The USENET Guide to Falcon 3

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1.0 Introduction

This document is based on a collection of USENET postings and electronic mail made since February 1992. It was then that I started collecting Falcon related postings which I found interesting and useful. Approximately 600 messages from Spectrum Holobyte employees and game players in at least 10 different countries containing over a megabyte of information has been collected since then. This information has been cataloged, categorized, and summarized in the following sections.

I started out thinking about writing a FAQ (document on Frequently Asked Questions) for Falcon and decided that it wouldn't be enough to cover all the wonderful intricacies of this simulator. Instead, I decided to write a guide which I started on around the end of September. It wasn't long before the guide started to look more like a book and the finish date kept getting longer and longer. In fact, the number of postings that I have collected has doubled since September. Needless to say, I have to call it quits somewhere and now seems as good a time as any. This document represents about 400 of the 600 total I have. The contents of the rest are available using WAIS as explained later. I don't know if I'll ever get ambitious enough to catch up with the rest as I already have too much to do (and play :-).

The organization of this document is based on some arbitrary ordering that grew out of the categorization I tried to do. It probably isn't the best, but it will do. Many of the articles were very difficult to categorize as they pertained to more than one major area. In particular, the stories usually contained reviews or bug reports as well. Where possible, I split single postings into multiple entries and placed them in their approprieate section. However, it's probably best to just read the whole thing and try to soak it up.

The articles are displayed with their author and date to give you an idea of who is saying what. After a while, you will get a feel for the authors, their likes, dislikes, and BS factor. I originally had intended to summarize the postings, but I found the info about the author so useful, I hated to get rid of it (or maybe it was just the amount of editing that I didn't look forward to). The dates become important too as you can better relate to the particular version of Falcon and the experience of the author. WIthin a section, the articles are listed in chronological order by the authors posting date.

Articles which are quoting and replying to a previous article will use an indented paragraph style. You may find some editorial comments in brackets (e.g. [comment ...]) interspersed where I thought necessary to make the text meaningful. I have spell checked this document, but have left in much of the mispelled words where I thought it was intentional by the author. There may be some others that I have missed as well.

I hope you enjoy this. It's been both a pain and a pleasure to put together.

2.0 Trivia

This section contains articles which aren't necessarily useful to know for using the simulator or I just couldn't figure out where else to place them. Again, the placement of an article may not be ideal, but may reflect more about how I generally felt about what the article contributed.

The History section contains some historical aspects and conversations on the development of Falcon. I would like to have included more on the history and a little on its lineage, but I never heard from anyone after a made my query (one of the few times the net has let me down).

The "There I was" Stories section is a collection of all the gems and tall tales we love to hear. It's a fun section to read and is certainly one of my favorites. Some of the stories border on being testimonials and you can certainly find more stories in Testimonials and Reviews.

Testimonials and Reviews gives everyone and their brother's impressions of Falcon and how it compares to other things on the market.

The Inner Workings is a collection of articles on how Falcon works. I hard a hard time trying to decide where this should go. It kind of belongs with the Tips, Tricks, Tactics, and Strategy section and yet it doesn't.

Falcon vs. Reality is where a lot of heated debate occurred over whether or not Falcon modelled reality and even whether or not it should. If you're a flight simulator fanatic, you'll want to read it.

2.1 History

roeschmf@craft.camp.clarkson.edu *29 Apr 92*

OK, people, here's the dirt as I understand it. A-10 from SH is not even close to completion. Sh has decided to instead release an F-18 simulator in the mean time. It will supposedly be EBS compatible, and include things like carrier launches/landings.

Joel_Murray@mindlink.bc.ca *29 Apr 92*

Wrong. According to No. 19 on CIS (GAMPUB forum), Spectrum Holobyte has now decided to release A-10 instead of an F/A-18 simulation, even though they had announced the contrary recently.

mkk9316@tamsun.tamu.edu *17 May 92*

I wouldn't hold your breath for patch E. I got the impression from the SH rep on GEnie that D was the last patch that would be released. They may include some additional fixes/ enhancements with the campaign disks.

ccmei@edison.seas.ucla.edu *25 May 92*

Spectrum Holobyte considered calling the 3.0D patch version 3.1 because it has a lot of additional features and improvements over 3.0. No 3.1 exists, I don't think.

bash@cbnewsd.cb.att.com *26 May 92*

Actually, the beta crew had devised an excellent system allowing stored configurations and flexible copy commands for loading arms, but SH decided not to implement it.

[In response to a request for AWACS providing more info...] AMEN! We begged SH to incorporate this, but they wanted people to fully use HFR radar, so they purposefully limited AWACS usefulness. Then, to aggravate matters, they refused to fix bugs in HFR radar. This is a very annoying situation.

Again, we begged SH during the beta phase to allow better control of wingmen.

SH discussed this [waypoint arrival time planning] with us. We stated there must be a way to guarantee arrival times to waypoints. SH flat out told us this was too difficult to do, and that FOTI (written by Rowan and distributed by SH) had this function, but "cheated" They did not elaborate on what "cheated" meant.

The bottom line: most things that people want to have in F3 was discussed, but SH felt it was too costly to implement. Fortunately, FALCNR F3MAPS and F3ILS solve most of the remaining, critical problems.

BTW, a hacker on CIS found the following text string in buried in F3: "NAMLIG SI DAED". Bears a close resemblance to "GILMAN IS DEAD"

Joel_Murray@mindlink.bc.ca *9 Jun 92*

According to No. 19 (Marisa Ong, the S-H rep on various BBS services), the S-H database of registered owners of Falcon 3.0 got screwed up. Send an e-mail message to S-H's Internet address informing them of your address, the serial number printed on one of the disks in the package, and that you would like the update. You should then get your version D in the mail not much longer after that. I did! :-)

masten@beta.lanl.gov *9 Jun92*

Just in the latest CGW:

An add for Falcon 3.0 Fighting (not Flying) Tiger. “Fly your F16 to Korea, Pakistan/India border, to Japan and the disputed Kurile Islands, where you can also fly the advanced FSX.”

The add shows a picture of an F16 flying over water, firing at a carrier. The carriers graphics don’t look as nice as in AotP. But admittedly, it is pretty far off in the distance.

> From what I remember from History 101, the Kuriles are Japanese controlled since the 1904 defeat of Russia (Sino-Soviet war??). Russia wants them back! (at least till recently).

The FSX was the joint venture to have Japan build a modified F16, right? Didn’t this project get cancelled?

Conversation with the SH rep who posted here recently indicates that yet another fix is planned. I’m not sure if it will be released as Patch E, or perhaps with this expansion disk.

gavin.adams@lso.mts.dec.com *18 Aug 92*

Operation Fighting Tiger will be out the first week of September. The disks are on their way to production and the manual is being printed. It includes significantly more stuff than any ‘add-on’ product of its kind ever has. Many people will be surprised by what they get. It comes closer to being a completely new product than it does an ‘add-on’.

Some features of note include;

3 new theatres of combat (Korea, Kashmir Province, and the Kurile Islands) New Aircraft Naval Task Forces New types of missions including some never seen before The FSX (Yes, you get to fly one) Falcon 3.1 (Yes that’s right, Falcon 3.1) and last but certainly not least...

... OUR NEW LOGO ...

I’m purposely not telling you what the coolest new things are, but you’ll hear about them soon enough.

AJ Redmer Executive Director, R & D Spectrum HoloByte

Joel_Murray@mindlink.bc.ca *21 Aug 92*

Some more info on Fighting Tiger from SH (reprinted without permission):

#: 138112 S5/Spectrum HoloByte 17-Aug-92 22:59:04
Sb: #Upgrade or no upgrade?
Fm: Spectrum HoloByte 76004,2144
To: Stuart Malis 71730,560 (X)

Dear Stu:

“Do I correctly understand your message to mean that Op Fighting Tiger will in effect upgrade my _entire_ Falcon 3.0 program to ver E, so that one who gets Tiger does not have to get the E patch?”

In essence, the answer is “Yes.” But the complete answer is that Operation: Fighting Tiger will update your FALCON 3.0 program beyond FALCON 3.0e. It’ll have stuff added that’s specific to the Campaign Disk, such as the FSX and Harpoon. FALCON 3.0e will only be a subset of Operation: Fighting Tiger.

