

All reports of bugs and suggestions for improvements from you guys out there have also been greatly appreciated.

Not to forget, many thanks go out to the Flight Simulator community for their many contributions to our wonderful hobby.

## Others

This aircraft was designed by Melvin Rafi and is **freeware**. It may not be uploaded to any web-server or BBS without the prior permission of the author. Furthermore, it may not be uploaded to any site or BBS that charges a fee. The author will decline permission for such distribution of the file. **Free distribution of this aircraft is encouraged but only permitted after consent from MelJet.** This file may not be transferred in any form and no charge must be applied. If you have paid for this file, you have been ripped off. You may repaint the MelJet VIII Boeing 747-400 model in accordance with the terms laid out in the section titled "Aircraft Repaints". The files included in this package should do no harm to your computer. However, if any harm or damage is done whatsoever, the author(s) assumes no responsibility whatsoever. IN SHORT, USE THESE FILES ENTIRELY AT YOUR OWN RISK.

Finally, please enjoy yourself while flying this bird. It was made by a flightsimmer, for flightsimmers. If you have any questions or comments, feel free to email me at [melvin@meljet.com](mailto:melvin@meljet.com).

Alternatively, you can visit the MelJet website at <http://www.meljet.com>. The MelJet forum is also accessible from the website.

Well, that's it! Enjoy your flight!

Best regards  
MELVIN RAFI

October 2002

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