

BAe 146-200 for Microsoft Flight Simulator FS9 and FSX.

Model Copyright 2010 - Premier Aircraft Design

Full package for FSX/SP2 with custom panels and VC, full moving parts and air stairs.

Development, Specifications, Installation , Guide

Contents

1. Aircraft Development	2
2. ASTRA BAE 146-300 SX-DIZ	
Dimensions	3
Powerplant	3
Interior Conf.	4
Op. Speeds	4
Weights	4
3. THE MODEL	
INSTALLATION	5
MAIN CREDITS (2010)	6
LATER PAINTING AND MODIFICATION (2016)	6
PAINTING	7
PASSENGER CABIN LEFT AND RIGHT VIEW	8
MOVING AROUND THE CABIN OR THE COCKPIT	8
VIRTUAL COCKPIT MODIFICATION	9
MODIFIED VIRTUAL COCKPIT FUNCTIONALITY	10
THE REST OF VIRTUAL COCKPIT	11-13
2D COCKPIT	13
OPERATING TIPS & KEYBOARD COMMANDS	14-15-16
LEGAL STUFF Premier Aircraft Design	17
DECLARATION	17

AIRCRAFT DEVELOPMENT

The British Aerospace 146 (also BAe 146) is a short-haul airliner and a regional airliner that was manufactured in the United Kingdom by British Aerospace, later part of BAE Systems.

The BAe 146-200 is a 'stretched' version of the 146-100, a medium sized commercial aircraft, and the BAe 146-300 is a 'stretched' version of the BAe 146-200. British Aerospace announced its initial proposals for the -300 at the 1984 Farnborough Air Show.

The aircraft's fuselage was to be stretched by 3.2 metres (10 ft 6 in) compared with the -200, allowing 122 passengers to be carried at 32-inch seat pitch and 134 at 29-inch seat pitch.

More powerful (33 kilonewtons (7,500 lbf)) ALF 502R-7 engines would be used, and winglets were to be fitted to the aircraft's wingtips.[48][49] However, due to airlines favouring a lower initial price rather than minimising seat-mile costs, the definitive 146-300 emerged as a less extreme development. The fuselage was stretched by 2.34 metres (7 ft 8 in) m stretch of the -200, giving a capacity of 100 passengers seated 5-abreast at 31-inch seat pitch, without winglets or the proposed ALF 502R-7.[50] Deliveries began in December 1988.

A modified BAe 146-301 is used as the UK's Facility for Airborne Atmospheric Measurements (FAAM). The BAe 146-300QC is the convertible passenger/freight version and the BAe 146-300QT (Quiet Trader) is the freighter version.

Powered by four turbofan jet engines, which was manufactured in the United Kingdom by British Aerospace.

Production ran from 1983 until 2002. In August 2008, a total of 140 BAE 146 aircraft (all variants) remained in airline service worldwide.

The aircraft has very quiet operation, and has been marketed under the name Whisperjet. , it sees wide usage at small city-based airports.

In its primary role it serves as a regional jet, short-haul airliner or regional airliner.

ASTRA BAe 146-300 SX-DIZ .



BAe-146-300 is dark blue (SX-DIZ). Aircraft speed is about 800 km/h, max altitude 31000 feet and max flight time 3,5 hours. Aircraft cabin 112 seats capacity.
(Το BAe-146-300 είναι χρώματος μπλέ (SX-DIZ). Το αεροσκάφος έχει μέγιστη ταχύτητα 800 km/h, φτάνει σε μέγιστο ύψος 31.000 πόδια και ο μέγιστος χρόνος πτήσης είναι 3,5 ώρες. Η καμπίνα του αεροσκάφους είναι 112 θέσεων.)

