
MelJet

Boeing 777 Version 2.0

Release 2

July 2003

for Flight Simulator 2002

Boeing 777-200
Boeing 777-200ER
Boeing 777-300
Boeing 777-300ER
Boeing 777-200LR

User's Guide

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Please read this User's Guide carefully before using the aircraft.

If you have used Version 1 of this model before, please be sure to read the short summary in the "Version History" to find out what's new in V2.

Introduction

Hi there! Thanks for downloading this aircraft. This rendition of the Boeing 777 is the latest in the line of high quality MelJet aircraft for Microsoft Flight Simulator 2002 and has been the cumulative product of nine months of work, since it's first release. It is totally scratch built in Discreet GMax.

The Boeing 777 first took to the skies in the mid 1990s. Designed to fill the gap between the 767 and 747, this twinjet became a huge success soon after its launch. Today, the 777 family includes the 777-200, -200ER, -300, and -300ER. Plans for future members of the 777 family also include the 777-200LR.

The rendition of this 777 marks MelJet's third attempt at modeling a 777, the first being an FSDS version, and the second being an FSDS/GMax conversion, both of which were unreleased.

Version 2.0 marks the second release of this aircraft.

Opening Cockpit Windows

Opening Engine Cases

Ram Air Turbine

Metal Glare Effects

Reflective Surfaces

Flexing Wings

Dynamic Wingviews

Animated Hydraulic Pistons

Folding Wings

Extendable footrests

Animated Flexible Gear Hoses

Stowable tray tables

Virtual Cabin

Reclining Seats

Incredible Detail

Stowable PTVs

Installation & Operation

Installation:

Installing this aircraft is pretty simple. Follow these simple steps...

Step 1

Run the **setup.exe** file included in the same folder as this document. Remember to rename, backup, or delete Version 1 first as previous versions will be overwritten.

Step 2

Verify the installation directory. By default, the installation directory is set to...

C:\Program Files\Microsoft Games\Flight Simulator 2002

If this is not your **FS2002 root directory**, modify the installation path so that the files are installed into your **FS2002 root directory** - this is extremely important.

Step 3

When you have verified the installation path, just click on "**UNZIP**".

That's it! Now fire up FS2002, select the aircraft from the aircraft menu under "MelJet" and start flying this bird!

Operation:

Please read the following carefully to ensure proper usage of the aircraft.

Function	FS2002 Internal Tag	Key assignment
Maintenance Mode	Passenger Doors	Shift + E
Cruise Mode	Cargo Doors	Shift + E, then 2
Passenger/Cargo Doors	Tailhook	Shift + T
Folding Wings	Folding Wings	Shift + F

Please note that your installation of FS2002 may not already have the above mentioned key assignments programmed. If so, please go to **Options -> Controls -> Assignments** in FS2002 and map the functions. Also note that the above key assignments may be programmed to any key of your choice.

Getting around the virtual cabin...

To get to the virtual cabin, first go to virtual cockpit view. If you haven't already done so, you will then need to download "**Active Camera**" from www.anticyclone.be, a free program that allows you to "walk around" the cabin and the outside of the aircraft. Also note that if you are using Active Camera 2002, you can use the included view presets (*.acv) file, which has 9 preset locations in the cabin itself. The package also comes with an acv file for Active Camera 2004. Thanks to the Active Camera team for creating this essential program.

Important Note:

- The model as provided is aliased to read the panel and sounds off the default Boeing 777-300 and Boeing 737 respectively. If you have deleted or renamed the default FS 777 or 737, the MelJet aircraft might not display on the FS2002 aircraft menu.

Version History

- July 18, 2003 Version 2.0 Release 2

Version 2 builds on the first version and adds several updates to the model. The most significant update is the addition of "Cruise Mode", which features animated reclining seats, animated stowable PTVs and tray tables, and animated footrests. Also, the Virtual Cabin has been extended with the addition of First and Economy Classes. "Maintenance Mode" has also been expanded, with the addition of opening doors. Minor additions in the way of detail have also been made to the model. The bug in the flight dynamics, causing the MTOW to be exceeded, has also been corrected. Version 2 also features the 777-300ER and 777-200LR, making the MelJet rendition of the Boeing 777 family complete.

- January 4, 2003 Version 1.0 Release 1

A completely scratch-built model. This model is designed Discreet's GMax and is a product of three months of work. This new release features many brand new features. Noteworthy features include a brand new "maintenance mode" featuring opening engine cases, deployable Ram Air Turbine, opening gear bay doors on ground, opening Captain's window; virtual cabin (Business Class); Folding Wings (yes, no airline has ordered them yet but then again, this *is* a *simulator*); Flexing Wings; dynamic wingviews; animated reversers with animated fan air blocker doors; see through engines; animated landing gear with fully modeled struts and hydraulic pistons, also featuring animated flexible gear hoses; animated flaps, slats, ailerons, elevators, and spoilers with animated hydraulic pistons; advanced logic nosegear and maingear steering; animated primary and secondary rudder; dynamic shine and reflective surfaces; 3D APU; 3D gear, flap, slat bays; seamless wing-root fairing; extremely detailed all round.

Features

Totally scratch built model

Built from the ground up in Discreet GMax, taking full advantage of all that FS2002 has to offer!

Maintenance Mode

For the first time ever, open the engines and look inside, slide open the Captain's window, deploy the Ram Air Turbines, open the gear bay doors while on the ground and pop in!

Cruise Mode

This revolutionary feature allows you to **recline your seat transforming it to a flat bed, extend your footrest and stow your PTV or your tray table**, all smoothly animated!

