TENKUU DEVELOPERS STUDIO

BOEING 787 USER MANUAL

For use with Microsoft Flight Simulator 2004 and Flight Simulator X

This aircraft and manual are for entertainment purposes only.
Not for real-world training.

Thank you for downloading the Tenkuu Developers Studio (TDS) Boeing 787. This aircraft is available as freeware, the authors of this aircraft do this as a hobby and for the Flight Simulator Community. If you paid anything for this aircraft, you got ripped off!

This manual is to be used as a guide to installing, customizing, how to use the features included with this aircraft, and tips for flying. This is not a pilots operating handbook, and does not include any tools used for flight planning.

This aircraft was tested on various computers running various add ons such as scenery, weather, replacement textures, etc. It was found to cause no damage on any computer. Tenkuu Developers Studio is not liable or responsible for any problems caused by downloading, installing, or using this package. Under no circumstances may this package be edited, recompiled, and redistributed, with the exception of the necessary edits for repaints.

Credits:

Hiroshi Igami	…….	Model, XML coding, Utility Panel, Generic Textures
Maurino Brown	…….	Flight Dynamics
Yosuke Ube	…….	Master Textures
Christopher Allen Luiz Antonio Perina	…….	Test Pilots
Nicholas Wilkinson	…….	Flight Dynamics, Test Pilot, Manual
Warren Daniel	…….	Effects

We also thank all of those who helped us with references, documents, and resources that we have not named.

For support issues, comments, or concerns, or if you just want to join an aviation discussion, visit our Facebook Group: https://www.facebook.com/groups/266322650175225/

Installation:

1) Extract the contents of the .zip file to the Flight Simulator 9/aircraft folder.
   (FSX users: Extract contents to Flight Simulator X/SimObjects/airplanes folder.)
2) Move the contents of the /effects/ folder to the Flight Simulator 9/effects folder.
   (FSX users: Move the .fx files to Flight Simulator X/effects folder.)

Common Problems:

Panel problems, animation, exterior model issues, gear issues (all visual, the flight model is not affected)

The TDS787 uses several .xml gauges used to trigger animations and exterior features. These are included and already installed, ready for use, in the panel folder. The panel included is an edited version of the default Boeing 777 panel. If you edit or replace the panel.cfg that is included in this package then your aircraft will not work properly. If you chose to use a different panel, you must edit the panel.cfg and include the following changes:

Under the [Window Titles], add:

WindowXX=Debug
WindowXX=Util

You must change “XX” to a two digit number in sequence, IE, 06, 07.

You must then add the individual gauges by including the following lines below the last [WindowXX] entry:

[WindowXX]
VISIBLE=0
position=2
size_mm=350,200
child_3d=0
background_color=0,0,0
ident=DEBUG
gauge00=Tds788!TdsDEBUG, 0, 0
gauge01=Tds788!TdsDEBUG2, 0, 100
gauge02=Tds788!TdsDEBUG3, 0, 150

[WindowXX]
VISIBLE=0

position=2
size_mm=298,104
child_3d=0
background_color=0,0,0
ident=Utility
gauge00=Tds_Util!Tds_Init, 0, 0
gauge01=Tds_Util!Tds_Timer, 0, 0
gauge02=Tds_util!Tds_Util, 0, 0

Don't forget to change "XX" to the same respective numbers that you changed in the previous step. Last, you need to add some lines to the virtual cockpit, defined by [VCockpit##]. Like the previous two steps, these will go at the bottom of that section.

[VCockpitXX]

size_mm=512,512
pixel_size=512,512
texture=$Tds_ACU
background_color=0,0,0

gauge00=Tds788!Tds_AdvInit, 140,80,140,80
gauge01=Tds788!Tdsgearheight, 140,80,140,80
gauge02=Tds788!TdsNosegearsteerling, 140,80,140,80
gauge03=Tds788!Tdsgearretract, 140,80,140,80
gauge04=Tds788!TdsSpoiler, 140,80,140,80
gauge05=Tds788!TdsFlap, 140,80,140,80
gauge06=Tds788!TdsAileron, 140,80,140,80
gauge07=Tds788!TdsRudder_Elev, 140,80,140,80
gauge08=Tds788!TdsEngRev, 140,80,140,80
gauge09=Tds788!TdsWingflex, 140,80,140,80
gauge10=Tds788!TdsAUX, 140,80,140,80
gauge11=Tds788!TdsSEA, 140,80,140,80
gauge12=Tds788!Tdsflasher, 140,80,140,80

[VCockpitXX]

size_mm=512,512
pixel_size=512,512
texture=$EXTANIMBASE
background_color=0,0,0

gauge00=EXT_TEXTURE_ANIM!EXTTEST, 0, 0, 512, 512

Like the previous steps, be sure to rename the “XX” to the next two digit number. These numbers do not have any relation to the previous number changes, they may or may not be the same.