No.19

masten@beta.lanl.gov *20 Aug 92*

Thanks for the feedback! There’s a new feature in Operation: Fighting Tiger that lets you adjust the overall campaign difficulty. This will determine, among other things, how many enemy planes are generated.

[masten: Yeah!]

We know that all those planes are not realistic, but most players want to see action. No one wants to cruise for an hour real-time and have one dogfight :-)

[masten: I do! If I want “action”, I’ll load F15SEII :-)]

We fixed the fuel usage mix-up, but the flight models will stay the same.

[masten: Booo!]

Flight models are probably one of the trickiest parts of the sim to program, alas. Some players like the High Fidelity stick response; others hate it. I think it’s great for dogfighting but lousy for bombing and landing.

[masten: I think it sucks. But maybe other sticks are better for it than my CH Flightstick]

Enemy radar will now broadcast before they lock on you in Operation: Fighting Tiger. Now your Shrikes and HARMs will have a fighting chance.

We’ve gotten rid of the excess medals problem and the pilot’s dogfighting skills rolling over as well.

dpipes@spica.srg *25 Aug 92*

Just talked to SH last night. Fighting Tigers is 7 to 10 days from distribution as of Monday.

The rep said that the game included so much technical information and new toys that the learning curve was considered to be about the same as the first game. He said the marketing people were upset by the complexity of the simulation :-).

Included will be: Russian naval units to attack, Harpoon missiles (he spent some time discussing how hard it is to get to the optimum release point for these), “scads” of new (naval) SAMS, “lots” of new weapons for the Falcon and FSX. And *seven* radar modes, all still compatible with the Thrustmaster toys.

He also indicated that the difficulty level/number of bogies is a hot issue right now, with the gamers wanting planes to shoot down and the purists wanting to get the number of opponents actually right. He pointed out that some of the designers were upset that the Iraqis had many more planes in F3 than in real life, for example. Who knows, maybe the purists will win.

I guess the tone of the conversation was “if you like detail, you’ll *love* this”. I guess we’ll see, hmmm?

Oh yeah, lots of Easter eggs, just like the first version :-).

krotz@rtsg.mot.com *2 Sep 92*

Well, operation fighting tiger is out now - I picked it up at egghead today for $25. It requires falcon 3.0, and updates the version to 3.01. It adds three new theaters of conflict: The kurile islands (Japan), Korea, and Pakistan. Here are some of the changes/new features:

new planes - can fly F16 or FSX (updated version of F16) new enemies - Mig-31 foxhounds, Q-5 mirage 2000s, and UMF’s (unmanned fighter’s) heavy AAA, dug in tanks, etc. new weapons - AGM-84A harpoon anti-ship missiles new digitized sounds for old and new radio messages new wingman commands sky color changes for day/night, terrain color changes new TWI codes to designate new kinds of radar better more realistic ILS modes more weather improved debriefing AVTR v1.1 missiles can be tracked in padlock mode updated radar features updated head to head mode option to jettison stores difficulty levels in campaign mode! Can set to easy, standard, or hard. This affects the number/rate of resupplies and replacements, and the number and mobility of air defenses, and the number of bogeys.

among the new features are the inclusion of missions to destroy ships, suppress enemy air defenses, reconnaissance, or beach assault.

I’ve installed it and played with it a little, and it seems pretty good so far! It blows away any current campaigns/squadrons when you install, so finish off your current campaigns before you rush out to get it! Hope this is enough info for now...

2.2 “There I was” Stories

knutson@mcc.com *20 Feb 92*

I’ve been taken out on a takeoff roll by an SU25 flying CAS over my air base. This has happened more than once. Other times I have to fight my way into a base to land. Geez.

jlong@uhunix.uhcc.hawaii.edu *23 May 92*

BTW-- There are also infantry troopers, and they march. Yes, they *march*! Set up a red flag practice with some infantry on the ground (where else ;) and land near them and carefully taxi up... their legs move at the knees, and arms move at the elbows! How bad is that?

ptran@watserv1.uwaterloo.ca *14 Aug 92*

Speaking of depth, the other day I had a pretty interesting Red Flag mission in Kuwait (with the help of F3Maps). I started off on the runway of an enemy base, with allied ground units invading it. Right from the start, SAMs were launched all around me, and I didn't even make it into the air. So I hopped into debug mode and roamed the battlefield. What I saw was so incredible! There was an allied tank going around blasting the hell out of the Iraqis. It would select a target, and then close in. Once in range, it would start firing. With each shot, you saw a flash in its turret and a dirtball in the distance. A couple misses, then bulls eye! The target went up in smoke and debris. Then the tank would pivot and seek out another vehicle. Once, it was attacking a personnel carrier. The first two shots were near misses, but the target vehicle stopped dead in its tracks and soldiers spilled out of it! I had thought that Falcon didn't pay much attention to the ground units, because you, the pilot, surely didn't as you are fighting in the air. But there is an actual ground war, with the vehicles and artillery fighting as single units, and not merely as clumped statistics. That's pretty amazing.

a2sim@napier.uwaterloo.ca *15 Aug 92*

Have you tried landing your plane on top of a mountain, and then having it slide down the side, with no jet assist? I don't know how accurate the actual normal, gravitational, and frictional forces are calculated, but the ride down the mountain feels quite realistic. Sometimes, when I take a bit of air, I would retract my gears and let my jet slide on its belly while Bitching Betty hollers Caution! Caution!

dbr@ocf.berkeley.edu *22 Aug 92*

Another sight. I shot down two enemies and watched their pilots parachute to the ground. I then landed next to them. They are no taller than my nose wheel on X2 and just get up to the intake at X8. They just stand there and don't do anything. I ran out of bullets, so I couldn't try to shoot them. I did try but was unable to run them over!

ptran@watserv1.uwaterloo.ca *23 Aug 92*

A friend of mine has been able to shoot down parachutes, though he says it's quite hard. What happens is that the chutes collapse and the ejected pilots plummet to their doom. Haven't asked him what it's like when they splatter.

opus@cbnewsc.cb.att.com *24 Aug 92*

I decided to see the water faucet I'd heard about that sits at the source of the river on the Nellis map. I was able to spot it using the map zoom feature, but wanted to see it "in person." On the way there, I flew through the winding canyon, and noticed some strange specks on the canyon walls. On closer (ACMI) inspection, I saw that the specks were really people on horseback! Sorry if this is old news...

hogue@cs.arizone.edu *27 Aug 92*

Does anybody else out there run into allies as much as I do? I plowed into b-52's on 3 separate occasions, mostly due to dogfighting fury. Nothing is more embarrassing than to watch as a fiery B-52 heads down as your destroyed (not downed, no chance to eject. It's like hitting a bus) plane disappears into smoke.

masten@beta.lanl.gov *29 Aug 92*

Flew against Gavin in direct connect 2-player duel. Tried an Immelmann after our initial head to head pass. He was in padlock, never lost sight of me, and quickly got on my tail. Put me away with gun shots. OK, it was a dumb maneuver! But with padlock, you never lose sight, so it never pays to try to be cute and lose your opponent. Further, I don't think it's worth a damn to turn off your radar when close. Normally, you might want to do this when outside his radar so he doesn't see you with the TWI. But with padlock...

Speaking of which, I returned the favor with a gun kill on him. I think he got one missile kill on me (before the first pass. Shame on you Gavin!). Isn't it a tad strange that with these hi-tech fighters, the only legit kills we got were with guns?

Anyway, for those interested in 2-player mode. It is great fun. We couldn't get it to work by modem. It would be slow as hell anyway. Even by direct connect, half the time the machines lost each other, so there were a ton of reboots. Best flight IMO (after my gun kill!) was a two player allied in a Panama campaign. I flew CAS, Gavin flew CAP. You can communicate a whole lot better with a live wingman sitting next to you. Now flying a combined pilot/WSO would be a blast.

dpipes@spica.srg *1 Sep 92*

I was wandering around in the "free view" debug mode and followed a road from west of Las Vegas way up north to a gun range. Is this site used by any of the training scenarios? Anyone else find any neat places to check out? I also found the large "Falcon" logo nearby.

