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Hi-Fidelity AI Douglas DC-8-50/50F for Microsoft FS2004 & FSX Version1.00

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DC8 DIGEST - THE 50's

Text by Mark CRANSTON & Dee WALDRON

Powered by P&W JT3D series fanjet engines of superior performance, fuel economy, and environmental acceptability, "DC8-50" became the definitive short fuselage DC8 version, produced in several sub types of varying configuration and capability in response to the B707-320B and VC10 then entering the world market. DC8 "Ship One" was upgraded to series 50 specification with new fanjet power plants contained within redesigned engine nacelles which were attached to the original DC8-10 pylons. First flying in this configuration (but without the aerodynamic enhancements applied to previous DC8 versions) on December 20 1960 the aircraft was approved FAA certification on October 10 1961. All production DC8-50's featured redesigned engine pylons.

3 initial PAX versions of the -50 model were marketed ...DC8-51 first delivered to Trans Canada Airlines on November 6 1961, followed by the increased MTOW -52 certified on May 1 1961 and first delivered to IBERIA on May 27 1961, then the even higher MTOW -53 first delivered to KLM Royal Dutch Airlines on April 3 1961. This particular aircraft (PH-DCI) was delivered early to KLM and operated performance/reliability testing (flying Long Beach/Rome/Amsterdam/Caracas/Long Beach in support of the series 50 type certificate) between April 21 and April 28 1961 when FAA certification was approved for DC8-53.

The DC8-50's payload/range capabilities were demonstrated between February 20 and 23 1962 when DC8-53 N9608Z, named "Pacific Pacer" and operated in a promotional Douglas livery, flew Seattle/Tokyo direct with a 41,000lb payload, then Tokyo/Miami direct over a distance of 8,702nm in 13hrs 52mins. Some 10,000lbs of fuel remained aboard the aircraft upon shutdown in Miami. A total of 88 series 51, -52, & -53 DC8's were built by Douglas (in comparison to 174 B707-320B's built by Boeing). An additional number of DC8-20, -30, & -40 models were upgraded to -50 series aircraft during the 1960's. Many of these also were converted to freighters throughout the 1970's and 1980's, re-designated DC8-50F.

Despite its advantages over previous DC8 versions, the DC8-50's entry into the world market also coincided with a global slump in the sales of new jetliners. The rush by most major airlines during the late 1950's to modernize with jet equipment suddenly resulted in a period of excess capacity, experienced by most carriers during the early 1960's. The number of DC8's & B707's sold between 1962 and 1964 dwindled sharply as airlines awaited traffic growth before ordering new aircraft.

During this period Douglas attempted to market DC8's to the USAF as "JETMASTER" transports, and later as a contender for prospective AWACS, ECM, Anti-Submarine, Aerial Refuelling, and Medical Evacuation roles. Whilst military interest was generated no orders were forthcoming as the USAF elected to remain with Boeing and its established B707 derived C135/Airframe.

At least 1 DC8 did enter a specialist military tactical air service role. During 1988 the US Navy purchased an ex United Airlines DC8-54F (N8048U L/n #276). This particular aircraft (163050) was upgraded to provide support for Fleet Electronic Warfare Missions/C3 threat simulation as well as general transport deployment. Acquiring the Navy "EC-24A" designation this aircraft was operated by Chrysler Technologies on behalf of the US Navy until decommissioned during 1998.

Douglas might have closed the DC8 production line early had not another niche opportunity been realised. Just as advent of civil jetliners promoted carriage of greater volumes of passengers further and faster than ever before, so too expanded potential for global import/export cargo giving birth to a whole new industry of dedicated jet air freight, to

which the DC8's flexibility and lifting capability were ideally suited. This spawned development of the final short fuselage variant of the DC8 family ...the "JET TRADER"... marketed as series 54 & -55 aircraft in pure freight, PAX, or mixed PAX/freight convertible configurations capable of full trans-Atlantic range. Most of these aircraft featured a 140in X 86in main deck freight door located on the forward fuselage in addition to standard lower fuselage freight/baggage hatches starboard side.

Pure freight configured DC8-54's & -55's were designated "AF" aircraft. These were stripped of all interior PAX furnishings and equipped with a reinforced main-deck, roller floor, guide rails, tie down points, 9G crash netting and had capacity for up to 13 LD3 containers or payloads of up to 95,000lb.

