

MANUAL TOC

MAIN

1. IN A HURRY?

[Chapter Summary](#)

[Detailed Table of Contents](#)

2. GROUND SCHOOL

[Chapter Summary](#)

[Detailed TOC](#)

3. COCKPIT ELEMENTS

[Chapter Summary](#)

[Detailed TOC](#)

4. AIR COMBAT

[Chapter Summary](#)

[Detailed TOC](#)

5. CAMPAIGNS

[Chapter Summary](#)

[Detailed TOC](#)

6. CREATING PRO MISSIONS

[Chapter Summary](#)

[Detailed TOC](#)

7. ADVANCES IN FIGHTER TECHNOLOGY

[Chapter Summary](#)

[Detailed TOC](#)

8. APPENDICES

[Chapter Summary](#)

[Detailed TOC](#)

HOW TO USE

1. IN A HURRY?

Choose Activity Screen explains the options available from this screen, with links to information about each.

The **ATF** Interface explains how to use menus, buttons, switches and text buttons.

Quick, Single Mission Options explains the PLAY SINGLE MISSION and CREATE QUICK MISSION options of ATF.

Quick Mission Tutorial gives you an overview of your aircraft systems and weapons in a simple combat mission.

Multi-Player Connections describes how to set up network, modem and direct serial connections.

Multi-Player Missions describes how to set up missions, select aircraft and communicate with other players once you've started a multi-player game.

MANUAL TOC

DETAILED TOC

2. GROUND SCHOOL

Flight Physics discusses physical theories of flight.

G-Forces describes G-force and applied principles of flight.

The Flight Envelope introduces and explains the flight envelope.

Turn Performance gives tips on getting the most out of your fighter.

Maneuvering the Aircraft introduces aircraft controls and explains how to use them.

Taking Off and Landing gives step-by-step instructions on how to take off, navigate to a waypoint and land safely. It also explains how to conduct short takeoffs and vertical landings with vectored thrust.

Stalls and Spins describes how stalls and spins occur, and gives pointers for recovery.

MANUAL TOC

DETAILED TOC

3. COCKPIT ELEMENTS

The Cockpit explains how to hide and display the cockpit, rear-view mirrors and the *In-Flight* menu bar.

Head-Up Display introduces the Head-Up Display (HUD) and explains its symbology and modes of operation.

Instrument Display Windows explains each of the in-flight display windows and define the elements that appear in them.

View Controls lists all of the in-flight camera views.

4. AIR COMBAT

Finding The Enemy explains sensor systems and targeting.

Aircraft Weapons explains weapon guidance systems and gives range, sensor type and preferred target information for each weapon.

Using Weapons covers arming and firing for each weapon type.

Defenses and Countermeasures discusses defensive systems and gives tips for evading enemy missiles.

Combat Tactics introduces combat theory and combat geometry.

Air Combat Maneuvers illustrates specific maneuvers you can use during a dogfight.

Wingman Communication explains wingmen commands.

Effects of Damage explains how damage affects your aircraft.

MANUAL TOC

DETAILED TOC

5. CAMPAIGNS

Campaign Options describes how to set up a new pilot for a campaign game and explains how you progress through a campaign.

Campaign History — Egypt contains background materials for the *ATF* Egyptian campaign.

Campaign History — Russia gives background materials for the *ATF* Russian campaign.

6. CREATING PRO MISSIONS

Loading and Saving Missions explains how to load missions into the Pro Mission Creator, and how to save them as options on the Play Single Mission screen.

Designing Missions explains how to use the Pro Mission Creator to build complex, custom missions for one or more players.

7. ADVANCES IN FIGHTER TECHNOLOGY

A Brief History chronicles the field experience that drove the development of modern aircraft.

Agility discusses the technological advances that have lead to increased fighter agility.

Speed discusses the technological advances that have made aircraft faster.

Stealth describes the technology that make aircraft less “visible” to radar.

Sensors, Weapons and Avionics describes improvements in radar, avionics,

Electronic Countermeasures details improvements in aircraft defense systems..

APPENDICES

[Appendix A: Glossary of Acronyms](#) explains commonly used acronyms.

[Appendix B: Glossary of Terms](#) defines commonly used aircraft terms.

[Appendix C: Pre-Flight Menu Bars](#) lists all pre-flight menus and briefly explains the function of each menu option.