A nearby area also has a road around a mountain with 3 bridges and some enemy vehicles. I noticed that the enemy vehicles have red panels on the turret sides to mark them as enemy. Details, details, details...:-)

jlong@uhunix.uhcc.hawaii.edu *2 Sep 92*

A while back someone posted an article mentioning some interesting details on the landscape in Red Flag. Patch ‘d’ added some features, among them a giant faucet at the upstream end of Virgin Canyon (real name of a real place).

There are some arches or some kind of superstructure on Hoover dam, and you can fly through them. You can also fly through the targets in the gunnery range.

What I would like to see is a nice bridge to fly under. Whoever posted that article back a few months ago, where is that arch bridge you mentioned? And yes, you were right. Sorry for calling you a liar, fool, etc. I am.

dpipes@spica.srg *3 Sep 92*

So my roommate tools along, picking up two Mig-27’s as escort behind him. They and the fleet repeatedly light him up; he figured that to show the flag, he needs to be at 10000 feet! His wingies *beg* him to let them attack; one keeps breaking off to track an enemy, then comes back when his request is denied. All the time the SA-N-6 and other radars are tracking. But he holds off, obeying ROE.

As he hit the turn-around point, about 10 nm from the fleet, he turns around to head back. He had used the SEA radar to lock onto each ship in turn, to scare them. As he turns, the APG-69 goes wild with radars and missiles, and the 27’s immediately launch on two of his planes. 40 seconds later, all his planes are sinking wrecks, 3 of 4 pilots dead.

This is a *true* problem; the Kuriles scenarios are full of them. If this theatre is a test of future directions for the Combined Battlefield games, I heartily approve! ROE are great!. BTW, if *I* get the above mission, the first and last those fleet types will see of me is 4 heavily salt-encrusted bogies rising in a quick turn away 10 nm out, heading away at 700 knots 500’ AGL. I refuse to be a chew-toy for the Admiral Kuznetsov and his band of merry Kirovs!

umeister@hardy.u.washington.edu *12 Sep 92*

> The other day, I had just returned from my mission, and was waiting for my other flights to come home, when suddenly several MiGs started to sneak up on the base. I thought that I had better rev up my engines to intercept them, but then I saw that the ground units around my base had come to life and were tracking and firing at the bandits. I jumped into padlock view and watched each individual MiG get wasted by friendly SAMs. One MiG was right on top of me when the missile deflowered it, and the view was just spectacular!

I’m sure many of you OFT guys have seen this, but I was utterly amazed to see that in one of the “sink ship” missions in the Kuriles, an entire task force of Russian landing ships was headed towards an airbase, which promptly began firing every gun in the vicinity, sinking the landing ships. Meanwhile, soldiers would be jumping out of the ships and heading towards land. Pretty amazing detail if you ask me. Great job, Spectrum Holobyte!

donham@dbldog.enet.dec.com *4 Sep 92*

The rules of engagement add a nice twist to the Kuriles campaign. ROE was not to fire unless fired upon, and I watched a flight of MiGs do loops around my formation until one of my flight got scared and bugged out. One of the MiGs gave chase, and things got nasty...it quickly escalated into a shooting match, with more MiGs coming in from the Russian carriers.

blj@kepler.unh.edu *16 Sep 92*

I did get one “surprise” during one mission (Korea). When things are slow, I tend to be lazy and simply put it into autopilot and hold down the accelerate key. We had been loitering for some time when my wingpeople started giving the “low fuel” warning, so I skipped breakpoints for home, and switched to autopilot. After a bit, I noticed that the distance to the waypoint was *increasing* rather than decreasing, and wingpeople giving “low fuel” every couple of seconds. A quick look at the map showed I was almost at the coast, heading for the sea, almost 180 degrees off the appropriate course to base. Just as I was about to pop off auto and turn around, the plane banked around hard, and started to land at a small landing strip! When the mission was over (a great success by the way, we cleaned out all 6 planes we were sent after, and got 4 more as a bonus) I checked the map, and sure enough, there was an small landing field there. Maybe this has happened to others, but it was the first time that I have seen anything like it. It does *imply* that if you have another airstrip available, you can head for that instead of your home base if it is closer (or safer)! At least I was not penalized in any way that I could tell, two pilots got medals, the mission was a success, and the planes and pilots were available for the next mission.

Has anyone noticed anything that looks like cruise missiles. On one mission, again when things were a bit dull, I was using the “7” key to see if I could find where my other flight was when the view locked onto a very small plane like object (more like a missile with little wings, hence my guess as to what it was) which seemed to be flying approximately NOE (up over hills and all). I continued to watch it, since I had never seen anything like it before. After a bit, it suddenly I pitched down and made a rather impressive explosion (I don’t know if it hit anything though).

masten@beta.lanl.gov *16 Sep 92*

I thought the manual, or F3 Air Combat, said you could land at other bases, but your planes would be unavailable for the rest of the day. Since your flight was a night flight (right?), I guess they would be available the next mission.

kra@cunixa.cc.columbia.edu *21 Sep 92*

I had just waxed a couple of TU-22s over the skies of Pakistan, and as I turned back around to my waypoint, I saw a couple of white things in the sky. I flew in for a closer look and saw the crew of the recently wasted bombers. The evil side of me took over and I let off a burst from the M61. To my <<utter>> amazement the chutes collapsed and the poor bastard plummeted to his death!

The only thing sicker than someone shooting away the parachutes of someone is somebody programming this feature into a game! :)

edwards@cpsc.ucalgary.ca *25 Sep 92*

Thanks to those who told me how to see those sorry little guys poor out of there burning vehicles. Though I was a bit depressed, realizing I hadn't fried those 3 man sam crews, just dispersed them. It seems to me that any soldiers even caught in the shock wave of a bomb or CBU (since each CBU has like 200 bomblets in it) should be blown to bits. Tell me a CBU hit 10 feet away from 3 guys is just gonna make them 'run away'. Also what was neat was the different amounts of damage for vehicles. My CBU killed 2 tanks, but one burning tank had a plume that consisted of just flames and no one jumped out, while the one next to it had a plume that consisted of a mixture of flames and smoke, and guys were jumping out; talk about detail! Tried out the Debug mode too - cool!

Also yesterday I saw a Siamese twin SU-25. I guess the 2 planes were flying so close to each other (like 1 foot away) that they were over lapping.. sometimes an extra nose or tail would appear.

jlong@uhunix.uhcc.hawaii.edu *28 Sep 92*

This weekend, while playing Falcon at a friend's house, I was going through some Red Flag missions that I created in the summer and forgot about.

In one, there were 2 B52's coming in for landing at an airbase, while 2 Mig29's were coming in to attack them. At the same time, there were a mess of enemy ground forces about 5 miles away from the base and some warthogs pounding them.

Me and my (1) wingie had one of the Migs bracketed from about 5 miles away, and my wingie fired a sidewinder which the mig dodged. I was about to make my shot, but holding back, as the wingies tend to fire at will, and didn't want to waste a missile.

All of a sudden a missile streaks by on my right side (wingie was on the left). "What was that?", I thought. Maybe I should check 6 once in a while... then a friggin WARTHOG streaks by. The missile takes out the Mig! Not bad. At this point I checked to see if my AVTR was on. It wasn't, so I turned it on, and started to follow the warthog.

He flies straight and level towards god knows what, then suddenly breaks right, and flies straight for another Mig29, engages the mig, then *suckers the mig into plowing into the ground*!

I couldn't believe it. A warthog on S&D is apparently not to be taken lightly. Not to be outdone, I killed a tank by ramming it.

I get *much* more satisfaction from a guns kill than I do with a missile, and use missiles only to "thin out the herd" so I can torment the survivors. But even more satisfying is the kind of kill where you sucker your opponent into running into the ground. The canyon at Nellis is a great place for that. One way is to pull a diving half-loop from *just* the right altitude. Another is to just follow the terrain *close* with someone on your tail, then fly over a sudden change in terrain, such as a mountain top. The AI that controls the enemy planes apparently tracks you through the terrain, and does not notice it, following a straight line to you. Why waste the taxpayers' lead?

Another fun way to get a kill is to get close to the ground and drop a bomb, letting the burst do the trick. Practice on your wingmen.