Convertible DC8-54's & -55's were designated "F" & "CF" aircraft and featured portable cabin bulkheads promoting flexible main deck PAX/freight capacity in a cabin which could be reconfigured for either pure freight/PAX capacity within 2 hours. Both versions featured strengthened floors for payloads of up to 50,000lbs. Some of these aircraft were conspicuous by inclusion of additional centre rear fuselage located PAX emergency exits on both port and starboard sides.

Some PAX configured DC8-55's were designated "L" & "AB" (reference to their aft pressure bulkhead location). "L" versions retained the standard bulkhead position and PAX capacity of previous DC8's (as operated by Garuda Indonesian Airways, Japan Air Lines, and KLM Royal Dutch Airlines), whilst "AB" aircraft featured a pressure bulkhead relocated 6ft 4in further aft promoting capacity for up to 189 PAX (as operated by SAS, and VIASA Venezuela). Most PAX configured DC8-55's lacked forward fuselage main deck cargo doors but benefited from greater MTOW capabilities.

The DC8 "JET TRADER" first flew on October 29 1962 and was approved FAA certification on January 29 1963. Trans Canada Airlines took delivery of the first aircraft on January 30 1963, delivered as a -54CF. The higher MTOW series 55F was certified on June 19 1964 and first delivered to Seaboard World Airways on June 21 1964, followed by the model -55 which was awarded certification on April 25 1965 and first delivered to Japan Air Lines on October 11 1965. United Airlines became the only carrier to operate pure freight configured "JET TRADER" aircraft, acquiring 15 windowless DC8-54AF freighters between January 30 1964 and November 23 1968. The last of these (L/n #410) also became the final short fuselage DC8 built by Douglas. All DC8-50 aircraft had a fuselage length of 150ft 6in, wingspan of 142ft 5in, capacity for 132-144 PAX in a dual First/Economy Class or up to 189 PAX in a single class layout (depending upon airline/aircraft configuration). DC8-51, -52, & -53 aircraft had a MTOW of 276,000lbs, 305,000lbs, and 315,000lbs respectively and range of some 5,375nm, whilst series 54 and -55 aircraft were certified for up to 315,000lbs and 325,000lbs MTOW respectively and had range of some 6,175nm. DC8-50 aircraft were powered by 4 P&W JT3D-1 fanjet engines each rated at 17,000lb/st or alternatively either P&W JT3D-3 or JT3D-3B power plants each rated at 18,000lb/st. Production of DC8-54 & -55 aircraft amounted to an additional 54 airframes. Sufficient to sustain production throughout the conservative early 1960's period and boosting production of the short fuselage DC8 family to a total of 294 aircraft.

By the mid 1960's traffic was on the rise. Greater capacity and longer range were being demanded of aircraft manufactures. Congestion also began to pose new problems for most major airlines and airports around the world. Larger more capable aircraft were desperately needed to cope. To address these logistical challenges Boeing sought to develop an entirely different jetliner of mega capacity (the B747), whilst Douglas worked to transform its DC8 design into a much higher capacity and far longer ranging aircraft ...the "SUPER 60" family but that's another tale to be told

Full Text: <http://tonymadgehjg.proboards.com/thread/774/dc8-digest-1-baby-eights>



DC-8-50 passenger aircraft

Thank your downloading the Historic Jetliners Group's AI model of the Douglas DC-8-50.

Unlike most AI aircraft, which are only designed for being looked at as a distance, this model is designed to be looked at close up, a Hi-Fidelity AI model.

It has opening main deck doors, and the freighter has an opening cargo door which also set it apart from other AI aircraft.

It has been built from the ground up in FSDS V3.51 to fit in the footprint of the existing HJG DC-8 series.

It achieves this goal quite well, but is not and cannot be a perfect clone, but with the help from Dee Waldron and his source files, it has got a lot closer. Thank you Dee.

This enables the use of the existing library of textures for the HJG DC-8-50 to be used with this model.

There are three base models:-

The DC-8-50 PAX version and the DC-8-50F freighter version, and also a door less model.

The main difference is that the dedicated freighter does not have an opening main entry door, but an opening main deck cargo door, and the door less model, as the name says, has no opening fuselage doors.

Also included is an extra model of ship one with and without opening door.

The only external difference to the standard DC-50 is that ship one retained the engine mounts from the turbojet versions. This requires a different model and texture set for the pylons.



DC-8-50F showing opening main cargo deck door

The doors are controlled by XML, which also controllers the flaps for takeoff and landing.
 The thrust reversers are fully modelled with sliding cowls and working louvre doors.
 The fuselage , engines and some other areas have the shine built into the model material, so as to avoid those over bright colours and totally over the top shiny engines that some people seem to produce.
 The picture above is in full sun, and you can see the shine on the top of the fuselage and engine nacelles.