Common Problems (cont’d)

Wings not showing up

Due to the increase in file stealing, TDS has implemented new security to ensure that anyone who uses our aircraft know who the original author is and also showing that it is freeware. If your wings are not visible, then someone has removed certain lines from the aircraft.cfg.

In the aircraft.cfg file, there is a line that says “title=” This line MUST include the following entry:

FREEWARE_COPYRIGHT_TenkuuDevelopersStudio_01JUN2013

If you have multiple textures that use the same model, then you must have multiple [fltsim.#] entries. No title= may be the same, each must have a unique name, so you can add to the line to keep it different from other titles. For example, if you have an All Nippon 787, the title can be

title=Plane0 FREEWARE_COPYRIGHT_TenkuuDevelopersStudio_01JUN2013
OPTANT1110000000_OPTDEC11110 Boeing 787-881 All Nippon Airlines

If you use the same model, and want to also add a Japan Airlines texture, then on the JAL entry, you can have

title=Plane1 FREEWARE_COPYRIGHT_TenkuuDevelopersStudio_01JUN2013
OPTANT1110000000_OPTDEC11110 Boeing 787-889 Japan Airlines

Note that the security code is the exact same, only the Plane#, Aircraft type, and airline has changed.

Antenna Options

Aircraft antennas are customized depending on equipment required by each customer. We have done the best to include as many options as we have found, however at the time of release, since there are

only a few operators, not every type of antenna has been modeled. Some antennas can be hidden using a special code, located in each “title=” section of the aircraft.cfg. Look for the following line:

OPTANT1110000000

As of June 2013, only 3 antennas can be hidden. They are the two black antennas on the top, and the antenna on the top just aft of the black ones. When other antennas are added later on, new models will be released. Each number in the code represents one antenna, going from front, to back. 1 means show, 0 means hide. In the above code, all 3 antennas are visible. If this code is completely gone from the title= line, then all of the custom antennas will be hidden.

Decal Options

Tenkuu's Boeing 787 has several custom decals that can either be painted or have text. They are located above the cockpit windows, in front of the nose gear, and on the belly of the fuselage. Much like the coding for the antenna options, you must have "_OPTDEC#####" included in the TITLE= line of the aircraft.cfg. Replace # with either a 1, or 0. 1 means the decal is visible, 0 means off.

Common Problems (cont'd)

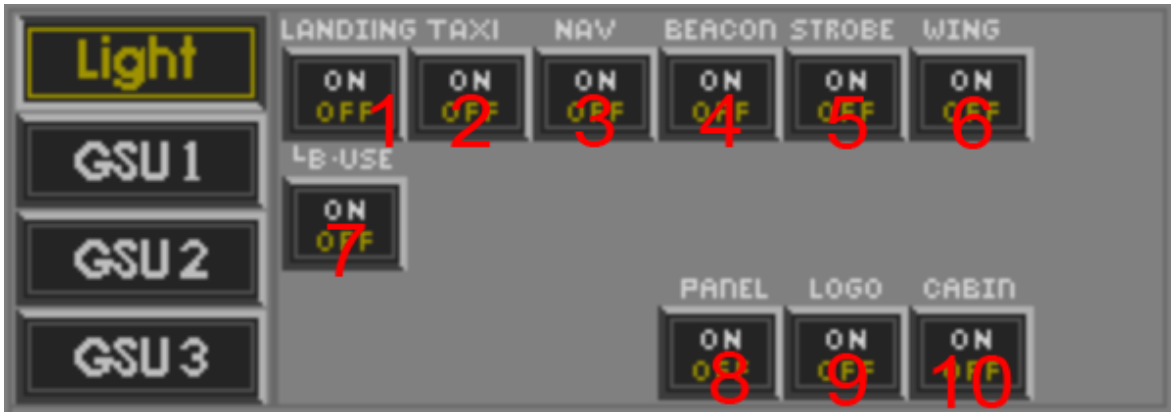
FSX Preview Screen s Problems:

This is a bug with FSX, and at the time, we don't know how to fix it, but this problem is only in the preview window. The actual aircraft is not affected.

Utility Panel Guide:

The TDS Utility panel included in this package controls all of the ground service vehicles and equipment, as well as all of the aircraft lights. Some light switches, such as the Landing Gear and Strobe lights are tied to the default keyboard commands. Others, such as the Cabin Lighting, is only controlled by the Utility Panel. By default, this panel may be brought up by pressing Ctrl + 7 at the same time.

