

# EUROFIGHTER

## Version 2

AFS-design



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## Summary

The Eurofighter is a single-seat, twin-engine, agile combat aircraft which will be used in the air-to-air, air-to-ground and tactical reconnaissance roles.

Developed by Europe's leading aerospace companies, Eurofighter Typhoon is now in service with the Air Forces of Germany, Spain, Italy and the United Kingdom and will fulfil Air Force requirements well into the 21st Century. Aircraft production is ongoing and with 638 aircraft under contract to the four Partner Nations and Austria, as the first export customer.

The design of Eurofighter Typhoon is optimised for air dominance performance with high instantaneous and sustained turn rates, and specific excess power. Special emphasis has been placed on low wing loading, high thrust to weight ratio, excellent all round vision and carefree handling.



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## EUROFIGHTER TYPHOON - Performance

Eurofighter Typhoon has a foreplane/delta wing configuration that is aerodynamically unstable in the subsonic range. The "delta canard" design shape of the aircraft is driven by a need for:

- Subsonic/supersonic instantaneous and sustained turn rate performance
- Agility
- Lift and STOL (Short take-off and landing)
- Exceptional acceleration
- Reduced drag

Combining this with a low wing loading, high thrust-to-weight ratio, excellent all-round vision and carefree handling results in a truly exceptional aircraft. Stealth technology is incorporated in the basic design. Features include low frontal Radar Cross Section (RCS), passive sensors and supercruise capability. The airframe is constructed mainly from Carbon Fibre Composites (CFCs), lightweight alloys, titanium and Glass Reinforced Plastics (GRP).

Lenght	15,96 m
High	5,28 m
Wingspan	10,95 m
Wingarea	50,00 m <sup>2</sup>
Weight empty	11.000 kg
Weight start	max. 23.500 kg
Max. cargo	7.500 kg
Start distance	< 700 m
Landing distance	< 600 m
Thrust	2 * 70 kN
with afterburner	2 * 90 kN
Max. speed	Mach 2,00
Loading	max. + 9 g/- 3 g

## **EUROFIGHTER TYPHOON - Engine**

Eurofighter Typhoon is equipped with twin EJ200 engines to increase safety in peacetime and redundancy in war. The high reliability and subsequent availability ensure operational costs are reduced.

The Eurojet EJ200 engine is Europe's latest high performance, advanced technology military turbofan designed to fulfil the demanding requirements for the next generation of combat aircraft.

The EJ200 engines features include:

- Simple robust construction
- Full modularity with good access
- Minimal support equipment
- Long life components with low component count



## **EUROFIGHTER TYPHOON - Arming**

Gun: 1x 27 mm Mauser BK-27 cannon with 150 rounds  
13 weapons hardpoints[150]

Air-to-Air missiles: AIM-9 Sidewinder, AIM-132 ASRAAM, AIM-120 AMRAAM, IRIS-T and in the future MBDA Meteor

Air-to-Ground missiles: AGM-84 Harpoon, AGM-88 HARM, ALARM, Storm Shadow (AKA "Scalp EG"), Brimstone, Taurus KEPD 350, Penguin and in the future AGM Armiger

Bombs: Paveway 2, Paveway 3, Enhanced Paveway, JDAM, HOPE/HOSBO  
Laser designator, e.g. LITENING pod



## **The AFS-design EUROFIGHTER - Features**

- For FSX and FS2004 included new missions
- Single pilot model with external suspension IRIS-T, Meteor, AGM 64/84, Pavew.3 and TAURUS
- Two model at trainerversion and 3 external 1000 Wing Tanks.
  