There are many more small details like pitot tubes, engine fans, compressing gear etc.

The fuselage and vertical tail use standard HJG textures, which have been converted to DXT1 with a white alpha and no Mip Maps. This gives smaller texture sizes and reduces the chance of having blurred textures, but still gives good resolution on the fuselage compared to most AI aircraft.

The take-off run is longer than most AI big jets, and the landing run is about the right distance.

This can cause go a rounds at busy times.

A smoke effect is available which will cause the DC-8 to leave smoke from takeoff to landing

The XML control of the main deck freight door and rear service door (50F) is set to open and close when the navigation lights are turned on and off. This is normally about fifteen minutes before pushback, and fifteen minutes after she has parked on stand or gate.

The front entry door is shut just as pushback starts, and opens as soon as she stops at the gate.

Because of how the doors are operated, the textures and models fall into two categories.

DC-8-50, passenger model and can be used if you don't want all your freighters to have opening cargo door.

All combi and convertibles are included in this section. IE CF. F Has opening entry and service doors.

The door less model has no open doors and will use both texture sets.

Model:- HJG_AI_Douglas_DC-8-50_vx.x

Texture set :- dc-8-50x.xxxxxxxxxxxxxxx

DC-8-50F, freight only version with opening main deck cargo door.
All F,CF models in pure freight layout. Has opening main deck cargo door and service door.

Model:- HJG_AI_Douglas_DC-8-50F_vx.x
Texture set :- dc-8-50fx.xxxxxxxxxxxxxx

Be careful not to install PAX textures into the freight version. Ladders are not supplied for passenger disembarking!

Model statistics

Each model has ten levels of detail models (LODS).
Here is the polygon count for each model and LOD as measured in ACM V2.5.

DC-8-50		DC-8-50F		DC-8-50 No Door	
LOD1	12644	LOD1	12871	LOD1	12470
LOD2	11344	LOD2	11571	LOD2	11170
LOD3	8045	LOD3	8321	LOD3	7843
LOD4	6848	LOD4	7124	LOD4	6674
LOD5	4629	LOD5	4952	LOD5	4474
LOD6	3246	LOD6	3436	LOD6	3176
LOD7	2740	LOD7	2816	LOD7	2740
LOD8	1554	LOD8	1630	LOD8	1554
LOD9	902	LOD9	920	LOD9	902
LOD10	222	LOD10	222	LOD10	222

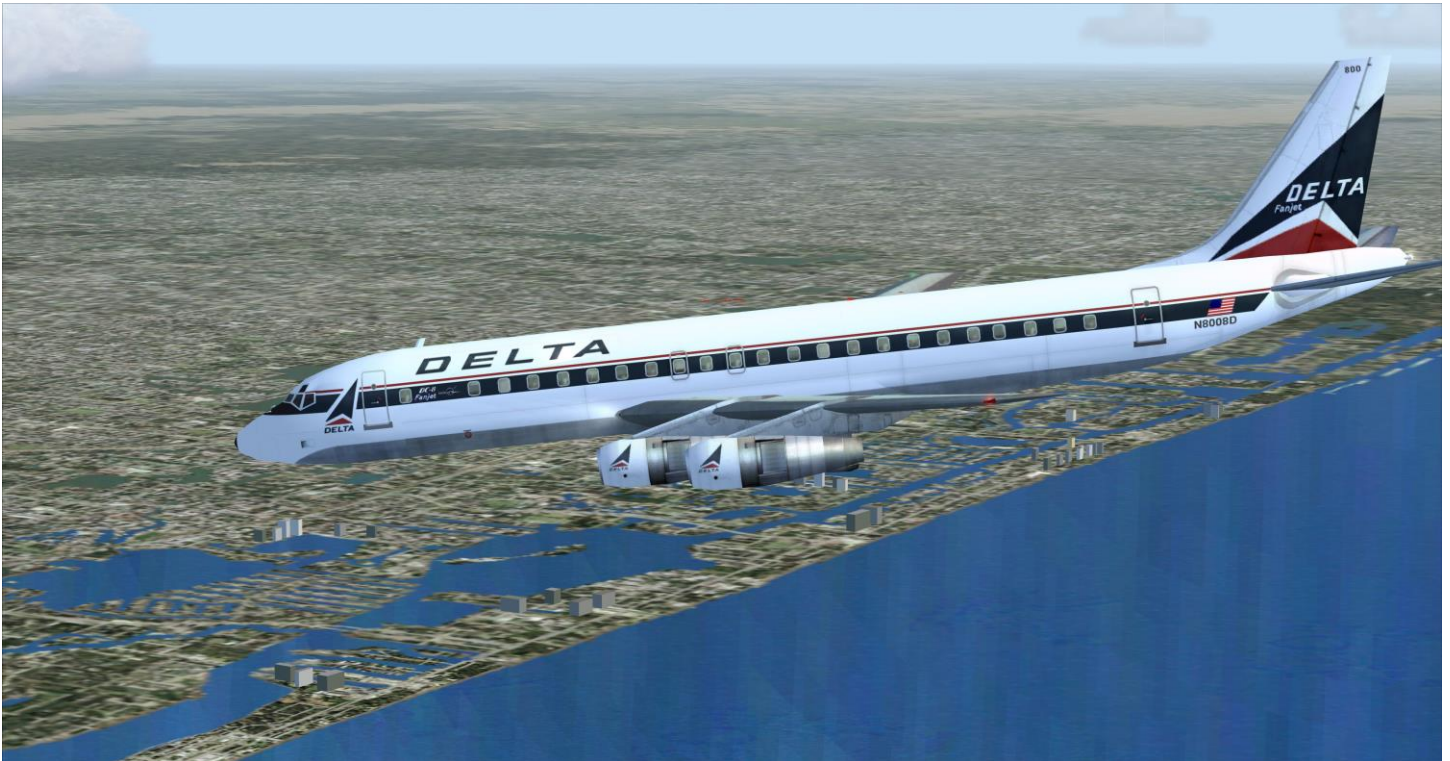
There are two aircraft.cfg files supplied.