Light Panel



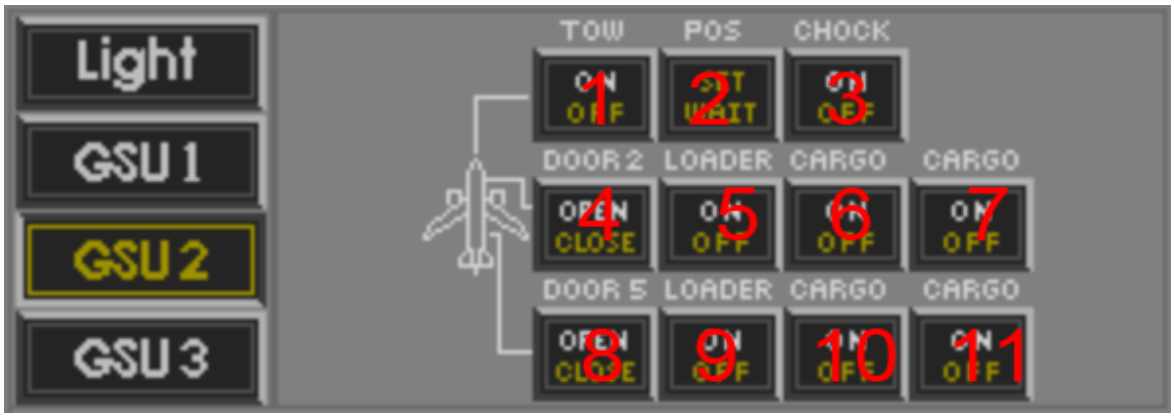
1) Landing Lights
2) Taxi Lights
3) Navigation Lights
4) Beacon
5) Strobe Lights
6) Wing Inspection Lights
7) Not Used
8) Panel Lights
9) Tail Logo Lights
10) Cabin Lights

Ground Service Units Page 1

1) Bus #1 (L1 Door) 2) Stair Truck (L1 Door) 3) Fwd Door (L1 Door)

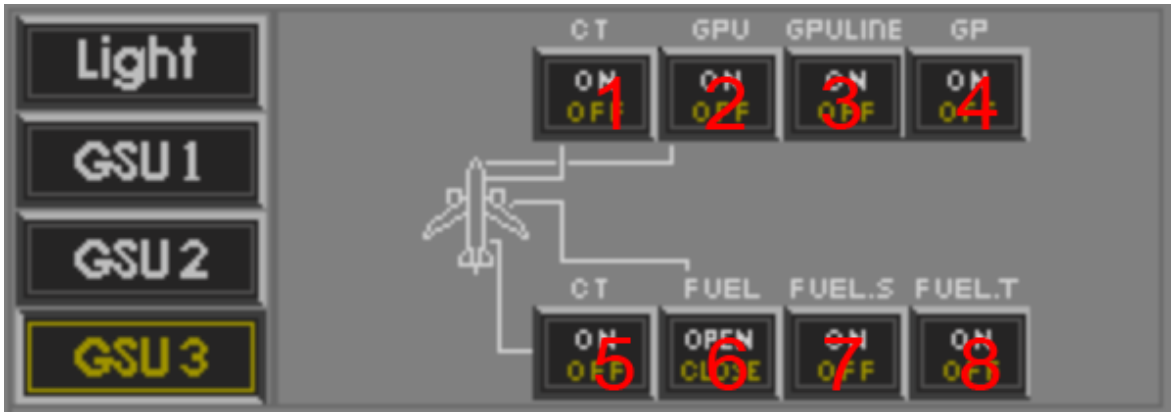
4) Bus #2 (L2 Door)
5) Stair Truck (L2 Door)
6) Mid Cabin Door (L2 Door)
7) Cargo (Animated In/Out)
8) Cargo (On/Off)
9) Belt Loader
10) Bulk Cargo Door

Ground Service Units Page 2



1) Tow Truck (On/Off)
2) Tow Truck Position (Connected/Pulled Back)
3) Nose Chocks (On/Off)
4) Fwd Cargo Door (Open/Closed)
5) Container Loader (On/Off)
6) Cargo (Animated In/Out)
7) Cargo (On/Off)
8) Aft Cargo Door (Open/Closed)
9) Container Loader (On/Off)
10) Cargo (Animated In/Out)
11) Cargo (On/Off)