Anybody else have an unusual way to smoke a bogey?

lrj@helios.tn.cornell.edu *29 Sep 92*

MANY thanks to those who provided information about Debug mode and such. It's quite fun to watch as a ripple of CBUs clobber a convoy of ZSUs. :) Then there was this MiG pilot who happened to find his way into my cannon's field of fire at about 25k feet. He ejected (of course) and I used the debug mode to observe his descent. I was starting to wonder if his chute was ever going to open... It finally opened at 5k... Aww. (WHO was the sicko who first though of launching a few cannon rounds at a parachute??? :)

edwardsc@cpsc.ucalgary.ca *30 Sep 92*

While we were talking about cool ways that we killed bogeys, how about cool (annoying) ways we killed ourselves?

The one that remains in my mind is the mission where I was flying and got the radar of a ZSU on my threat indicator. I was getting a little flak so I decided to look for it. Well I couldn't find it, though I knew it must be close as I was getting flak. Well I just flew around and around, knowing it must be close. I got tired so I decided I'd turn hard and try one more time. This time I finally found it. I was very relieved..though the relief lasted 1 sec, as I realized I was about 1000ft from it flying straight towards it, and it promptly blew me to pieces!

And there's also the case where I completed my mission, landed, parked my plane, then my wingman landed, and decided he wanted MY parking space and rammed me from behind, blowing me up. @!@^%&@#!!!!!

Would they put in a bitching bart for female pilots? *<:o)

redel@odie.ee.wits.ac.za *1 Oct 92*

I have a LARGE confession to make on this one, but bear with me and try not to snicker too much....

I have only had OFT for about 2 weeks now, and have played far less than I would like to. However, I started on the Kuwait campaign (was this a good idea?) and landed up ACTU-

ALLY SUCEEDING IN A COUPLE OF MISSIONS. Thanks SH for making the EASY campaign setting :-)

Anyway, I finished one (2300) mission where I had to bomb something, and actually managed to release the bombs, fly home via a couple of Mig-21s/TU- 22s, and got to the part where the flying had to stop and the landing start.

It's at this point that I (most of the time, anyway) press the 'A' key and get amazed at how the autopilot lands (flying over the runway, do a sharp turn ALWAYS to the right, fly out for about 2 miles and then turn smooth and nicely to put the wheels down on the number, every time, makes me sick). YES GUYS, I CAN'T LAND PERFECTLY EVERY TIME!!!! Go ahead, call me a weenie, etc. I can handle it (actually how many other guys out there have the courage to admit they are so inept that they land on autopilot?)

Well, the short of it is that the AP landed perfectly, but to my horror I realized that there was a burned out B52 on the runway. True to the spirit of the game, the AP didn't expect it there, so it kept going. I rapidly took evasive action (turned off AP, hit the brakes, cut the engine, hit the wheel brakes, almost lifted the landing gear) but didn't stop in time.....

Yup, I crashed into a crashed B52 on the runway. Landing on AP. I'm ashamed, but then I don't think anyone else has managed this, so it's kinda unique.

U8843691@csdvax.csd.unsw.edu.au *6 Oct 92*

A couple of days ago I was flying with my (computer) wingman on a CAP, when I noticed two bandits behind us (MiG-21s). I thought that I would try something different this time. When they got within two miles I ordered my wingie to break high and I kept flying straight and level. When I noticed that they did not follow my wingie and they were pretty close to me I ordered my wingie to engage, and he managed to down both of them with firstly a AIM-9M and then a gun kill.

Although I did not get credited with the kills I found it very rewarding because there are no other sims that can offer this level of sophistication.

knutson@mcc.com *6 Oct 92*

I also had fun watching a ground battle in Korea the other day. I had just finished off most of a tank column when the friendlies moved in. I put the plane on auto and sent it home while I watched what happened next in debug mode. There was a column of about 8 allied tanks moving in to finish off the enemy column and some dispersed units. As the friendlies got into range, they opened up and mopped up the rest of the column. Then they spun off in a different direction heading after the dispersed units one by one. The enemy units would barely wake up noticing they were under attack before they were clobbered. Watching from the enemies point of view, they would see these small dots in the distance. They might notice in time to try to run for cover or attack the advancing column with one or two shots, but it wouldn't be long before you see the puffs of advancing fire and the explosions going off around them. It also wouldn't be long before they were hit and the crew would try to scramble from their burning tank and collapse about 30 feet from it. It was absolutely amazing to watch.

2.3 Testimonials and Reviews

jlong@uhunix.uhcc.hawaii.edu *21 Feb 92*

Speaking of medals, I have gotten a few! And I think I know just what it was that I did to get one of them at least...

One of my wingmen had to eject, and I was flying around and saw a white dot in the air, which didn't show up on radar, so I flew at it. It was my buddy, in a 'chute coming down. Flew right over him missing by about 100 ft. Then I circled until he landed, and kept circling until I picked up some planes coming our way. This was the on the unpatched version, so I had to get close enough to do visual ID using the padlock view. The other planes were b-52's returning from a run, so I figured might as well escort them home.

The other time I got a medal, I have NO idea what I did. Which is like a lot of war stories I've heard.

The writers of falcon have done a good job of simulating the disappointment and boredom of war. I mean, you draw a mission where you have to fly off somewhere and it takes 20 minutes to get there, (boring) deliver your death, fly back (boring), land expecting a medal for kicking ass on a column of tanks, only to be court-marshalled for hitting the wrong targets.

Or fly a perfect mission only to crash on landing.

Or draw a mission which lasts 45 minutes with NO enemy contact.

Hey, the real thing ain't all fun, either! What a game.

srchurch@dahlia.waterloo.edu *9 Mar 92*

I've been playing Falcon3.0 for a few weeks now, my comments can be summed up with "A true flight SIMULATOR."

(Great game too)

manningk@iies.ecn.purdue.edu *18 Mar 92*

Hi net land, just wanted to say to anyone who may be thinking of doing a direct connect with Falcon3 and haven't got around to it, well you should! Its a BLAST!!! A friend and I got it to work last night (after 8 hours of trying last weekend, wrong cable:{) and played till 3 in the morning:) Dual and Allied Mode both work fine for use, we started Dual first but its only a matter of seconds before one of us takes the other one out! In allied mode we seem to stay in the air a little longer:) and ground attack is very exciting to say the least. I also managed to accidently take my wingman (Brad) out with a Sidewinder (whoops!)

Had 8 enemy plane within 5 miles and ....bla bla bla ... I know! check the FFI before firing:). Anyway, I could go on and on about it.

s1949782@titan.ucc.umass.edu *18 May 92*

YES!, Falcon 3.0 is by far the best combat flight sim around, I've played F-19 & F-117a, but it is way to easy to acquire targets in those games,

Falcon 3.0 (on a 486-33) is excellent, Texture maps (not table tops here) real mountains and tanks, enemy troops.. you get to fly with wingman and have a lot of other aircraft in the air, friendly and enemy. the enemy actions are very realistic, and flying in ACE mode they are very hard to kill.

The bug fix (available from some ftp site (wustle I think)) helps out the game a lot, I cannot say enough about the great game.

if you have the hardware, then get it $$$ well spent,

(Flying on a 486 using the hi-fidelity flight model is the best)

gt3017a@prism.gatech.edu *19 May 92*

> Try Red Baron from Dynamix. This is a really good WW1 flight simulator with VGA graphics. I prefer the turbo prop simulators to jet simulators, because for the jet simulators to be accurate, all you have to do is lock on at a distance and press a button - there is no real dog-fighting.

Obviously you haven't played any of the more recent Jet flight sims, such as Falcon 3.0... From my experience with Falcon, just 'locking on at a distance', is going to get you killed real quick unless you turn and stay on top of your target until you're POSITIVE he's out of action. (Which doesn't necessarily mean he explodes... just knocking out his engine is usually enough).

knutson@mcc.com *19 May 92*

Of all the flight simulators I've used so far, this has appealed to me the most. However, it's in a separate class. It requires a VGA display and more than likely won't run well enough for most fliers on a 286 machine. I play on a 386/40 with a VGA display. It takes ~11MB of disk space and has animated video and digitized voice and sound that can play over the internal speaker. I don't have a sound board. You can configure the system for more or less detail and more or less realistic flight models depending on your hardware and skill. It also has specific support for the Thrustmaster flight control system which I use and have found to work quite well for Falcon 3.0 (not so well with the others above).

