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Hi-Fidelity AI Douglas DC-8-62/62F for Microsoft FS2004 & FSX Version1.01

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DC8 DIGEST - THE SUPER 62

Text by Mark CRANSTON

The "DC8 SUPR 62" featured a 6ft 8in fuselage stretch beyond the length of a standard DC8 series combined with major aerodynamic modifications. These included redesigned 3ft wing tip extensions, which increased overall wingspan by 6ft, promoted additional fuel capacity for longer range, and reduced drag. Redesigned and streamlined long duct engine nacelles which channelled air more efficiently through the engines and were 8in shorter and 12% narrower than standard DC8-50/61 type P&W JT3D type nacelles and also promoted reduced drag, these engines were also fitted with aft mounted thrust reversers comprising of 2 rotating/sideways opening clamshell type buckets which redirected thrust forwards/sideways to assist deceleration during roll-out after landing. Redesigned engine pylons which were both longer and narrower than previous standard DC8 type pylons, with leading edge sleeves attaching below rather than above wing leading edges and which also repositioned engine nacelles 40in further forward to yet further reduce drag. These combined technical and aerodynamic enhancements helped extend range beyond 5,000nm and promoted a 10,000lb increase in MTOW. During mid 1964, DC8-54JT N109RD was temporarily employed as a test bed for trials evaluating performance/efficiency of the new long duct engine nacelles which were hung on standard pylons. Throughout the test program this particular aircraft featured a hybrid livery comprising of Airlift International fuselage striping with "DOUGLAS DUCTED FAN DC-8" titles, and "DOUGLAS FAN JET" titles and striping applied to each engine nacelle. Upon successful conclusion of the flight analysis program this aircraft was converted back to standard DC8-50/61 type P&W JT3D engine configuration then delivered to Airlift International on June 17 1964. Other DC8-62 improvements included fitting a 55in cone inside the tail pipe of each engine nacelle to better mix air and exhaust streams and suppress noise, lighter main gear bogies, altering wing flap detents from what had been standard 10/15/25/35/50 settings to 10/18/23/35/50 detents and slight lengthening of leading edge wing slots, implementation of the same cabin air conditioning system applied to DC8-61, and at least 1 additional aft fuselage located emergency exit on both port and starboard sides. The very first DC8 SUPER 62 was rolled-out on June 28 1966. It first flew on August 29 1966. Initial flight testing revealed further improved T/O performance, 2,000ft less field requirement than DC8-50, 2.5 to 4.5 decibels less noise, and 8.5% less fuel burn. No problems were encountered until later testing when airspeed was gradually increased beyond 418kts, at which point severe wing flutter was experienced. This was traced to the new pylon design and resolved by modifying the aircrafts fuel management system for retention of reserve fuel in the aircrafts wing tip tanks which ensured adequate wing stiffness throughout all flight/speed regimes.

During December 1966 testing the very first T/O at 350,000lbs was successfully performed, in advance of certification for the high gross weight DC8-62H. The DC8 SUPER 62 was produced in standard PAX, convertible PAX/freight, high gross weight, and pure freight versions. Both convertible and freight models also featured the port side forward fuselage main-deck cargo door of earlier DC8 JET TRADER's.

CF models had flexible or mixed PAX/freight capacity for 4 to 14 LD3 containers or payloads of up to 90,700lbs of cargo. AF models were devoid of fuselage cabin windows and stripped of all PAX furnishings for cabin interiors equipped with a reinforced main-deck, roller floor, guide rails, tie down points, 9G crash netting and had capacity for 14 LD3 containers or payloads of up to 91,440 lbs. FAA certificates for the standard DC8-62 and high gross weight -62H were both approved on April 27 1967, followed by certification for both -62CF and -AF versions on April 9 1968. SAS took delivery of the first DC8-62 on May 3 1967 (L/n #279), followed by the first -62CF which was delivered to Braniff International Airways on November 16 1967 (it could only be operated in basic -62 configuration prior to FAA approval), and Japan Air Lines accepted the first -62AF on September 14 1970. In commercial airline service DC8-62's earned the prestigious title of being "the worlds longest ranging jetliner", an attribute retained well into the 1980's. A total of 67 DC8-62's were produced by McDonnell Douglas. These included 51 standard PAX configured -62 (of which 20 were high gross weight -62H), 10 convertible -62CF, and 6 pure freight -62AF aircraft.

Upon conclusion of their PAX service many DC8-62's were converted to pure freighters during the late 1970's and operated by numerous carriers around the world, re-designated DC8-62F such as those which served Arrow Air, Canarias

Cargo, Emery Airfreight and others. A very small number of these aircraft remain in service with freight operators today featuring hush-kitted P&W JT3D fanjet engines. Only 7 DC8-62's were ever upgraded to -72 and -72CF series aircraft during the early 1980's, again re-engined with quieter, more powerful, and fuel efficient CFM56 hi-bypass fanjets. Most of these aircraft also still remain in service today as private/corporate transports. All DC8-62 aircraft had a fuselage length of 157ft 5in, wingspan of 148ft 5in, capacity for 189 PAX in a dual First/Economy Class layout (depending on airline/aircraft configuration) and improved seating pitch over that of the DC8-50 series, and range of some 5,210nm (depending on payload and reserves). The standard DC8-62, convertible -62CF, and pure freight -62AF & F models each had a MTOW of 335,000lbs whilst the high gross weight -62H model was certified for up to 350,000lbs. All DC8-62, -CF, and -AF models were powered by 4 P&W JT3D-3B ducted fanjet engines each rated at 18,000lbs/st whilst high gross weight -62H aircraft had more powerful P&W JT3D-7 engines rated at 19,000lbs/st.