SPECIFICATIONS (ΤΕΧΝΙΚΑ ΧΑΡΑΚΤΗΡΙΣΤΙΚΑ)

Dimensions

External

Length: 101,8ft (30,995m)

Wingspan: 86,5ft (26,339m)

Height overall: 28,2ft (8,585m)

Internal

Cabin length: 66,3ft (20,20m) (from cockpit divider to end of pressurized compartment)

Cabin internal diameter: 11,3ft (3,42m)

Cabin floor width: 10,8ft (3,24m)

Cabin headroom: 6,8ft (2,03m)

Airframe

Aircraft Manufacturer: BAE SYSTEMS

Aircraft Model: 146 - 300

Manufacturer's Serial Number: E3206

Line Number: 206

Aircraft Registration: SX – DIZ

Powerplant

Engines

Type & Model: ALF502R - 5 (All engines enrolled on Honeywell EMCPP)

Take-off thrust (static, sea level): 31.00KN (6.970 lb) Flat rated to 15.0 deg C

Auxiliary Power Unit

Type: Honeywell GTCP36 of Sundstrand APS 1000

In flight start ceiling: 20.000ft
Electrical power ceiling: 25.000ft
Air conditioning ceiling: 15.000ft

Interior Conf.

Seating

Number of seats: 112 (Economy class)

Seat pitch: 31 inches

Number of seats abreast: 3 X 3

Seat Vendor: B/E Aerospace

Cabin

Number of lavatories: 2 (1 front & 1 rear)

Op. Speeds

Cruise

Normal (minimum cost) cruise: $V_{mo} / M^{0.67} / MCT$

Long range cruise: 240 kt / MCT

Weights

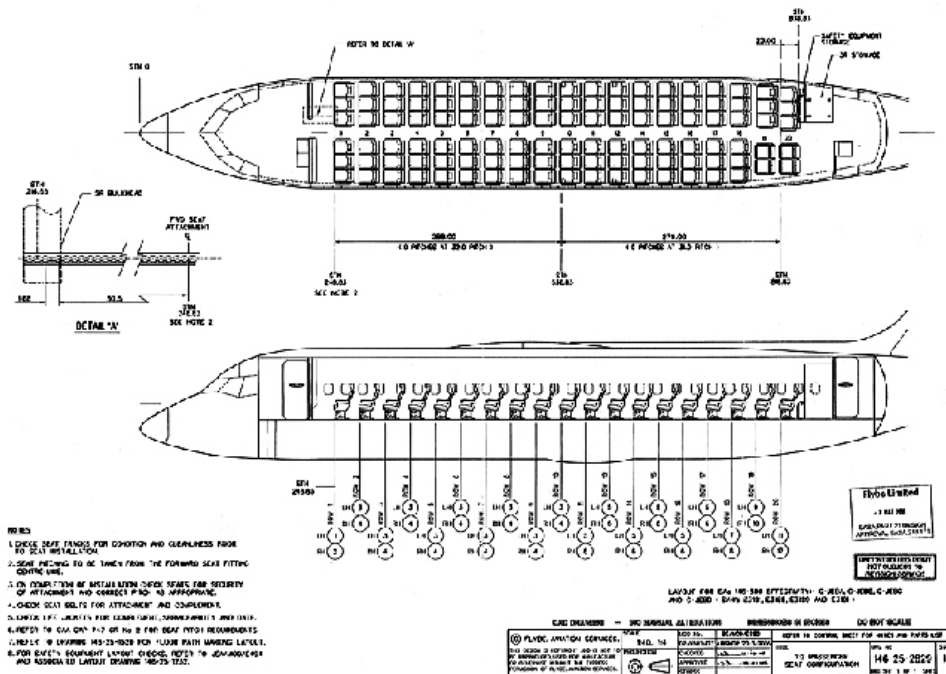
Maximum Take Off Weight: 97.001lbs (44.225kgs)

Maximum Landing Weight: 84.500lbs (38.328kgs)

Maximum Zero Fuel Weight: 78.500lbs (35.606kgs)

Operating Empty Weight: 54.080lbs (24.531kgs)

Maximum Fuel Capacity: 20.640lbs (9.362kgs)



Source Astra Airlines

<http://www.astra-airlines.gr/pages.php?fc=1&fs=1>

THE MODEL



<https://www.youtube.com/watch?v=8SGc0Yjh9CY&t=3s>

INSTALLATION

1. Extract the zip file to a temporary folder.

2. Copy and paste the ASTRA Bae 146-300 folder to the
 \FSX\SimObjects\ Airplanes folder.

3. Install Ground handling Add on

THIS GAUGE HAS ALREADY BEEN INSTALLED IN THE Panel.cfg of BAE 146-300 MODEL

Ground handling Add on folder contains 2 subfolders

a. Folder Groundhandling5 contain, **sound files** and **sound ini file** .

b. Folder gauges contain 2 files , **RCB_Groundhandling5.CAB** and **RCB_Groundhandling5_Sound.dll**.