One for use with Shockwave Lights, and one using the standard Flight Simulator lights.
Shockwave lights are used as standard

Shockwave Lights dramatically improve the light effect in FS2004 and FSX.

For FS2004 users, she has also been aliased to use the touchdown and reverser sound effect from Tom Gibson's AI sound package (http://www.calclassic.com/files/AI_Sound_Effects.zip).

This also includes files which improve the taxi, roll and flyby sounds made by FS2004 AI aircraft.
Thanks Tom.



Ship 1 in Delta 1970 livery

Installation

Base packs

To install the DC-8-50 base pack, just unzip into your Aircraft folder for FS2004.
For FSX, unzip the base pack into your SimObjects\ AI Aircraft folder.

One texture pack for each model is included, so she is ready to fly immediately.

Texture packs.

- (1) Unzip the repaint to a temporary folder
- (2) Copy the texture folder to the HJG_AI_Douglas_DC-8-50_vx.x or HJG_AI_Douglas_DC-8-50f_vx.x folder.
- (3) Open the aircraft.cfg and add the [fltsim.xx] section that was in the add to aircraft.txt file that came with the repaint, making sure to edit the "xx" to the next number in sequence.

For use in AI flight plans, it is important that the aircraft name matches that used in the flight plan.

EG, example used from the American Flyers 1970 flight plans available from Retro Ai (retroai.webatu.com).
This example uses a DC-8-63 model.

The contents of the aircraft text file.

AC#1,459,"FF LOE"

AC#2,459,"FF 727"

AC#3,459,"FF D8S"

AC#3 is the DC-8-63, so the aircraft.cfg file must be changed to match this.

Portion of the existing configuration file.

```
[fltsim.0]
title=HJG AI Douglas DC-8-63CF American Flyers Airline 1970
sim=HJG AI DC-8 63
model=
```

The title must be changed to match the name in the flight plan.

```
[fltsim.0]
title= FF D8S
sim=HJG AI DC-8 63
model=
```

This is the biggest cause of AI aircraft not showing up in the sim.

To use the door less model, add ND to the model line, IE

```
[fltsim.0]
title= FF D8S
sim=HJG AI DC-8 63
model=ND
```

For any questions regarding HJG aircraft or installation problems, visit the HJG website at:
<http://www.simviation.com/hjg/>

My thanks to Tom Gibson who supplied the XML code that operates the front entry door. Thanks again for your help Tom.

Dee Waldron who supplied me with the HJG V5 source file enabling me to improve the model considerably.

Christian Gold and Michael Aristodemou, who helped beta test the model, and all those who also added their input.

I hope you enjoy using this AI model.

Paul

Version History.

V1.00 Initial release



International Air Bahama DC-8-50JT

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