There are two styles of play. One is arcade style shoot-em-up where you are thrown in the middle of everything and have to fight your way out.

The other is campaign style.

There are some interesting features that make this simulation stand out above all the rest. The first is that you are not the lone ranger. You fly with one pilot out of a squadron of pilots on every mission. You may or may not have a wingman, but if you do, you can tell your wingman what to do which gives you much more control over and attack. The second interesting feature is the padlock display which lets you keep your eye on a target no matter what the relation is to your AC (aside from being under it where you can't see). This is extremely useful in dogfights and is more like how a real pilot would work (but it's not all the way there yet). Third, you can not only play two players over a modem (head to head or cooperate), but you can play multiple players over a net.

There are 3 areas of operation that you can fly in. Red Flag lets you fly training missions (the Air Force equivalent of Top Gun). You can also fly in Panama, Israel, and Iraq.

Mission planning lets you set way points, altitudes, and operations for all flights (there can be more than one) of a mission. For Red Flag, you also get to setup the enemy and targets you want to go up against. There is a new dimension here with the ability to control more than one flight. This becomes very interesting as we see later.

Enemy tactics are better here. They do more vertical maneuvers and almost always fly in groups. The style of their attack depends on what they are tasked to do (CAP, escort, etc.). Enemy skill is configurable.

There is a fairly good selection of weapons available for you to use and the HUD has good support for them. Weapons damage seems comparable for both sides. Enemy weapons effectiveness is configurable. SAM and AAA are nasty, but configurable.

Supplies are limited in quantity with scheduled deliveries for replenishment. Care needs to be taken when deciding what to use and how much.

Weapons delivery methods are somewhat limited. I haven't been able to do a toss bomb, and a shallow dive seems to be a requirement for free-fall bombs. Targeting with A/G missiles is much easier than with Falcon AT, but harder than F19. You almost need to point your nose at your target before a lock on occurs. Lock on seems limited within the HUD field of view.

Target recognition plays a larger role now. Not only are you no longer flying a mission alone, but other allied aircraft may be flying in the area on their own missions and allied ground troops may be having a ground battle with the enemy that you are supposed to take out. I have found visual recognition to be difficult if not impossible. It is also extremely hazardous to make a low level pass to visually identify ground targets and then come back to hit them.

There is a large variety of air (including helicopters) and surface machines on both the enemy and allied side. Allied stuff will help you when they can. This is not so for F19 and Jet Fighter II.

View control is pretty good. I especially like the padlock view which lets you watch something and its relation to your AC while you fly. However, it has not been useful for tracking anything more than other AC until patch D (which I have yet to try). You get the standard 4 quarters views plus look down and up. You can also view the locked target and there is a target perspective view and a missile view.

Graphics is quite good. With all the detail on, you get graduated horizon and clouds that “fog” the screen as you fly through them.

Autopilot is good enough to fly the whole mission for you, including weapons delivery, defensive maneuvering and landing.

There are 3 radar modes which can be used depending on how much work you want to do and how useful you want it to be. The easiest mode is a 360 degree top down view. The second is a forward looking automatic control and the third is the you do it yourself mode. The radar itself can be in ground mapping mode, search, and boresight. You can control range, elevation and sweep when you do it all yourself.

Terrain does effect radar and you can use it to mask yourself and sneak up on the enemy troops.

There is a flight recorder that uses extended memory to record your flight. You control the recorder. After a flight, you can save what was recorded for review from the cockpit or externally and you can view your relation with other AC in the area at the time as well. It is quite good for reviewing your performance. Too bad their isn’t an AI instructor to rate you as well.

In the campaign mode, every mission affects what the next missions are going to be. Doing well in the air means that you don’t have to fight off so many AC when doing CAS. Doing well for CAS means that you gain ground. At least something like that. If you don’t do well, then you get stomped.

When you fly, you act as one of the pilots of the squadron you are using. Each flight gives that pilot more experience. The experience is based on how well you do. There is also pilot fatigue to be factored in. Too many missions may make a pilot careless. This is important given that many missions require more than one flight in the air at the same time.

All in all, this has been the most exciting of the simulators I have flown. It certainly seems to be the most realistic.

masten@beta.lanl.gov *20 May 92*

Falcon 3.0 at least pays attention to some of the constraints. Examples: I couldn’t get a lock with a rear aspect AIM-9P when I was only about 0.3 miles right behind a Mig (too close). You won’t get a lock with either AIM-9 unless within 5 miles. The 9P won’t lock if you aren’t in the rear quarter (I think). The all aspect AMRAAMS will only lock within 20 miles (although the manual says 30 miles). Many have reported much higher kill ratios when firing from behind. All I’ve noted is that I miss a lot!

Overall Falcon 3.0 is the toughest sim to get kills with (either missile or gun). The enemy if anything seems to do better. Very unlike games like Jetfighter, Gunship2000, F15 II where you down the enemy with one shot of anything and you absorb tons of punishment.

Chuck Yeager's Air Combat also doesn't yield easy kills. Many bullets to down an enemy and the old Nam Sidewinders and Sparrows are far from perfect. Seems like they make the Mig21's IR missiles (you fly this jet also) really poor. You have to have radar on to use the Sparrows and can actually switch lock to a different plane when the missile is in flight.

jlong@uhunix.uhcc.hawaii.edu *23 may 92*

Speaking of ACMI (vcr), I wish: #you could zoom out farther, #it made better use of the screen area, #the file requester didn't always default to the canyon. Looks like a cheap add-on afterthought. Chuck Yeager's FS has a much better recorder, imho.

cooper@cos.com *8 Jun 92*

As F3.0 is as realistic as possible, a GREAT deal of patience is required to learn the game (I put about three hours just into landing - now I can do it every time) - falcon jocks aren't made overnight

I've got, say, sixty hours in F3.0 - and the padlock still messes with my brain (just last night, I had to eject just before makin' a smokin' hole)

cs921031@ariel.yorku.ca *8 Jun 92*

Well, for the first time in months, I went out and bought a game, Falcon 3. And, well, I'm not particularly thrilled. I'm running it on a 386sx with a math co pro, 2mb, and a 42 meg HD. I know, I know, base requirements, but I thought it would work. My problem is, simply put, landing.

When I make the approach, on anything but beginner level, the screen jumps, (I'm using Keyboard controls) making it impossible to keep a steady flight path. If I make an adjustment, it doesn't register for a moment, and then it over does it. Is there any way to fix this?

I have F29 Retaliator, and I know there are fewer options in it, but I enjoy playing it more than Falcon3. I also have falcon for the amiga, (the older version), and I enjoy that more than version 3. The graphics are better too. I have never bought such an overpriced bomb as falcon 3 before (79.99 Canadian).

Could somebody please send me information on how to make it more playable. I plan on getting 2 more mb of memory for other purposes, will that help? I'm by no means rich, and I want to be able to fly these missions, so I don't want to throw out the game.

Also, what are these 'patches' I've been reading about. Do I need one for Falcon3. The salesman said the product I bought was delivered to the store 2 weeks ago. Have the problems with the other versions been fixed?

roeschmf@craft.camp.clarkson.edu *9 Jun 92*

Geez, $79.99!!! You got ripped off! You can get it for $40US. On your machine, F3 is going to have a very limited potential, and that's the way it's going to be. The minimum requirement is just that, MINIMUM. This game is the current bleeding edge of flight simulators, and the more power you give it, the better it becomes. The reason it says 386sx is a minimum is because it will run on a 386, not because an sx is powerful enough. It is, if anything, underpowered for this sim.

masten@beta.lanl.gov *29 Jun 92*

OK, F3 is the hottest thing out. But remember when everyone was bitching about it too? Have all the bugs been fixed? I think not.

Tooooo many damn planes in the scenarios. How often has a real pilot shot down 6-10 planes in a mission, or 50 in a campaign? Or even encountered that many?

Their flight model that's "the best that isn't classified" lets you 60 degree climb from take-off to supersonic (complex mode). It'll take some work to convince me that's possible.

Try flying at 300 ft. You have better range than at 30000. Ditto for AB1 vs. 60% thrust.

Load it down with 32000 lbs. You'll find the performance to be pretty much the same as empty.