- Formations - flight - model with 3 EUROFIGHTERs
- NEW: MAN lorry with pulling EUROFIGHTER
- Accurate Flight Dynamik simulation the both 35000 PS EJ200 Engines of the Eurojet Konsortiums
  
- Include 2 sound packet
- Complete EUROFIGHTER cockpit
- NEW: 35 different flight models
  
- Tail hook, detailed landing gear, canopy, radome, flight-refuelling
- Light: formationslight, strobe, beacon, winglights, navigation- & landinglights
- NEW effects: afterburner, smoke - and lighteffects, cockpitlight, reflect surface, rear-view mirror
  
- Detailed and easy to fly flight model with auto-trim and real animations feature of flaps and canard wings for aerodynamically unstable

## The AFS-design EUROFIGHTER - Include Repaints

### Germany Bundeswehr

- Fighterwing 73 "Steinhoff"
- Fighterwing 74
- Jabog 31 "Boelcke" and
- Fighterwing 73 "Steinhoff" special paint - 50 years JG 73 "Steinhoff" and 5 years EUROFIGHTER

### Royal Airforce

- RAF United Kingdom 3.Sqn
  - RAF United Kingdom 11.Sqn
  - RAF United Kingdom 17.Sqn
  - RAF United Kingdom 29.Sqn
- 
- Italien Airforce - 4° Stormo Grosseto
  - Spanische Airforce - Ala 11
  - Austrian in Zeltweg
  - Saudi Arabien
  - and several prototypes





## The AFS-design EUROFIGHTER - Cockpitgauges

- 3 MFDs with 30 different pages! State display with durchschaltbaren connect pages
- New switch: tail hook, FUEL drobe switch, gear lever, light-, and engine controll switches!
- Under console now complete usable! Animations control joystick, thrust and rudder pedals
  
- HUD Display with different report representation, adjusted for flight situation:
- Leader, compass, HSI, FLIR system, mach, ground speed, TAS, wind direction, windspeed, climb performance, alpha angle, VOR- NDB- TACAN gauges
- Left side field: enter all choice, like frequencias, transpondercodes or autopilot with left number field, like in real EUROFIGHETR.
- Full adjust system for the autopilot, frequency selection with audiosystem
  
- Complete effective electronic Defensive Aids Sub System ( DASS )
- Complete (so far in FS possible) Air- and ground destination radar ( "Captor" Radar )
- Complete (so far in FS possible) FLIR sensor system with different range ( "PIRATE" )
- Complete Store-Management-System (SMS)

### MFD Pages:

- For the instrument-flying to stand by a HSI Page with 2 VOR and 1 ADF gauge and 2 DMS
- Full GPS page, map page, departure- and arrivel page, navigations page, OMI lights
- Engine- and hydraulics supervision pages, STORE & FUEL pages, checklist pages
- Pages for the FLIR system, weather radar, auto scan- and elevation scan radar

## System

System:	Windows 98 SE / Me / 2000 / XP or Vista
FS VERSION:	FSX (SP1, SP2, Acceleration Pack) and FS2004
Filesize:	40 MB
Filesize hard drive:	605 MB
INSTALLATION:	EXE. file
PUBLISHER:	AFS-design
HOMEPAGE:	<a href="http://www.afs-design.de">http://www.afs-design.de</a>
SUPPORT mailto:	<a href="mailto:info@afs-design.de">info@afs-design.de</a>
FS VERSION:	FSX (SP1, SP2, Acceleration Pack) and FS2004