You have only accomplish the follow 2 points.

Move all the Groundhandling5 folder (the folder as it is) to the main FSX sound folder. (--->FSX--->Sound)

Move only the content of gauges folder (not all the folder) to the main FSX gauges folder. (--->FSX--->gauges)

If these folder is already there from some previous installation it is your choice to replace or leave as it is.

If these files are already there from some previous installation it is your choice to replace or leave as it is.

For more detailed information's about Ground handling please look at **README Groundhandling5_01_By Rob Barendregt**

4. Accept in all questions when FSX is loading and you are ready for flight.

MAIN CREDITS

BAE146-200 For FSX

Model & Master Textures: Jean-Pierre Brisard Panel design and

XML gauge programming Jean-Pierre Brisard

Flight Dynamics and paint Bob May

Pushback/taxi speed gauge Rob Barendregt

Navigation Display Ken Mitchell

Various gauges Steve Southey & Doug Dawson

File packaging & PAD webmaster Bob May

Special thanks to :

Piran Smith for technical assistance, encouragement, and extra liveries.

Ed Wells for his excellent panel background paintings.

Members of the CBFS forum who helped with drawings and information

LATER PAINTING AND MODIFICATION (2016)

Painting in ASTRA AIRLINES colors , (a Greek regional airline headquartered in Thessaloniki and based at Thessaloniki

International Airport) , VC panel and gauges modifications by

Vangelis Vasilias /2016. This model represent the BAE146-300,

SX – DIZ ,but not have 112 seats ,so is a 200 version. Used by

"artistic license" cause in any case is an excellent model and gives the right virtual atmosphere of the real aircraft.

PAINTING

Based in many internal and external photos of the real aircraft. Importance was , to be given high details as much as possible. Special attention in alpha channel gives the right tone similar of the real external glossy surface.