Flaps are flaky. Stick way too sensitive in Hifi (a F16 pilot and reviewer thought this also).

Just wanted to put things in perspective. F3 is not as great as some suggest. AOTP sure isn't the "benchmark" but it doesn't suck either. Just MHO.

OK, I sort of like the way the planes look at long distances, just light blue (or brown) with a slightly discernible shape. But many aren't very fleshed out close up. Like no cockpits on the Su27, Mig29, F15. Some of them are hard to distinguish, but I guess that's true in reality until you study them a bit. To me, they are good enough, but somewhat disappointing compared to CYAC and others.

masten@beta.lanl.gov *1 Jul 92*

> I've been playing F3.0 for a while now (with the d patch, of course.) Initially I played various Red Flag scenarios, and was (of course) very impressed by the realism of the flight and weapons models, reasonably

Then you are more impressed with the flight model than I am. See my recent post on the various problems. Some in complex mode, some in hifi. But overall, as good as any.

> Then I started playing my first campaign. Given that the traditional war-in-Europe isn't around anymore, the basic campaign scenarios seem quite reasonable (and remarkably balanced in their editorial presentation.)

Yes, I was pleased that they avoided the usual jingoistic rhetoric of the trashy techno-thriller novels (which I love to read!).

> What is completely implausible is the actual number and type of enemy aircraft encountered. In nearly every mission my flight meets 6-12 enemy fighters...

I'm in 1000% agreement. I *hate* this part!

> chance of surviving. It's only 5 days into the campaign, and my squadron has shot down 120 Iraqi aircraft! Perhaps 30-40 of these

Count your blessings, apparently you are pretty good to survive so far!

opus@cbnewsc.cb.att.com *2 Jul 92*

Although I have several complaints, I still think Falcon 3.0 is one hell of a great flight simulator. It was an ambitious project, and Spectrum Holobyte deserves credit for doing as good a job as they did (note, though, that I did not have to struggle through the first three versions). I got it only a few weeks ago and realize it's been out for a while, but it would be nice if I could get a discussion of tactics going. It's clear I've got a lot to learn to be any good at this game.

gavin.adams@lso.mts.dec.com *14 Aug 92*

I've tried CYAC, just bought AOTP, and can conclusively say that F3 is the best air combat simulator I've ever flown. IMO the campaign scenarios' are too difficult, but the overall game-play is dead-on.

bruno@ndsuvm1.bitnet *28 Aug 92*

I've had my pilot's license now for 2 years, but time and money have conspired to keep my total time to just over 125 hours. However, I used to be an Air Force RAPCON Air Traffic Controller stationed at Ramstein AB, Germany, where I controlled -- you guessed it -- F-16Cs. I figure my input is as useless as anyone else's. :)

Falcon is outstanding. It is, without exception, the *best* modern jet aircraft simulation available on the market today. I bought it initially for a 386SX 20 with math - co, and I was disappointed with it. The frame rate was disappointingly slow, and 10 megs of hard drive space was a lot to give up when 40 was all I had. Still, the detail and depth made up for this important short-coming, and I kept playing. Since that time I have moved to a 486 33, and IMHO, F3 is a masterpiece. NOTHING compares.

Its flight characteristics, are excellent. However, the constraints of working on a desktop micro show. The effect of loading is sporadic and unrealistic; it's either overloaded or not. Fuel consumption rates are also unrealistic. I've escaped too many bad situations by diving to the deck and maintaining AB stage 5 for upwards of eight minutes. Try doing THAT in a real Falcon.

As far as other inputs, Falcon is very impressive. Yes, the stick is sensitive, but it only takes a few minutes and a bit of added concentration to keep the bird under control. The only thing that bites the major Oscar Meyer Weenie is the displays. It's like riding a rocket and looking out a porthole. Padlock is a neat concept (and useful, when learned), but mastering it took me nearly as long as it took me to learn the sims systems. As a result, SA suffers greatly.

The one part of the sim that shines is the modem connect. A friend and I have flown a few missions together and it really brings life to the game. Sure, at 2400 baud it takes ~ 15 minutes to fully connect, but once connected, flight is flawless. I can see *no* speed difference. And watching my wingman's butt (and vice versa) is a trip.

So, all in all, this formerly disgruntled Falcon owner is extremely happy.

dpipes@spica.srg *3 Sep 92*

On another topic, Operation Fighting Tiger is fantastic! I recommend it highly...but of course give it a few days to see if bugs turn up. None for me so far!

One thing that SH added was Rules of Engagement. These are great! They make the game (not the simulation) much harder. For example: You get a mission to fly out to within 10 nm of a Russian fleet. You are not allowed to fire unless fired upon, and then only at air targets. Violations mean court- martial.

fwr100@psuvm.psu.edu *4 Sep 92*

Falcon 3.0 is by far the most realistic combat flight simulation available today. While I have not personally flown the F-16 (or any other A/C for that matter), from what I have seen/heard/read, the performance of Falcon is very much like that of the real thing.

Weapon deployment is one of the strong points. For air-air engagements, you need to get a good aOCle on your target. For air or ground, it's up to you to decide whether the target is hostile or friendly. Compare this to F19/F117 where you can shoot and kill from any unrealistic angle, and every target comes with a convenient little label that lets you know what you're shooting at. Target identification is one of the most difficult aspects of modern air combat.

If you are looking to go out and shoot things with an airplane, Falcon isn't what you're looking for. If you are interested in a very realistic simulation of a modern jet fighter, this is IMHO the _only_ way to go.

With all the attention to detail in the game, it makes you wonder about a few things: WHY do helicopters fly at 1400KTS? WHY didn't the threat warning or head-to-head mode work in the original 3.0? WHY didn't the debriefing work right until OFT? WHY does OFT now let you pull -9.9 G's (That's right, negative!!!) (and many more)

The first 3 are examples of the product being rushed to market because of thousands of people complaining that you're a year late. They've done an excellent job with responding to requests for bug fixes, as well as enhancing the game.

As for pulling ridiculous amounts of G's, I've seen many other games that let you do this, and I just accept it. With Falcon, it's a matter of "well, the rest of game is very true-to-life, why isn't this???" The quality of the simulation raises your expectations, and any deviation from reality becomes very noticeable. What would be acceptable in another game is not in this one. In any case, most of the recent bugs are very minor in comparison to the scope of the game.

knutson@mcc.com *9 Sep 92*

> If you are looking to go out and shoot things with an airplane, Falcon isn't what you're looking for.

I wouldn't say that at all. The Instant Action mode is nothing BUT targets. No mission, no campaign, no career tracks, just you against the world for as long as you can last. At patch level D, this usually isn't very long, but I have managed ~560,000 points and gone to level 2 a few times.

IA gives you more target types and weapons to use than F15II ever dreamed about. It's just not as easy to blow them away.

Actually, I use IA as a warm up before flying campaign missions. It gives me a bit of slack time in which to get the adrenaline pumping without worrying about getting blown away. I also use it after campaign missions to blow away as many turkeys as I can find so I can get rid of those frustrating feelings from a campaign going badly.

masten@beta.lanl.gov *10 Sep 92*

Dogfights: Even though it models a modern jet, F3 has the best dogfights, *when it works*. Set up a 1 vs. 1 and about half the time the enemy just doesn't engage right. But when he does, you get a turning, looping, spinning battle all displayed on your HUD that looks just like the footage you see on 'Wings'. Great stuff.

System upgrades: Don't bother with a coprocessor if you just want it for games. As far as I know, F3 is the only one which supports it. It's marginally slower with it (though you get the better flight model). And for me and my joystick, that flight model is too damn sensitive.

Preaching to the (mostly) converted: Speaking of Joysticks. If any of you still don't have one: Forego the next $45 game that catches your eye, and get a CH Flightstick instead. Just no way you will ever consider playing another flight sim without a good stick.

Next, the Thrustmaster Weapons Control System (WCS, a throttle plus buttons). It seems really superfluous and may embarrass you for having this big honking thing on your desk. But it works! Tried F3 on my work computer without it (brought in my joystick though). Just like a stick, once you have it, you don't want to do without.

Finally, a Soundblaster. It also makes a world of difference in F3. And since it enhances all other new games, I'd say get this one before the WCS.