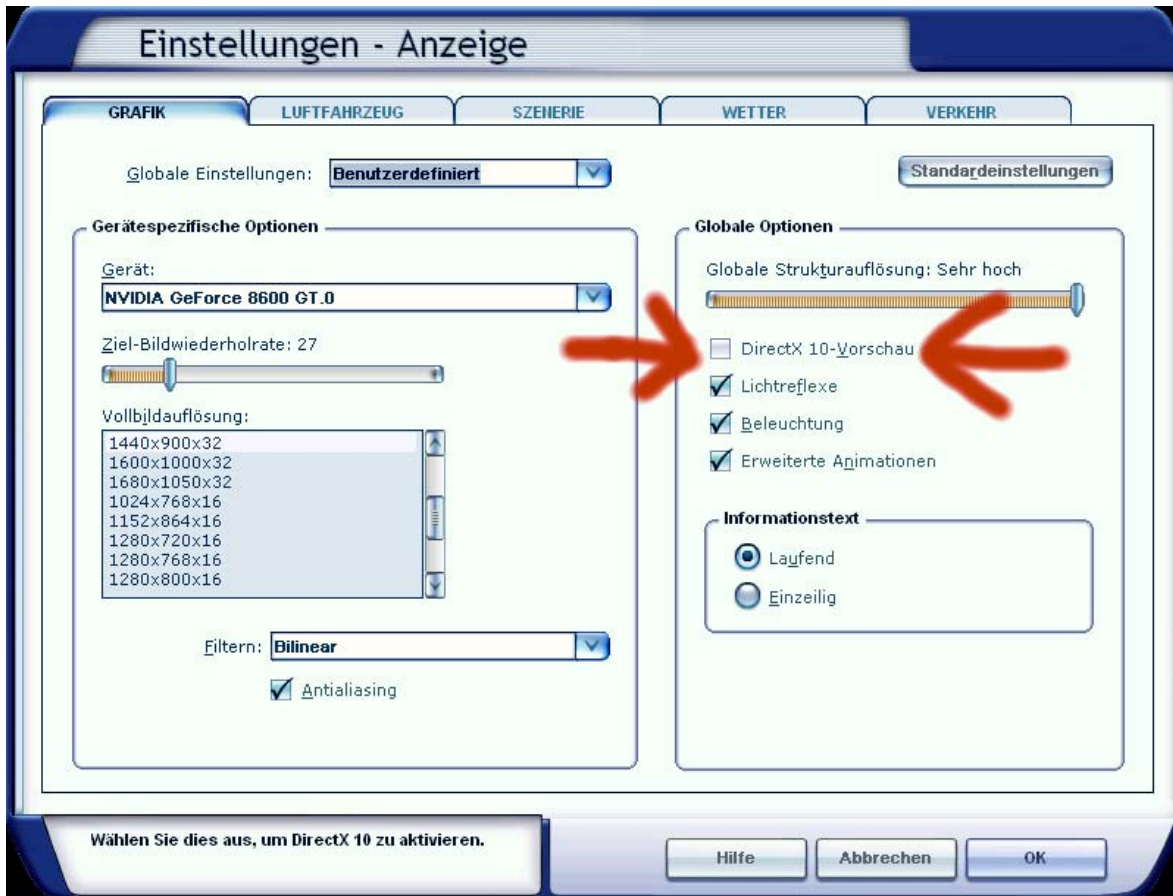
## Installation

1. For FSX download the „AFS-EFee-FSX.exe“ to a temporary directory of your choice.
2. For FS2004 download the „AFS-EFee-FS9.exe“ to a temporary directory of your choice.
3. Please start the „AFS-EFee-FSX.exe“ or „AFS-EFee-FS9.exe“ and
4. Install the AFS-design EUROFIGHTER.
5. Than you start the Flight Simulator
6. Choice a flight with EUROFIGHTERee, AFS-design
7. Choice a kind of fighter wing and the equipment
8. Control the loading
9. Than you start the Flight Simulator

## Problem with DirectX in FSX (SP2)

This program use DirectX9 only. Please switch out DirectX 10 trailer !

1. Install this add-on
2. Start the Microsoft FSX
3. Choose a plane your choice
4. Start the simualotion (click start)
5. In the simulation switch button "ALT"
6. Choose options / adjustment / display (graphic settings)
7. In the graphic settings windows choose graphic
8. Deactivate "DirectX 10 trailer" in small box ( without camisole )
9. Deactivate "Light" in small box ( without camisole )
10. Exit the FSX, and start the FSX new !



## Mission selection and free flight

Select „flight select “with FS2004 or „Missions “with FSX the category: „AFS\_EUROFIGHTER\_X “and select you one of the existing missions. Then click to „Take Off“.