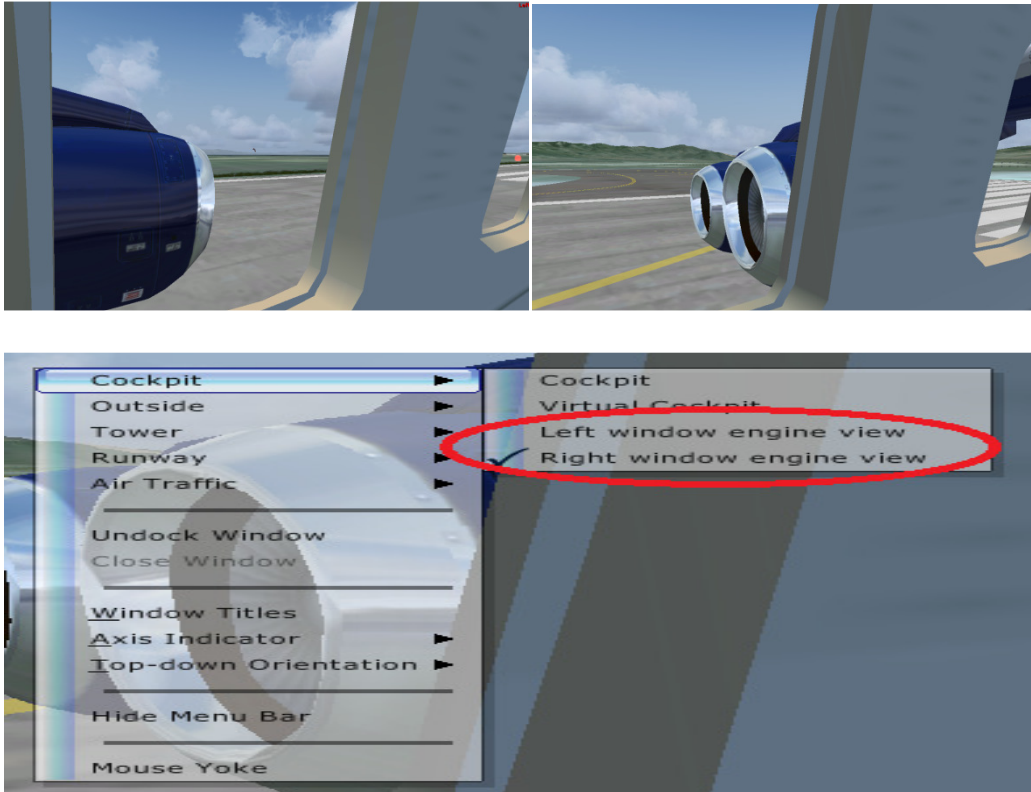


Passengers cabin has exactly the right seats design and the cabin ceiling looking about the real one.



Information tables to the lavatory both in Greek and English language.

PASSENGER CABIN LEFT AND RIGHT VIEW



Also from this position user can move inside the cabin, using the appropriate buttons combinations.

MOVING AROUND THE CABIN OR THE COCKPIT :

Quick Reference - VC EYEPOINT KEY COMMANDS

Move eyepoint back:

CTRL+ENTER

(press and hold)

Move Eyepoint Down:

SHIFT+BACKSPACE

Move Eyepoint Forward:

CTRL+BACKSPACE

Move Eyepoint Left:

CTRL+SHIFT+BACKSPACE

Move Eyepoint Right:

CTRL+SHIFT+ENTER

VIRTUAL COCKPIT MODIFICATION

As the real cockpit of BAE146 is in the first photo, an attempt was made to resemble the virtual cockpit with that of photography. So repainted and some buttons and gauges moved to new places.



MODIFIED VIRTUAL COCKPIT FUNCTIONALITY



**BAE 146 VIRTUAL COCKPIT
POPUP WINDOWS**



Altimeter

Baro adjust

User can "call" the altimeter gauge that appear exactly on the GPS screen , adjusting the barometer or withdraw the altimeter (with shift 9) and "call" the EICAP (flight plan) to get some information's.

POPUP WINDOWS



Flight plan (EICAP)