Wonder if I'd feel the same about an FCS, but won't find that out for a while.

masten@beta.lanl.gov *13 Sep 92*

> Yep, F3 has the best flight model of all combat sims. I have FS4, but got F3 about 3 weeks later, so you can guess how much I've used it! The main thing I liked about CYAC's models were that they were so different for each plane (well, at least each era). Whilst in F3, the only difference I see between a MIG29 and MIG19 is the armament (and MIG10 :-)). What does it matter that the planes fly differently if none of them fly like a plane should? I don't know if you've read my bashing- to-end-all-bashing of CYAC's flight model, but in two words, It Sucks! FS4 and F3 are about neck and neck in terms of flight model fidelity. Then would come *some* Microprose sims, then Dynamix's RB and AOTP, then the other Microprose sims. EA's offerings aren't worth mentioning.

Simple, I don't agree :-) I could counter, what difference does it make if it has a good flight model if Helicopters go 1000 knots. Then again, how good could the flight model be if helos can do this? But I won't :-) I already said F3 has the best model. BTW, the copters are better behaved in OFT.

CYAC's model simply isn't as bad as you make out. If I recall, the only beef you had which I thought was major was the integer G-limits (which I had previously mentioned). OK, AOA considerations aren't there, but I don't find them as vital as Gary does. As to things like unrealistic landing, for God's sake, it's a *combat* sim! And F3 lets you land anywhere without crashing. I'll admit, I love the way the AOA comes into play in landing in F3.

F3 fails somewhat in modelling other planes. Yes, I don't really care if they aren't using the same flight model as your F16. But get the parameters right so when I fly against a Mig19, Mig25, I have the advantage (besides for my natural superior ability :-)). I could live without it, but its noticeably missing.

Last BTW: F3 takes a half-step back (with 2-3 steps forward) in OFT with complex flight G-limits of +9.9 to -9.9 G's. How'd they screw this up? No big deal, but still, its there.

ptran@watserv1.uwaterloo.ca *13 Sep 92*

Actually, the G readout was a very minor gripe, but it clearly showed the game's ad hoc approach to simulation. BTW, those G readouts mean NOTHING. They make absolutely no sense, and are only there for decoration. Upside- down, the reading is still 1.0 G, instead of -1.0 G. During loops, inverted loops, turns, etc., the G's are all wrong with respect to where the earth is in relation to you. Bigger beefs were the game's neglect of lift factors and stall conditions. I don't know what CYAC is modelling, but it isn't flight as physicists know it.

> OK, AOA considerations aren't there, but I don't find them as vital as Gary does.

AOA is *very* important in flight. Especially in jets with symmetric wings where the deflection of air due to AOA is a major contributor of lift.

> As to things like unrealistic landing, for God's sake, it's a *combat* sim! And F3 lets you land anywhere without crashing.

Landing is probably the most difficult part of flight to simulate accurately, since it involves very low airspeeds and high AOA. Landing anywhere without crashing is not a problem with the flight model. It's trivial to detect if you've touched down on grass or on asphalt, and then to destruct or not to destruct the plane as necessary.

> I'll admit, I love the way the AOA comes into play in landing in F3.
>
> F3 fails somewhat in modelling other planes. Yes, I don't really care if they aren't using the same flight model as your F16. But get the parameters right so when I fly against a Mig19, Mig25, I have the advantage (besides for my natural superior ability :-)). I could live without it, but its noticeably missing.
>
> Last BTW: F3 takes a half-step back (with 2-3 steps forward) in OFT with complex flight G-limits of +9.9 to -9.9 G's. How'd they screw this up? No big deal, but still, its there.

It's not impossible to pull +9.9 or more G's in an F-16. I'm not sure about that -9.9 G's, but the limit of -3.0 (or was it -4.0) G's in 3.0D is less realistic. There is really no hard limit as to what G's you can pull.

kulance@kubug.cc.ukans.edu *11 Sep 92*

I guess when it comes to the differences between Microprose sims (i.e. f-117, f-15,etc.) and Falcon 3.01 I think the most interesting is not what happens with the plane you are controlling, but what is taking place outside the cockpit.

For example, MPS games as of now are mostly you against the world. A lone F-117 in the middle of East Europe. Lately tho' MPS has gotten into the concept of wingmen and multiple flights (GS2000 and F15III???). Fal3.01 takes wingmen for granted, the multiple "on the fly" wingman commands allow you to change battle tactics w/o stopping play. I guess for me what really sets Fal3.01 apart from other sims is the depth of the battle you are flying, fighting, and dying in. I could go on about the use of actual places, towns, maps, and the realism of the types of missions assigned, but I'd rather relate a story of what happened as I was playing yesterday.

Currently I'm running the Korea theatre on Falcon3.01. The mission for the afternoon was the destruction of a tank column about 5nm east of my base. The run itself was easy (the 3 F15s kept the Mirages out of my hair), but things got interesting after I landed. I scanned through the track view of all the friendlies in the area. It locked on an Apache attack helicopter moving towards the smoking wrecks I'd just left. Ahead of the chopper were three enemy tanks rolling flat out while shelled from friendly ground units were exploding all around them. Soon the Apache was in range and two mavericks made short work of two of the three tanks, leaving the last one rolling away chased b numerous friendly shells.

Things like that kill me! I had no part in that little aside, but it was calculated, plotted and on the screen all the same. To summarize Falcon3.01 makes you feel like your only a part of an whole conflict. Till I get to see what F15III can do my vote is for Falcon3.01 all the way.

blj@kepler.unh.edu *16 Sep 92*

I have noticed several postings which appear (maybe I am reading them wrong) to indicate a dislike for the new night mission timing with OFT. Personally I think they are a good addition to the game. They certainly add a bit of realism. As an experiment, go out in the country - well away from any lights and turn off your headlights (with the car stopped of course) and turn on a small flashlight in the car so that the dash is lit up a bit (it is hard to really simulate the HUD on your windshield) and notice how little you can see for detail (if anything). If you have ever flown late at night, think of what you could see out the window - not much!

I flew my first mission that had full overcast - cloud cover was wonderful - much like the real thing - even fluffy "mountains" on the top. Heat seekers were useless (refused to lock on target) through it too (as it should be).

jlong@uhunix.uhcc.hawaii.edu *18 Sep 92*

There are 3 ways you can 'use' Falcon: Instant Action, Red Flag, and Campaign. IA is nothing but targets, and they are always the same. It is the most arcade-like mode, with a high score list to bump.

Red Flag lets you set up 'training' missions. You can set up a mission where you could have a couple of f-117's going off one way to bomb something while some A-10's are flying CAS for some of your ground units, which are engaging enemy ground forces somewhere else, and have some B-52's flying back and forth... You can set speed, altitude and waypoints of all flights, and you have control of what weapons are used by enemy aircraft. You also have control of friendly and enemy ground forces, and the types of weapons they use. Setting up a 'donnybrook' type of RF mission can be time-consuming, yes, but can also be enjoyable, if you have any 'programmer blood' in you. You don't have to be fancy, however. One of the best is a 1-vs.-1 that starts with a bandit just to your side. RF missions can be saved in very little disk space also.

And yes, you can just fly 'peacetime' too, and dance with the clouds.

dregis@pldote.intel.com *28 Sep 92*

This game (bad word for it) has changed something in me. Before Falcon, I played with JF/JFII, F19, F15-SEII, etc. and only liked air-air missions. With the attention that SH has given to the battle on the ground, it has become a lot more important and enjoyable. Now, I'll take ground strike way ahead of Escort, or Intercept. Man-O-Man, when A-10 is released, I imagine I'll get even less sleep!

opus@cbnewsc.cb.att.com *5 Oct 92*

> > Yes, it will kick F3's ass. This will be due to F3's tunnel vision. You know what is tunnel vision? That is when an owner put cardboards on the side of the horse's eyes to keep the beast from looking sideway. Padlock view? Ha, ha, ha.
>
> Ah, that irrepressible Chong laugh! Though I would like to see more usable side and rear views in F3, I have little problem using Padlock.