**Einsätze**

Kategorie: (Alle Kategorien) **Alle Kategorien**

Leistungsniveau: (Alle Leistungsniveaus)

Gespeicherte Einsätze anzeigen

Titel	Niveau
Segelflugstrecke der Schwedischen Meister	ANFÄNGER
Geheimer Shuttle	ANFÄNGER
Patrouille im Wildpark	ANFÄNGER
AFS-Tornado-1E	ANFÄNGER
AFS-Tornado-6D	ANFÄNGER
AFS-Tornado-8E	ANFÄNGER
AFS-Tornado-2E	ANFÄNGER
AFS-Tornado-0E	ANFÄNGER
AFS-Tornado-3E	ANFÄNGER
AFS-EUROFIGHTER-1	ANFÄNGER
AFS-Tornado-5D	ANFÄNGER
AFS-Tornado-1D	ANFÄNGER
AFS-Tornado-0D	ANFÄNGER
<b>AFS-EUROFIGHTER-3</b>	<b>ANFÄNGER</b>
AFS-EUROFIGHTER-2	ANFÄNGER
AFS-Tornado-9E	ANFÄNGER
AFS-Tornado-7E	ANFÄNGER
AFS-Tornado-2D	ANFÄNGER
AFS-Tornado-4D	ANFÄNGER
AFS-Tornado-7D	ANFÄNGER
AFS-Tornado-6E	ANFÄNGER
AFS-Tornado-9D	ANFÄNGER
AFS-Tornado-5E	ANFÄNGER
AFS-Tornado-4E	ANFÄNGER
AFS-Tornado-3D	ANFÄNGER
AFS-Tornado-8D	ANFÄNGER
Flugstunde 11: Hubschrauberманöver 1	FORTGESCHRITTEI
Anflug mit Sturzspirale	FORTGESCHRITTEI
Reno Air Racing-Flugstunde	FORTGESCHRITTEI

**AFS-EUROFIGHTER-3**

*Microsoft Flight Simulator X*

**Beschreibung**

Monitoring flight to Saudi Arabia -- Start: Dhahran - King Abdullah Aziz Air Base -- Overflight/flyover: Riad -- Landing: Dhahran - King Abdullah Aziz Air Base

Löschen

In order to accomplish a free flight, please under „free flight “and „aircraft select “ the EUROFIGHTERee, AFS Design select.



## Keyboard

Please use a joystick adequate for the Microsoft Flight Simulator. Other are all Keyboarddefinitions like in standard manual of Flight Simulator.

### *Importance notice for FSX:*

*Please operate keyboard combination onto call: “STRG” and “E”*

Therewith the start of engines. After you can switch the engines with panel switch normal.

engine on	STRG E
canopy open / close:	shift E
tailhook down or up in FS2004	shift W
tailhook down or up in FSX	strg W
gear	G
air brake	#
Zoom in virtual cockpit: (not numeral field, but letter field)	+ -