In each case it can display and render each monitor individually as desired

THE REST OF VIRTUAL COCKPIT

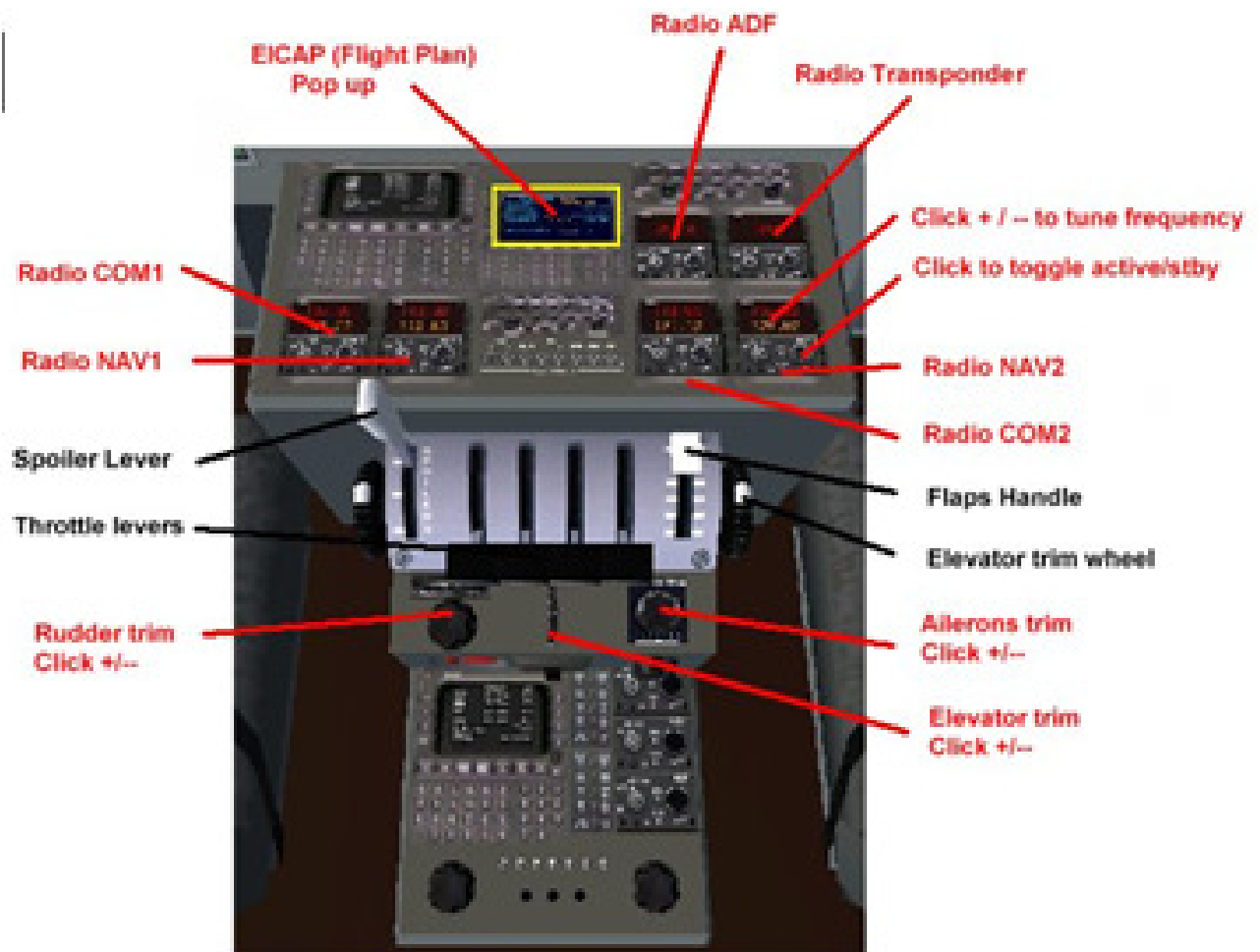
BAE-146 VIRTUAL COCKPIT CONSOLE

Please zoom for reading

*** Mouse interactive

*** Read only

*** Mouse click for Popup



Main Virtual Other controls;
Same as 2D panel

Premier Aircraft Design, Sept 2010

BAE-146 OVERHEAD PANEL

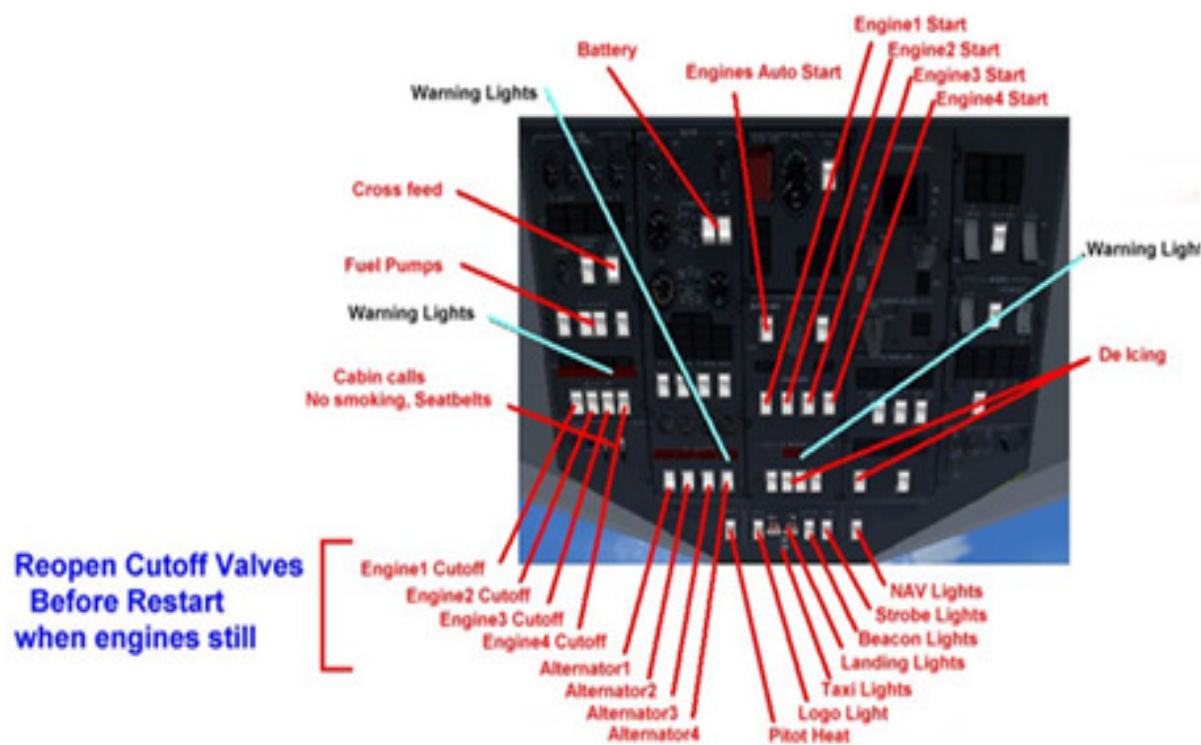
Please zoom for reading

*** Mouse interactive

*** Read only

*** Mouse click for Popup

Switches not marked up are fake



Premier Aircraft Design, Sept 2010

2D COCKPIT

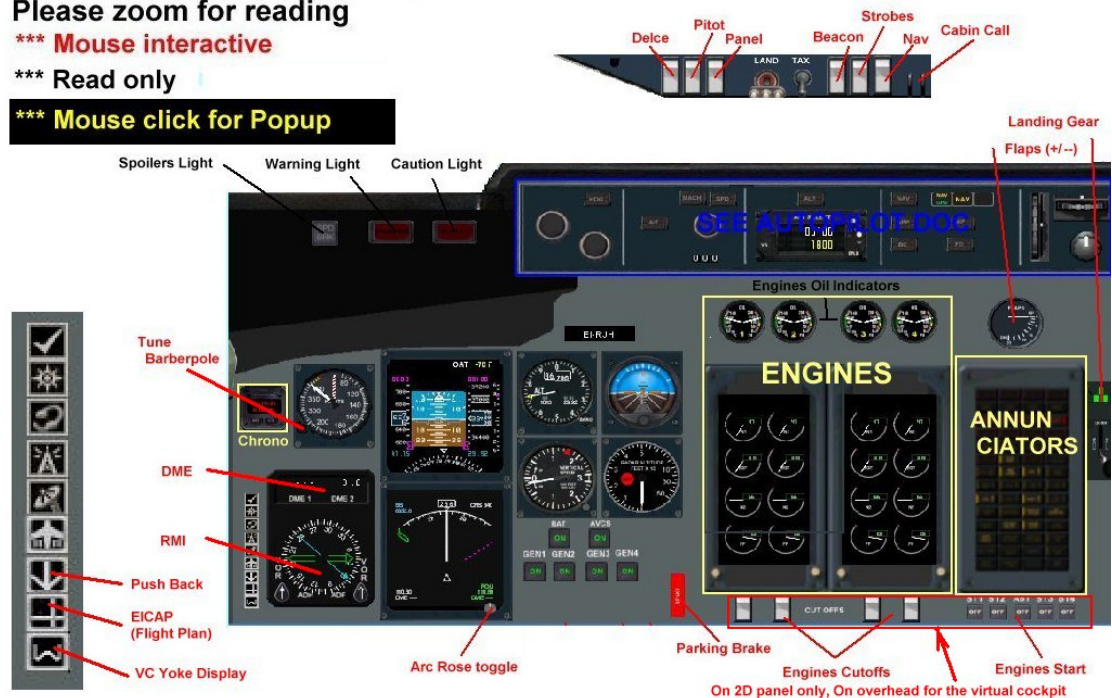
BAE-146 PANEL

Please zoom for reading

*** Mouse interactive

*** Read only

*** Mouse click for Popup

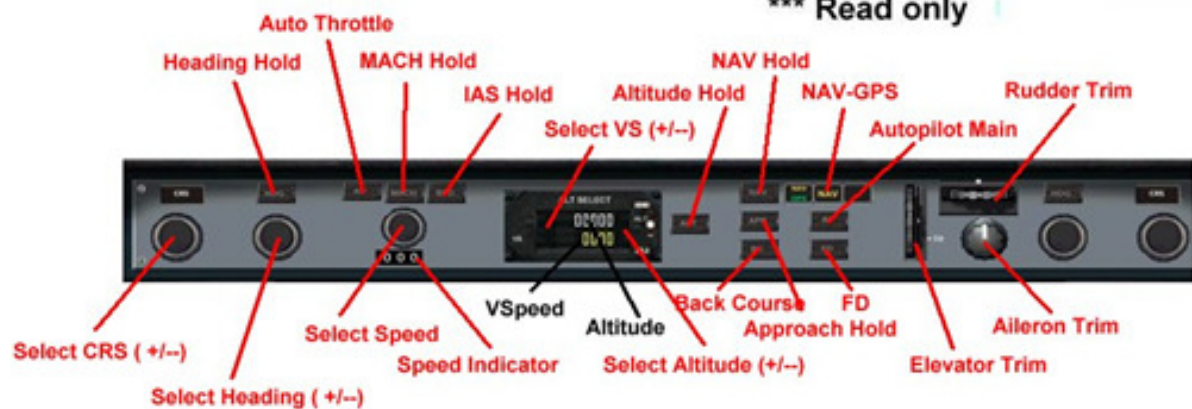


BAE-146 AUTOPILOT

Please zoom for reading

*** Mouse interactive

*** Read only



OPERATING TIPS & KEYBOARD COMMANDS

***Gauge compatibility**

. This model contains many custom (i.e. non MS default) gauges. These gauges are calibrated in the U.S. measurement system (non-metric) If you have your Flight Sim program set up for metric measurements these gauges may cause FS to crash. If you get crashes