During 1968 yet another attempt was made by McDonnell Douglas to interest the military in DC8 aircraft. This time in response to a USAF AWACS requirement and based on the DC8-62 airframe. Despite producing a mock-up of the proposed DC8 AWACS and significant interest being fostered by the military, the production contract for AWACS aircraft was awarded to Boeing when the USAF elected to once again retain its established B707 derived C135 type airframe. A small number of DC8-62CF aircraft did later enter military/government service as VIP/general transport aircraft with air forces around the world, such as the Armee de l'air, Fuerza Aerea del Peru, and Royal Thai Air Force.

Full Text:

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



DC-8-62 passenger aircraft

Thank your downloading the Historic Jetliners Group's AI model of the Douglas DC-8-62.

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-8-62 to be used with this model.

There are two base models:-

The DC-8-62 PAX version and the DC-8-62F 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-8-62F 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, 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 takeoff 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 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-8-62, 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-8-62_vx.x

Texture set :- dc-8-62x.xxxxxxxxxxxxxx

DC-8-62F, freight only version with opening main deck cargo door.

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

Model:- HJG_AI_Douglas_DC-8-62F_vx.x

Texture set :- dc-8-62fx.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-8-62		DC-8-62F	
LOD1	11584	LOD1	11583
LOD2	7670	LOD2	7679
LOD3	7268	LOD3	6853
LOD4	5036	LOD4	4855
LOD5	3061	LOD5	3196
LOD6	2753	LOD6	2723
LOD7	1532	LOD7	1437
LOD8	874	LOD8	942
LOD9	135	LOD9	135

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.



DC-8-62 with Shockwave lights.

Installation

Base packs

To install the DC-8-62 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-8-62_vx.x or HJG_AI_Douglas_DC-8-62f_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.

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.

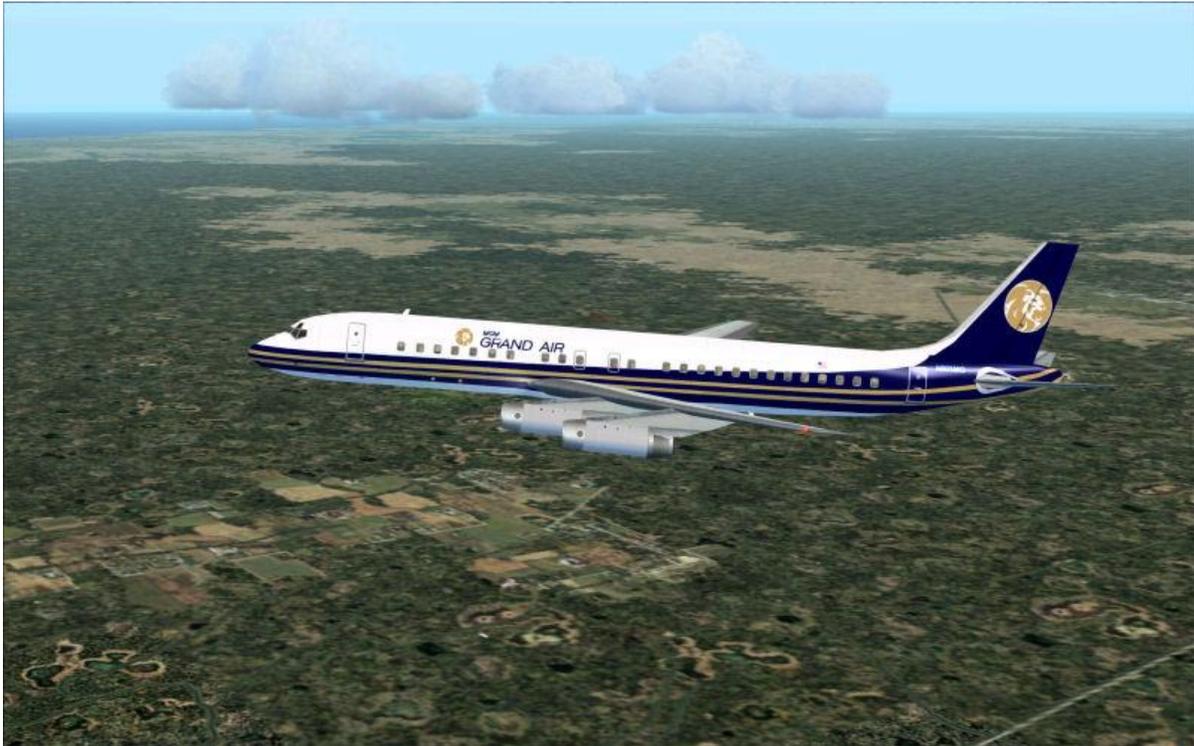
Christian Gold who helped beta test the model.

I hope you enjoy using this AI model.

Paul

V1.00 Initial release

V1.01 Corrected Light Map Issue



MGM Grand Air DC-8-62

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