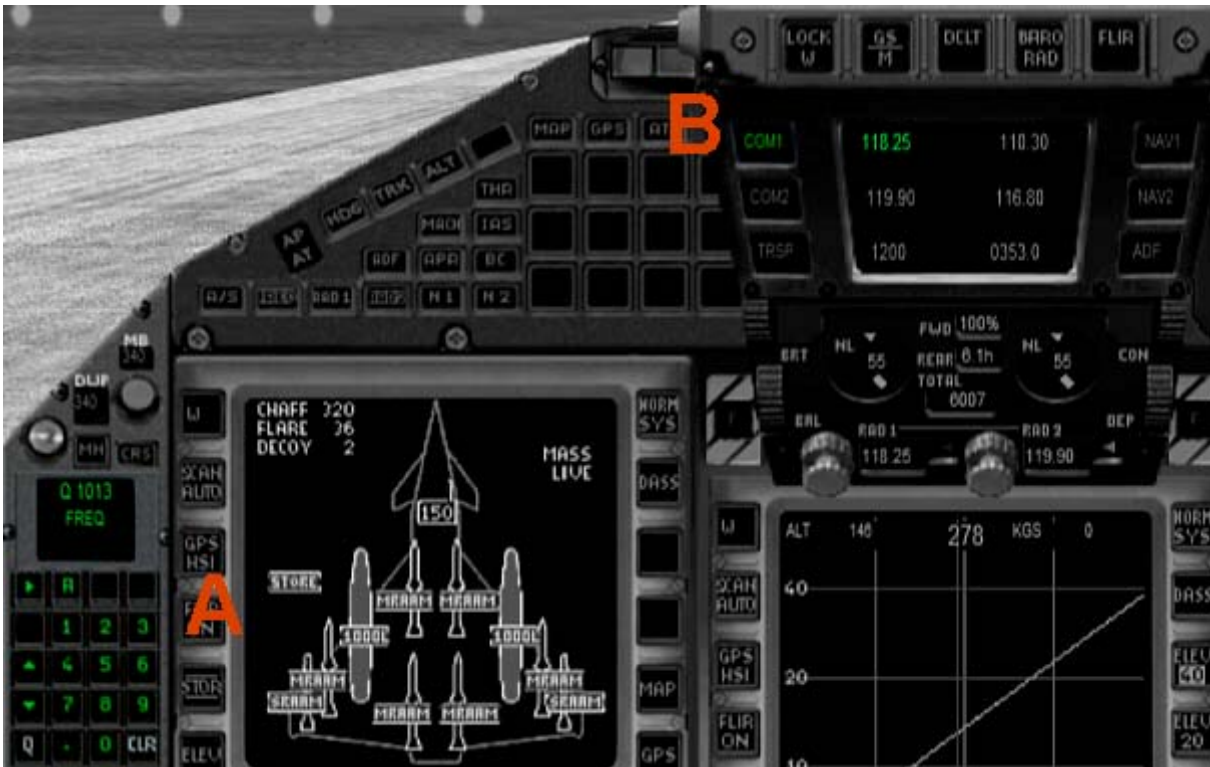
## The EUROFIGHTER cockpit – PANEL



- A – MFD 1
- B – MFD 2
- C – MFD 3
- D – „LEFT SIDE“ see rubric „LEFT SIDE“
- E – Autopilot – field
- F – HUD selection switch
- G – HUD display
- H – Multifunctionsgauge with vertical gyro, compass & bank indicator
- I – Flight director switch
- J – Autopilot master switch
- K – Autopilot high selection switch
- L – Safety switches ( not animate )
- M – Ladder ( here open/close canopy )
- N – Avionic master switch
- O – Landing – tailhook down
- P – Brake parachute ( here combination with airbrake )
- F1 & F2 – Engine fuel feeding interrupt







A – Input frequency 118.25 removed  
 B – Input frequency 118.25 transfer to COM 1 (press key COM 1)





Second example:

Adjust > A/P

Input a high „2000“ ft in the numberfield



Press key ALT !! (I mean ALT itude in the panel) !!

With them going to save the high „2000“ ft in the autopilot

## The EUROFIGHTER cockpit – AUTOPILOT – field



### Input in autopilot:

AP / AT – Autopilot / autotrottle master switch

HDG – Hold heading

TRK – Hold track

ALT – Hold altitude

MACH – Hold mach number

IAS – Hold indicate speed

### „LEFT SIDE“ field switch over:

A/S – Autopilot dates: input high, vertical speed and so on

FREQ – Frequency dates

### Audiosetting:

RAD 1 – Radio contact of RAD 1

RAD 2 – Radio contact of RAD 2

N 1 – Identification NAV 1

N 2 – Identification NAV 2

ADF – Identification ADF

## The EUROFIGHTER cockpit – MFD pages



„GPS“ – Page

A – Selection switch

B & C – Map + / -

D – Change page inside pages category



„SCAN AUTO“ – automatic radar scan

„SCAN 40“ – adjust radar range 40 NM

„SCAN 20“ – adjust radar range 20 NM



„FLIR“ – sensor dates of FLIR – sensor of the „Piratesystem“



„FUEL“ – Page



„HYD“ – Hydraulics monitoring – page



„STOR“ – Store



„ENG“ – Engine monitoring – page



- „DASS“ – Defensive Aids Sub System
- „DASS PLUS“ – Defensive Aids increase
- „DASS MIN“ – Defensive Aids decrease
- „MAP“ – Map in DASS



„NORM SYS“ – System state – page



„FREQ“ – Frequency page





- „MAP“ – Map mood
- „MAP PLUS“ – Map mood increase
- „MAP MIN“ – Map mood decrease
- „MAP“ – Map mood high (two times click )



