



Hi-Fidelity AI Douglas DC-8-63/63F for Microsoft FS2004 & FSX Version1.0

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DC8 DIGEST - THE SUPER 63

Text by Mark CRANSTON

Combining DC8-61's high capacity stretched fuselage with the -62's extended wing and aerodynamic enhancements, and more powerful P&W ducted fanjet engines, along with other general improvements applied to both DC8-61 & -62 designs resulted in the "DC8 SUPER 63". This particular aircraft became the final, definitive, and most successful production model of the entire DC8 family. Intended for high density long range/intercontinental operations it ushered in the concept of mass market/bulk air travel prior to introduction of wide-body jetliners. The DC8 SUPER 63 was produced in 4 basic versions with varying configurations and MTOW capabilities. These included the standard PAX configured DC8-63, convertible -63CF, pure freight -63AF, and the high gross weight -63PF. Following established Douglas practice with its preceding DC8 line, both -63CF & -63AF aircraft also inherited the DC8-50 JET TRADER's port side forward fuselage main-deck cargo door and were strengthened for higher payloads than the standard DC8-63's. CF aircraft interiors were again designed to be convertible promoting flexible or mixed PAX/freight operations with capacity for 4 to 18 LD3 containers or payloads of up to 112,000lbs of cargo.

The interiors of AF aircraft again purposely lacked passenger furnishings and were equipped with customized freight handling equipment for dedicated air cargo operations with capacity for 18 LD3 containers or payloads of up to 116,000 lbs.

PF aircraft were essentially standard PAX configured DC8-63's strengthened to CF/AF aircraft specifications but lacked the heavy forward fuselage main-deck cargo door and associated mechanism, as it was intended for these versions to make future conversion to pure freighters with relative ease and economy. Prior production of the very first airframe the DC8-63 also came under threat of potential airport bans/restrictions, this time due to the aircraft's higher operating weights which were anticipated to likely exceed permissible bearing limits of established runways/taxiways. This prompted a late redesign of the main gear trucks for all DC8-63's, resulting in slightly larger main gear tires being fitted and with fractionally wider spacing to reduce the aircraft's footprint. The very first DC8 SUPER 63 was rolled out on March 6 1967. It first flew on April 10 1967. In comparison with DC8-62 performance, initial preflight analysis of the -63 design indicated potential for an estimated 5% range penalty due to natural drag imposed by the aircraft's elongated fuselage. Flight testing later proved any such range impairment was no more than 2%. During later testing T/O weights of up to 361,150lbs were performed, as were landing weights of up to 355,400lbs in order to analyze breaking efficiency under high gross weight operating conditions. The FAA certificate for the standard DC8-63 was approved on June 29 1967, followed by certification for the -63CF, -63AF, and -63PF versions on June 10 1968. KLM Royal Dutch Airlines took delivery of the first DC8-63 (L/n #286) on July 18 1967, followed by the first -63CF which was delivered to Seaboard World Airlines on June 21 1968, then the first -63AF which was accepted by Flying Tigers on October 18 1968, and Eastern Airlines received the first -63PF on February 24 1969. In commercial airline service DC8-63 aircraft proved exceptionally popular despite the need to revise the braking system on early production aircraft due to difficulties experienced decelerating in wet conditions and at high gross landing weights. In particular, lifting capabilities of both DC8-63CF and AF versions were impressively demonstrated by supplemental carriers with logistical/supply commitments to the US military throughout the period of the Vietnam war. A total of 107 DC8-63's were produced by McDonnell Douglas. These included 41 standard -63, 53 convertible -63CF, 7 pure freight -63AF, and 6 -63PF aircraft.

As with preceding DC8 type models, at the conclusion of their PAX service many DC8-63's were converted to pure freighters during the late 1970's and operated by numerous carriers around the world, re-designated DC8-63F such as those which served DHL/ABX Air, Evergreen International, MK Airlines and others. A few of these aircraft remain in service with freight operators today featuring hush-kitted P&W JT3D fanjet engines. 50 DC8-63's were later upgraded to -73, -73CF, and -73F series aircraft during the early 1980's, re-engined with quieter, more powerful, and fuel efficient CFM56 hi-bypass fanjets. Many of these aircraft also still remain in service today with major freight operators around the world. All DC8-63 aircraft had a fuselage length of 187ft 4in, wingspan of 142ft 5in, capacity for 210 PAX in a dual First/Economy Class layout or up to 269 PAX in a Super Economy Class cabin (depending on airline/aircraft configuration), and range of some 4,110nm (depending on payload and reserves). Standard DC8-63's had a MTOW of 350,000lbs whilst convertible -63CF, pure freight -63AF & F, and -63PF models were all certified for up to 355,000lbs. A few very early production DC8-63's were powered by 4 P&W JT3D-3B ducted fanjet engines rated at 18,000lbs/st but the majority of these aircraft had more powerful P&W JT3D-7 engines rated at 19,000lbs/st.

Full Text:

<http://tonymadgehig.proboards.com/index.cgi?board=jetlinerfacts&action=display&thread=768#ixzz1QEJCAUKP>

Thank your downloading the Historic Jetliners Group's AI model of the Douglas DC-8-63.

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-8-63 to be used with this model.