[Appendix D: In-FLight Menu Bars](#) lists all in-flight menus and briefly explains the function of each menu option.

[Appendix E: Object List](#) lists all of the Pro Mission Creator objects and their map icons, classifying them by type.

[Appendix F: Bibliography](#) lists sources used for documentation research.

MANUAL TOC

DETAILED TOC

1. IN A HURRY?

Choose Activity Screen

The ATF Interface

Menu Bars

Buttons

Text Buttons

Switches and Dials

Objects You Can Drag

Quick, Single Mission

Options

Play Single Mission

Create Quick Mission

Quick Mission Parameters

Replaying a Quick Mission

Editing Quick Missions

Quick Mission Tutorial

Quick Mission Tutorial Setup

Cheats

In the Air

Maneuvering the Aircraft

Communicating with

Your Wingmen

Using the Radar

Targeting a Ground

Object with FLIR

Firing Air-to-Ground Missiles

Finding an Air Target

with Radar

Evading Missles

Firing Air-to-Air Missiles

MANUAL TOC

CHAPTER SUMMARY



1. IN A HURRY? (continued)

Multi-Player Connections

Network

1. Setting Up for Net Play
 2. Connecting With Other Players
 3. Configuring the Mission
- Network Troubleshooting

Modem

1. Setting Up for Modem Play
 2. Connecting With Another Player
 3. Configuring the Mission
- Modem Troubleshooting

Direct Serial (Null-Modem)

1. Hooking Up Your Machines
 2. Connecting with Another Player
 3. Configuring the Mission
- Direct Serial Troubleshooting

Disconnecting

Multi-Player Missions

- Selecting a Mission
- Multi-Player Scoring Parameters
- Selecting Aircraft
- Arming Aircraft
- Pausing
- Dying in Multi-Player Combat
- Identifying Other Players
- Communicating with Other Players
 - Sending Messages
 - Creating Your Own Message Files

2. GROUND SCHOOL

Flight Physics

- Bernoulli's Principle
 - Consequences of Bernoulli's Principle
- Angle of Attack
 - Dynamics of a Stall
 - High-Angle-of-Attack Maneuvers

G-Forces

- Apparent Weight
 - Instantaneous vs. Sustained G-Force

The Flight Envelope

Turn Performance

- Turn Rate and Turn Radius
 - Corner Speed
 - Using Corner Speed to Your Advantage
- Effects of Weapons Loads

Maneuvering the Aircraft

- Pitch
- Roll
- Yaw
- Flight Stick
- Rudder Pedals
- Throttle
- Vectored Thrust
 - X-31, X-32 and F-22
 - STOVL Aircraft

2. GROUND SCHOOL (cont.)

Taking Off and Landing

Take-Off Tutorial

Pre-Flight

Taking Off

Navigating

Landing Tutorial

Controlling the Aircraft

Monitoring HUD Information

Making Your Final Approach

Possible Problems

Aborting a Bad Landing

Taking Off/Landing in a STOVL

Vertical Takeoff

Short Takeoff

Landing

Stalls

Avoidance

First Warning: Buffet and Tickle

Second Warning: Stall Horn

Stall Recovery

Controlled Stall

(Post-Stall Maneuvers)

Spins

Spin Recovery

3. COCKPIT ELEMENTS

The Cockpit

Head-Up Display

Constant HUD Features

- General

- Thrust Vectoring Aircraft

- STOVL Aircraft

Weapons Mode Features

- General

- Missiles and Guided Bombs

- Unguided Bombs

- Guns

Navigation Mode Features

- General

- Inertial Landing System

Instrument Display Windows

- Flight Envelope Window

- Front View or

 - IR/Laser Target Window

- Other View Window

- Target or

 - Radar/Visual Target Window

- Radar Warning

 - Receiver (RWR) Window

- Nav Window

- System Status Window

- Weapons Status Window

- Radar Window

- Radar Cross-Section (RCS) Window

View Controls

- View Panning and Zooming

 - View Reference Keys

4. AIR COMBAT

Finding the Enemy

Detection Systems

Eyesight

Active Radar

Infrared (IR) Systems

Radar Warning Receiver

Weather and Sensors

Distinguishing Between Friends
and Foes

Targeting

Targeting Aircraft

Targeting Ground Objects

IR/Laser Advanced Targeting

Tracking Your Target

Aircraft Weapons

Air-to-Air Weapons

Air-to-Ground Weapons

Weapon Guidance Systems

Summary

Semi-Active Radar Homing
Weapons (SARHs)