- „HSI“ – Navigations page: VOR1, VOR2, NDB, DME
- A – Course selection switch NAV frequency 1
- B – Actual heading

# The EUROFIGHTER cockpit – Under switches



- A – Different Light switches (nav, beacon, strobe, taxi)
- B – Anti ice & pitot heat switch
- C – Battery master switch
- D – Open/close fuel drop
- E – Open/ close canopy
- F – Different function switches ( like avionic master switch )



- A – Gear lever
- B – Landing light switch

Referenceinformations

Total weight of aircraft with full tanks	56.000 Lbs
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$V_{MO}$ – limit speed	330 KIAS
$M_{MO}$ - limit speed Mach	0,84 Mach
Limit speed in turbulences	280 KIAS/0,84 Mach
$V_{LO}$ - limit speed for gear	270 KIAS/0,82 Mach
$V_{LE}$ - maximum speed for down gear	270 KIAS/0,82 Mach

$V_{LE}$ – limit speed with gear open	<b>292 KIAS</b>
Canoby open	60 KIAS

# EUROFIGHTER TYPHOON checklist

## BEFORE THE START

Parking brake TIGHTEN (pressures it STRG+PUNKT.)

## START THE ENGINE

Press STRG+E for the automatic engine start.

## AFTER THE START

Snow and ice removal AS REQUIRED  
 Autopilot ADJUSTING AND OUT  
 brake mechanism RTO (ABORTED TAKE-OFF)  
 Avionics switch on  
 Avionics ADJUST  
 Switch for round ambient light on

## BEFORE THE TAKE OFF

Flight Director on

## TAKE OFF

Brake SOLVE (pressures it the POINT KEY.)  
 Flashlights on  
 Transponder OLD (pressures it UMSCHALT+2 to indicate around the group of radio.)

## - RAISING ON APPROXIMATELY 10 DEGREES OF PITCH ATTITUDE -

Gear Up  
 Autopilot- Course selector switch AN AS REQUIRED  
 Airspeed V2 + 15 KIAS MAINTAINED  
 Autopilot ACTIVATE

## CLIMB

Automatic efficiency control off  
 Landing lights off WITH OVER 10.000 ft NN  
 Altimeter WHEN THE EXCEEDING 18.000 FOOT NN TO 29,92 ADJUSTING

## DESCENDING FLIGHT

Airspeeds (VREF, VAPP) COMPUTED AND ADJUSTED (see side reference on the knee board)  
 Brake mechanism AS REQUIRED  
 Snow and ice removal AS REQUIRED  
 Autopilot AS REQUIRED  
 Vertical adjustment lock lever AS REQUIRED  
 Avionik ADJUST  
 Airspeed <250 KIAS WITH UNDER 10.000 FOOT NN  
 Landing lights A WITH UNDER 10.000 FOOT NN  
 Approach procedure REPEAT

## Final

Gear DRIVEN out and CONFIRMED (pressures G.)  
 Airspeed As required  
 Spoiler ACTIVATE „#“  
 Autopilot As required

## LANDING RUN

Automatic efficiency control EXAMINE WHETHER OUT  
 Brake mechanism off  
 Brake If necessary (pressures it the POINT KEY.)  
 Autopilot EXAMINE WHETHER SWITCHED OFF

## IN HERE ROLES

Spoiler lever DOWN (pressures it # [ numeric character ].)  
 Lights AS REQUIRED  
 Transponder STBY

## PARKS

Parking brake TIGHTEN (pressures it STRG+PUNKT.)  
 Snow and ice removal off  
 Lights AS REQUIRED  
 Flight Director off

NOTE: The check lists for this aircraft, used in the real air traffic, were changed for the use in Flight simulator.

## Right

This product is a Add-On for the Microsoft Flight Simulator.  
It is build with FSDesign Studio 3, PHP and XML.

Please use a licenceversion of the Flight Simulator only.  
You may the addition use private only.  
Every dissemination or publication is forbid.

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