There are two base models:-

The DC-8-63 PAX version and the DC-8-63F freighter version.

The main difference is that the dedicated freighter does not have an opening main entry door, but an opening main deck cargo door.



DC-8-63F showing opening main cargo deck door and service 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 clam shell 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 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.



Reversers in action on a prototype model during development.

The flight model is set to give her the correct take-off run in North America and Europe.

For South America please use the cfg file found in the Alternative Aircraft.cfg directory.

On South America's hot and high runways she was unable to take off without travelling twice the runway distance across the countryside, so the take off distance was set so they she could use these runways safely.

The takeoff run is still longer than most AI big jets, and the landing run has been kept to 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 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-8-63, 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, PF. Has opening entry and service doors.

Model:- HJG_AI_Douglas_DC-8-63_vx.x

Texture set :- dc-8-63x.xxxxxxxxxxxxxx

DC-8-63F, freight only version with opening main deck cargo door.

All CF, F, PF models in pure freight layout. Has opening main deck cargo door and service door.

Model:- HJG_AI_Douglas_DC-8-63F_vx.x

Texture set :- dc-8-63fx.xxxxxxxxxxxxxx

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

There is a warning on the textures to remind you to put the textures in the correct model folder.

Model statistics

Each model has nine level of detail models (LODS).

Here is the polygon count for each model and LOD as measured in ACM V2.5.

DC-8-63

LOD1	11665
LOD2	7883
LOD3	6750
LOD4	4956
LOD5	3087
LOD6	2512
LOD7	1410
LOD8	830
LOD9	135

DC-8-63F

LOD1	11579
LOD2	7922
LOD3	6974
LOD4	5359
LOD5	3226
LOD6	2590
LOD7	1488
LOD8	908
LOD9	135



LOD 7 in all its glory.

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.



Shockwave Lights illuminating the runway for takeoff.



Evening takeoff.

Installation

Base packs

To install the DC-8-63 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-8-63_vx.x or HJG_AI_Douglas_DC-8-63f_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).

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.

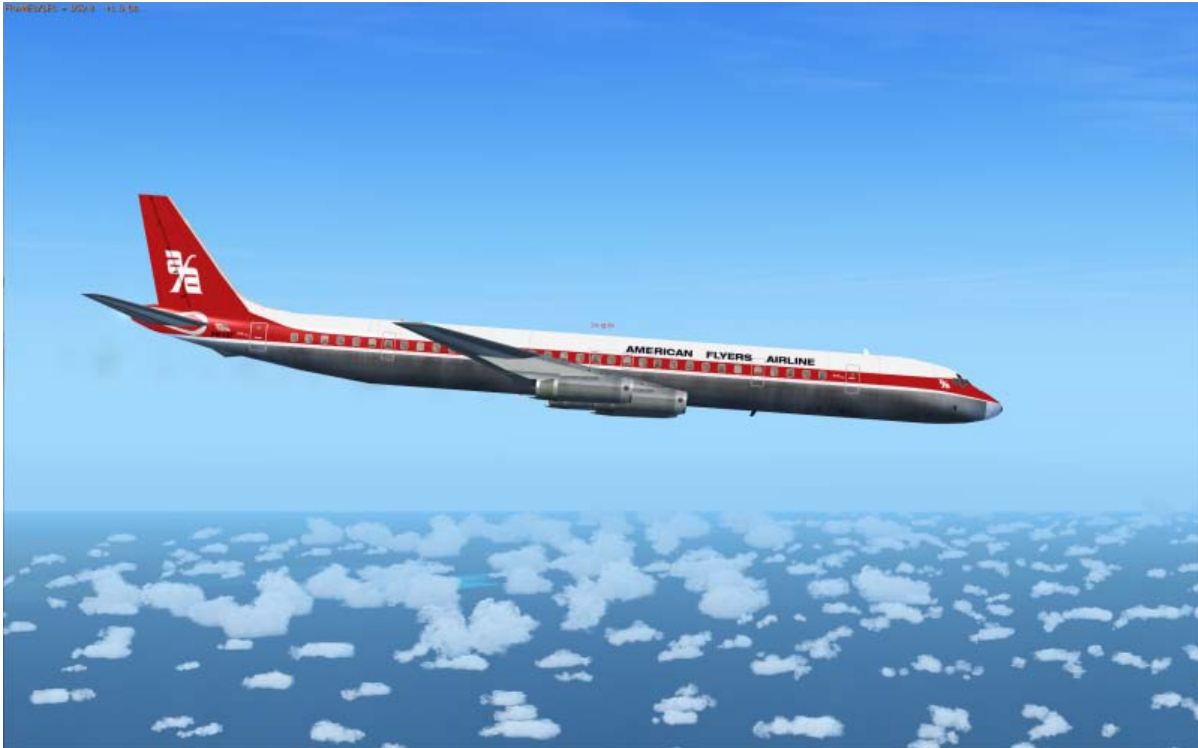
For any questions regarding HJG aircraft or installation problems, visit the HJG website at:
<http://www.simviation.com/hjg/>

My thanks to Tom Gibson who helped in testing the model, and supplying 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.

I hope you enjoy using this AI model.

Paul



American Flyers DC-8-63CF.

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