Active Radar Weapons

Infrared-Homing Weapons

Laser-Guided Weapons

HARM (Radar-Homing) Missile

Weapon Information Chart

4. AIR COMBAT (cont.)

Using Weapons

Selecting a Weapon

Arming a Guided Weapon

SARH

Active Radar

Infrared (Air-to-Air)

Infrared (Air-to-Ground)

Laser

HARM

Gaining Firing Position

Guns

Missiles

Bombs

Firing

Firing a Guided Missile

Dropping a Guided Bomb

Dropping an Unguided Bomb

Defenses and Countermeasures

Signatures

Jamming

Warning Tones

Chaff

Flares

Defending Yourself

Beating Radar-Guided Missiles

Beating IR-Guided Missiles

Jinking

MANUAL TOC

CHAPTER SUMMARY



4. AIR COMBAT (cont.)

Combat Tactics

- Situational Awareness
- Combat Geometry
 - Angle-Off-Tail (AoT)
 - Cone of Vulnerability
 - Aspect Angle
 - Closure Rate
 - Turn Rate/Radius
 - Corner Speed
- Pursuit Curves
 - Lead Pursuit
 - Lag Pursuit
 - Pure Pursuit
- Speed vs. Altitude
- Choosing Your Attack
- The Energy Fight
- The Turning Fight
 - Two-Circle Fights
 - One-Circle Fights

Air Combat Maneuvers

- Break Turn
- Barrel Roll
- Scissors
- Spiral Dive
- High-Speed Yo-Yo
- Low-Speed Yo-Yo
- Immelman
- Split-S
- Thrust-Vectoring Turns
- Herbst (Post-Stall)
- J-Turn
- Hover
- Engaging Ground Targets

Wingmen Communication

Effects of Damage

MANUAL TOC

CHAPTER SUMMARY



5. CAMPAIGNS

Campaign Options

- Start New Campaign/Continue Old Campaign
- Select Pilot Screen
- Pre-Flight Screens
 - Mission Brief Screen
 - Mission Map Screen
 - Aircraft Selection Screen
 - Load Ordnance Screen
 - Aircraft Repair Screen
- Ending Missions
- Losing the Campaign
- Winning the Campaign

Campaign History — Egypt

- Jane's Intelligence Review : Pointer*
 - Egypt's Hard Line Policy
 - Pays Off (abr.)
- Jane's Defence Weekly*
 - Flashpoints — Egypt
- Frontline: The Middle East*
 - Egypt Slow to Handle Rebel Takeover

Campaign History — Russia

- Jane's Intelligence Review*
 - Decline and Fall:
 - The China Card (abr.)
- Encyclopaedia of Military History*
 - The Maritime Region
- Frontline: The Pacific*

6. CREATING PRO MISSIONS

Loading and Saving Missions

Designing Missions

Establishing a World

Set Map

Set Friendly and Enemy Sides

Set Weather (and Time of Day)

Set Screens

Set Skill Levels

Looking at the Mission Map

The Show Menu

Scrolling and Zooming

Adding Objects to the Mission Map

Selecting and Moving Objects

Duplicating and Deleting Objects

Defining Objects and Assigning
Them Targets

Creating Wings

Grounding Aircraft and
Delaying Takeoff

Assigning Objects Waypoints

Creating Loops

Setting Waypoint Formation
and Objectives

7. ADVANCES IN FIGHTER TECHNOLOGY

A Brief History

World War II
Korean War
Vietnam
Desert Storm

Agility

Fly-By-Wire (FBW) Control System
Tailless Aircraft
Thrust Vectoring
Composites
Supercritical Wing
Forward-Swept Wing (XF-29 only)
Close-Coupled Canards

Speed

Engine Technology
ATF Engine Requirements

Stealth

Radar Cross-Section (RCS)
RAM/RAS Surfaces
Intake and Exhaust Concealment

Sensors, Weapons and

Avionics

Radar
IR (Infrared)
ATF Avionics
Radar and Infrared Missiles
HUDs and MFDs
Head-Up Display (HUD)
Multi-Function Display (MFD)

Electronic Countermeasures

Radar Warning Receiver
Electronic Jammer