of FS after starting one of our models go to the 'Settings-International' screen and ensure that 'U.S.measurements' is set.

*Check list and reference list available from the cockpit kneeboard command.

***Essential reading ..."Flying Tips"**

follow in this document.

1. Turn on ' Tool Tips', lots of panel information available by hovering your mouse over the panels.

Go to Options - Settings - General....Click the "Show Tool Tips" box.)

2.SHIFT-E

opens/closes the main passenger doors. This will also open the cockpit door (to view the passenger cabin). The external doors will not open in flight, but the cockpit door will open in flight.

3. To enable docking with the automated jetways in FSX the air stairs deploy separately from the door opening. To deploy the air stairs use the wing fold command. (The default command is **SHIFT-C** but it may be different on some non-USA keyboard layouts)

4.SHIFT-E2

opens the two cargo doors on the starboard side. At FSX airports with automated cargo handling vehicles the baggage unloader will line up with the rear cargo hold.

5. To raise your seat higher press

SHIFT-ENTER (In FSX this only works for the VC)

6. In the VC, Shift-W (FS9) and Ctrl-W (FSX)

key toggles yoke on/off. There is also a yoke icon on the VC panel

7. Some gauges have magnified pop-ups, see panel map in manuals folder.

FLYING TIPS

ENGINE START

There are 3 ways to start the engines:

1. Use keys **Ctrl-E** All settings will be made automatically and all 4 engines will start in sequence 1,2,3,4
2. Use the **Autostart** switch on the panel. This mimics the CTRL-E action exactly.
3. **Manually** start each engine, in any required sequence, by using the 4 start switches on the panel.

NOTE If you previously stopped the engines using the fuel cut-off switches and then attempt a manual start you must ensure that the battery switch and **fuel switches are in the ON position**. Also, ensure that the **4 generator switches are switched ON** after a manual start.

ENGINE SHUT DOWN

Before stopping the engines **set the parking brake and switch off all lights** and beacons.