Virtual Cabin

Bored? Then get up and take a walk around the cabin! First, Business, or Economy, it's your choice.

Metal glare effects

Otherwise referred to as "dynamic shine" or "sun reflecting off the metal". See the Sun reflecting off the fuselage!

Reflective surfaces

Almost all surfaces have reflective textures. See the metal!

Animated Folding Wings

Although this option has never been purchased by any airline, this feature is modeled in the model. See the outboard section of the wings smoothly fold upwards!

Animated Flexing Wings

See the wing, engine and associated control surfaces smoothly flex upwards! No more popping from position to position.

Animated Hydraulic Pistons

As you extend the spoilers, watch the hydraulic pistons push the spoilers up. As the main gear retracts, watch the pistons in action!

Steerable Nose and Main Gear

When the aircraft taxis on the ground, watch the nose gear steer. Just like the real 777, the aft axle of the main gear also starts steering once the nose gear steers above a certain degree.

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

Animated reversers with fan air blocker doors

See the reversers slide open, and now, watch the fan air blocker doors close to deflect the air forwards. Views from the back of the engine recommended!

Tilting and compressed/uncompressed landing gear

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

Dynamic Wing views

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

Animated landing gear

Smooth extension and retraction of landing gear. Complex struts and hydraulic pistons modeled as well.

Incredible Detail! **Gear hoses are all modeled and animated!** See the flexible gear hoses move about as the gear extends or retracts.

Animated control surfaces

See the control surfaces move!

Incredible Detail! Watch the hydraulic pistons push the spoilers, or the flap track mechanisms, the secondary rudder in addition to the primary rudder, and much more.

Specific engine types modeled

The three engines - Pratt & Whitney 4000 (112-inch fan) series, Rolls Royce Trent 800, and General Electric GE90 - 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.

3D Exterior Cockpit

See the "office" and the pilots inside. Note the 3D window struts!

3D pitot tubes, windshield wipers, slat, flap, spoiler, and gear bays

Modeled after the real 777. When the flaps are extended and the spoilers are up, see right through the wing. See the gears retract into their housing.

Accurate Flight Dynamics

The flight dynamics behave very realistically. Smooth turns, accurate altitude, airspeed, VS, ILS capture; accurate fuel consumption and range; individual flight dynamics for each variant.

Dimensioned to accuracy

Major and most minor dimensions are modeled to real dimensions, including but not limited to gear and wheel sizes, engine ground clearances, fan diameters, fuselage width, wing span, wing-tip height, horizontal and vertical stabilizer dimensions, and a lot more!

Much more stuff...

You just have to see it for yourself!

Troubleshooting

If you have problems using the MelJet 777 model, please read the following section as the answer to your problem might lie here.

I can load the aircraft in FS2002 but the textures don't show!

Please check to see if you have the latest drivers for your graphic card. Also, ensure that your system has enough free resources to display the MelJet aircraft. Given that the MJ 777 model is very complex, it will require a moderate to powerful system to properly run the aircraft in FS2002.

The textures are blurry when running your aircraft. What should I do?

Try zooming all the way in and then out again. That usually fixes the problem.

Compatibility with past and future FS versions

The 777 model is made for Flight Simulator 2002. Early reports seem to suggest that it works with Flight Simulator 2004, and this will be confirmed once FS2004 is released and I get to test the model in the new sim. It is not compatible with Flight Simulator 2000 or previous versions.

Aircraft Repaints

Are you interested in repainting the MelJet Boeing 777 model? Yes? Then you may do so without writing for permission **provided that** 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.

If you **do not** adhere to the above and still want to repaint/distribute, you must request for permission via email.

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 model 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 two 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 texture system of the model.

Important Information for Painters

There have been updates to some existing Version 1 textures. Here I will try to list them as accurately as possible.

- Most brand new textures are those that map the interior of the aircraft. These textures are very comprehensive and are of very high resolution.
- Textures that have been modified from Version 1 include...

"777Wing1_T.bmp"
"Powerplant-PW4090- Interior_T.bmp"
"Powerplant-RR Trent800- Interior_T.bmp"
"Powerplant-GE90- Interior_T.bmp"

The modifications to these textures simply involve additions to the textures already in the bitmaps.

- Textures that have been replaced with new ones include...

"Powerplant-RR Trent800-FanShaft.bmp"
"Powerplant-RR Trent800-FanShaftMotion.bmp"

Technical Information and Statistics

This sections lists technical information on several aspects of the family of MeJJet 777 models.

Variant	Polygon Count	MDL size
777-200 PW	86,546	3,724,740
777-200 RR	87,270	3,740,608
777-200 GE	87,514	3,715,664
777-300 PW	87,174	3,759,980
777-300 RR	87,898	3,776,216
777-300 GE	88,142	3,751,112
777-300ER	94,725	3,947,902
777-200LR	94,302	3,917,866

Interesting facts...

- If you wanted to print out the code in the source .x files, each variant would require, on average, 10000 Letter sized pages.
- The source .x file for each variant contains on average 625000 lines of code, totaling 5,000,000 lines for all the eight variants.
- It takes about 15 minutes to compile each MDL file.

Credits

Firstly, I would like to give thanks to the Good Lord for making all of this possible. Without His guidance and help through those difficult times I would never have been able to overcome each and every one of the numerous and seemingly impossible obstacles I faced while modeling this plane.

I would also like to thank the makers of Discreet GMax. Without this modeling program, this aircraft could not have been constructed to what it is at present.

Thanks also to the Flight Simulator team for keeping FS alive for over 20 years.

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 V2.0 Boeing 777 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.

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

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