Ground Service Units Page 3

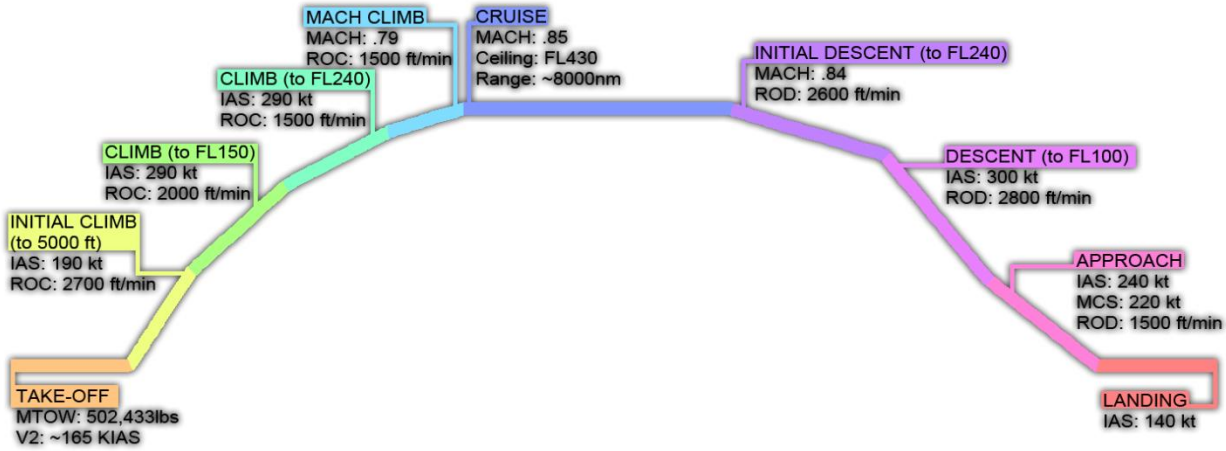


1) Catering Truck (R1 Door)(On/Off)
2) Ground Power Door (Open/Close)
3) Groud Power Line (On/Off)
4) Ground Power Truck (On/Off)
5) Catering Truck (Rear Door)(On/Off)
6) Fuel Service Panel (Open/Close)
7) Fuel Sump Truck (On/Off)
8) Fuel Tanker Truck (On/Off)

Normal Operations:

When the aircraft is loaded into Flight Simulator, the passengers and cargo are all on board. Simply adjust the fuel load for your flight. Our test flying had been carried out with various payloads and fuel. For a typical, fully loaded flight, we estimate that the aircraft will weight around 500,000 lbs.

Below is a generic flight profile.



Flying Tips:

Taking off: At or near MTOW requires a lot of power. 90%-95% N1 is normal for takeoff, with a flap setting of 15 degrees. V1 is around 145-150 KIAS, and V2 is around 165 KIAS. Once the gear is retracted, set for an initial climb out of 2600-2700 fpm, and accelerate to 250 KIAS, gradually retracting flaps, and then follow the flight profile in the image above.

Flaps/Slats and their settings:

Position #	Slats Degree	Flaps Degree
1	17	0
2	17	5
3	17	15
4	17	20
5	35	25
6	35	30

Approach: When decelerating below 250 KIAS, extend the flaps to the first setting (Slats 17, Flaps 0). Below 200 KIAS, set flaps to 2 (Slats 17, Flaps 5). Below 160 KIAS, set flaps to 3 (Slats 17, Flaps 15). Below 155 KIAS, set flaps to 4 (Slats 17, Flap 15). At 145 KIAS, set flaps to 5 (Slats 35, Flaps 25). The final

approach speed is approximately 135-140 KIAS. Once on final approach, set flaps to 6 (Slats 35, Flaps 30). An approach with a pitch of 0 to 2 degrees is normal.

Landing: The ideal touchdown speed is 125 KIAS. Begin your flare at about 70 feet above the runway and gradually reduce power. Do not go idle power until after touchdown.

Disclaimer:

As of the publication and release of this aircraft and manual, not one of our developers has flown in a Boeing 787. We have done the best we can to produce an enjoyable representation of the aircraft and this is our interpretation of its designs, systems, flight characteristics, etc. We used as much information as we could find, unfortunately without the help of Boeing, Rolls Royce, General Electric, any 787 operator, or any 787 type rated pilot, to produce this aircraft.

As time goes on and more information becomes made available to us, updates to the model, textures, and or flight dynamics might become available. Be sure to keep in touch with our FaceBook group page at https://www.facebook.com/groups/266322650175225/for the latest files and updates.

We ask any and all users, please do not edit our files, with the exception of textures via a paint kit, and redistribute them. We cannot have people come to us asking for support with files that have been edited when we do not know what has been edited or changed. Please respect our wishes as it helps keep us committed to producing freeware for the Flight Simulator Community. Keep in mind that this is freeware, and the developers do this as a hobby. We hope you enjoy this aircraft as much as we enjoyed making it.

You may repaint this airplane as you wish, we ask that you give credit where credit is due. When you compile the contents into a .zip file, please include this manual and the original configuration files. You may redistribute them on a website of your choice. We highly recommend friendly sites such as AVSIM.com and Flightsim.com. Virtual Airlines do not need our permission to upload to their servers.

TDS 787 Support Group: https://www.facebook.com/groups/266322650175225/
Visit the TDS and SkySpirit Aviators Lounge at https://www.facebook.com/groups/450426094988422/

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