Use **the fuel cut-off switches** on the panel. When the engines have stopped **switch off avionics, generators and battery**.

TAXIING

There is a taxi speed/pushback gauge on the panel, read the instructions in the manuals folder for full operation details.

The taxi speed gauge controls speed by using throttle and brakes. You can use the taxi speed gauge in spot view by pressing keys

Shift-4

Use of the parking brake (**Ctrl + .**) will cancel the taxi speed operation.

If taxiing without use of the gauge be very gentle with the power !

Cornering during taxi should be very slow, no more than 8 kts. This aircraft has a narrow span undercarriage and a lot of weight on the wings.

TAKE-OFF

Set 18° (one notch) of flap, depending on take-off weight, and a small amount of nose up trim.

Use no more than 90% power for take-off. At 130kts -150kts (depending on weight) rotate the nose up gently about 10 degrees

Don't exceed this angle or the tail will strike the ground.

Initial **climb rate is 2500 ft/min**. The steep initial climb keeps the airspeed within flap and undercarriage limits.

Raise the u/c and flaps after take-off, **climb to 3,000 ft** above ground level, **reduce power, adjust the trim, or turn on the autopilot**, and then **climb to cruise altitude at 1800 ft/min**.

FUEL NOTE: By default this model initializes with a heavy fuel load. To reduce take off run and improve performance, you can reduce the fuel load in the 'aircraft' menu.

You can use auto throttle to take off:

1. Set the parking brake
2. Set the speed control **to 250 kts**
3. **Arm the Autopilot** master switch (but do **not have the HDG or ALT** switches activated)
4. **Arm the Auto throttle**
5. **Click the 'SPD' button**
6. **Allow the engine to spool up to 80% power and release the brakes.**

CRUISE

Normal medium range cruise altitude is 22,000 - 31,000 ft. but short haul routes may have a lower cruise altitude.

Normal economical cruise speed is 280 kts IAS (indicated air speed) at 30,000 ft. An indicated air speed of 280 kts at 30,000 ft (Mach 0.75) translates into a ground speed of about 440 kts (500 mph), in zero wind conditions.

LANDING

Slow down to below 200 kts before lowering flaps. Wheels can be lowered below 200 kts. Use the air brake to slow down if necessary.

Make your approach at 160 kts with 18° (one notch) of flap. Add more flap as required. Before final approach open the air brake and adjust power to keep approach speed at 140-150 kts.

Aim to touch down at 110 kts. The ground spoilers will open when the main wheels touch the ground, provided that the rear air brake is open.

This aircraft does not have reverse thrust on the engines so it is usual to allow a fairly long run out after landing (if the runway length allows) to avoid overheating the brakes.

Premier Aircraft Design LEGAL STUFF

1. These files are for free use and enjoyment of individual hobby flightsimmers but the copyright remains with us and any other persons who have contributed to the work.
2. The model files, panel files and gauges should not be altered and cannot be incorporated into other shareware or freeware programs or published on any electronic or mechanical media anywhere in the world without our written permission. This includes CD's, DVD's or other media offered free, whether as part of a commercial or non-commercial transaction.

3.REPAINTING

. You may repaint this aircraft FOR YOUR OWN EXCLUSIVE use without seeking permission, but if you intend to upload the repainted aircraft to any web site or bulletin board, including a Virtual Airline site, then contact us first for permission, just send a jpg screen shot.

(We will not give permission to upload modified panels or gauges)
We recommend 'Textures Only' uploads due to the file size. We do not normally withhold permission for repaints but we reserve the right to check

the files and documentation before publication.

Premier Aircraft Design

Contact us email at: support@premaircraft.com October 2010

DECLARATION

Repainting and modifications of BAE146-200 made under permission of the model copyrighted by Premier Aircraft Design and with respect to their primary work. Also biggest part of information in this document is based on Premier Aircraft Design INSTALLATION AND QUICK START GUIDE which is used as a source.

This repainting is for free use by Fly Sim community enthusiasts and no commercial use of all or part of the files I created. **Vangelis Vasilias** (kingvgr@gmail.com) November 2017