I know you know that you can use ScrollLock to expand these views, though you give up your side-mounted instruments when you do so. This gives you a full-screen view--the best you can expect--yet it still seems insufficient. I submit that it's not a failing of the game, but rather a reflection of the extremely fast pace of modern aerial combat. The interior views are mostly sufficient in AOTP (though the overhead view no longer extends far enough to the rear for my taste), but that's only because the relative angular of the bandits is much lower than is typical in F3.

The padlock view is, IMO, the best method of providing situational awareness of any available on a PC-based flight sim. If they could somehow incorporate the side instrument panels as well, it would be almost perfect.

> > Sorry. F3 is simply unplayable.
>
> Wonder what us thousands are doing then.

Waxing philosophical for a moment, it appears many people believe that their INDIVIDUAL points of view and experiences are somehow universally applicable. They say "it was a bad movie" when really they mean "I didn't like the movie." Another example would be for someone to say "F3 is simply unplayable" when he or she really means "I was never really able to get the hang of F3."

If you would like to make universally applicable evaluations, you must appeal to an external standard that is universally subscribed to. For instance, you could probably get away with saying "F3 is much more difficult to play than F15SE II."

Back to the subject at hand, I too find F3 very playable. In fact, I've long ago past the point where the mechanics of the game limited my performance more than my own (relatively meager) abilities.

ptran@sciborg.uwaterloo.ca *5 Oct 92*

I don't find F3 to be noticeably more tunnel-visioned than Aces of the Pacific or Chuck Yeager's Air Combat. And the padlock view offers great situations awareness. You are obviously over your head passing judgement on this sim.

hchong@netcom.com *5 Oct 92*

I will submit that many people own F3. But most of them, like me, has given up on the game and turned to other flight sims.

The fact is we admire many if not ALL other aspects of F3, and I have owned the game since day 1, but flying with tunnel vision is like forced to walk with a leg-cuff. I would *love* F3 if it hadn't for the tunnel vision. There are minor setbacks that you can put up with. But this setback is so major that it render the game too uncomfortable to play.

Padlock view? Well, having padlock view is like having *your* neck *locked* to the enemy plane, regardless of whether you really want to look that way at that very moment. I agreed that we have to constantly look at the enemy, but I think one should be able to look away at something else for maybe a fraction of a second.

For example, if you have 2 enemies, then you probably want to look off from time to time and at least has a feel of where the other boggy is at.

And since I have gotten the attention of all y'all great F3'ers? Do you use the AUTO feature? I mean, give me a break, is there an actual AUTO feature in F16 that tails the enemy plane for you?

ptran@sciborg.uwaterloo.ca *6 Oct 92*

This is a really dumb gripe. If you don't like the fact that Autopilot will dogfight for you, then don't use it when you're in a furball. In real life, who would have the jet on cruise control when there are bandits in the vicinity?

opus@cbnewsc.cb.att.com *6 Oct 92*

> Perhaps Mr. Phat you may want to check the facts. If I am correct, the AUTO feature points the plane towards the enemy for you without you having to touch the joystick. I don't know any real fighter does that, do you?

For crying out loud! I thought this issue was so obvious that it didn't need to be stated, but apparently it does.

The "autopilot" feature of Falcon 3.0 should really be called the "make-the-computer-fly-my-plane-just-like-it-flies-my-wingmen's-planes-and the-enemy-planes" feature. Duh!!! Also, I guess I should add (since the manual doesn't explicitly state it) that you do not HAVE to use the autopilot when you play. Really. I've played for literally hours on end without using it. In fact, I'm not really sure what key it is! Amazing!

Hoi is probably thinking at this point that real planes don't have this feature. Correct! They also don't have "pause" buttons and pull-down menus. Spectrum Holobyte put it in because they thought it would be useful to at least some people, and they were right! People who have trouble in tough dogfights can use it to help get them out alive, and people who don't (like Phat?) can use it when nothing's around to keep the plane on course, just like a real autopilot (<- N.B. no quotes this time). I've used it to learn how the computer pilot flies, to see if I could pick up some useful tactics.

Hoi, your tunnel-vision complaint is a valid one. Other flight sims have tried to get around it, but all must make a trade-off between view area and realism. The balance struck by Falcon 3.0 is just right for me, and many others, it seems. I would certainly not attack you for feeling that the authors went too far in one direction. You are perfectly entitled to your PERSONAL opinions. It just annoys me when you say that it ruins the game for everyone when it clearly does not.

knutson@mcc.com *6 Oct 92*

I have a VTR saved somewhere of my son taking out a fleet of ships with unlimited harpoons. After the harpoon hits, the ship immediately goes to a partial sunk state with charred box parts for anything above water. Given the detail in the rest of the sim, it didn't look that impressive. At least all the ships don't look the same after sinking them. It's also very hard to watch a harpoon strike from the enemy perspective. I haven't been able to get a good view from behind the ship as you can with maverick attacks on ground targets.

On the other hand, his train strike was appealing. After hitting the engine with a maverick, the train came to a grinding halt and people spilled out of the cars and collapsed (disappeared actually).

It's too bad you don't see lifeboats and people jumping ship after a harpoon strike, or maybe severe list or a roll over.

2.4 The Inner Workings

reynolds@spark.bu.edu *16 Apr 92*

I asked the Spectrum Holobyte operator, 76004.2144@COMPUSERVE.COM, about how the system keeps track of enemy forces, and the reply I got was that it only keeps track of the targets assigned in the missions! That is, if you send another flight to knock out a SAM site, apparently it has no effect. However, 76004 didn't seem to be sure -- s/he was not a programmer, but a marketing person, I think. Perhaps if you followed up on my original question, s/he has had time to look into it?

masten@beta.lanl.gov *11 Jun 92*

> If you want to sweat and pull some Gs, Falcon 3.0D! The enemy pilots are tough! They use ECM. They fly effective, realistic ACM. The dogfights are incredible. If and when you beat them, and I do mean "if", you'll feel like you've really accomplished something.

I've seen about 6 posts saying this, INCLUDING my own. Now, a slightly different question: Is the F3 AI really that good? I find it hard to get a good handle on the maneuvers pulled by the enemy since the VCR does a poor job of keeping both planes in the same field (and often loses track of the enemy in "2" mode). Any experts want to comment?

According to SH (and it was obvious anyway), the D improvements in enemies are all due to more effective ECM, Chaff/flare usage and they (finally) begin maneuvers/avoidance way before the silly 5 miles range in previous versions.

Frankly, I think they CHEAT. They are too much better in avoiding my (Superior made in America - tm) missiles than I am of theirs. Also HFR loses lock soooo easily. Plenty of times the Mig is *right* in front of me and I can't lock, no way, no how. Tried switching between ACM and AIR, ranges, unlock, lock, target select, often no luck. If I use the SAM mode configuration, then it locks much, much better. By right in front I mean 0.1 - 2 miles.

darons@netcom.com *12 Jun 92*

YES! I have a few comments!

The AI in F3 does not cheat! We were looking at AOTP this morning and trying out the ACE logic, We were astounded at how difficult it is to track your opponent. We also noticed that your opponent didn't have any trouble tracking you no matter where you are. Gary (the programmer for F3 AI) started pounding his fist on the table because he hates it when the enemies have an unfair advantage on the player. He said that his mission was to code the AI so that the computer pilots have no advantages over the player. The computer pilots use the same radar, ECM, TWI system, and viewing to find its opponent. The abilities of the radar, ECM, and TWI systems are tweaked to match the abilities of the individual planes, but they don't cheat! You may be having trouble locking up an enemy for any one of several reasons:

1. he could be "beaming" you - the higher skill level enemies will turn perpendicular to your path to break a lock.
2. He could be using ECM - your radar will be the highest threat so his ECM pod will jam yours first.
3. When you get in close, you will have a better time getting a lock and keeping a lock if you tighten up your azimuth and elevation scans - this will focus a tighter beam on your target.

Practice in Red Flag and read your manual... I play Falcon all the time and if I noticed anything that even hinted that the enemies are cheating, I would get all over the programmers about it. Our goal is to give the best possible representation of modern air combat and enemies who cheat does not achieve that goal.

Daron Stinnett Product Manager - Simulations Group Spectrum Holobyte darons@netcom.com

P.S. Try learning to fly using the Track (9) mode. The "t" key will allow you to track on different targets. This view is a little disorienting at first, but if you take the time it will be well worth your time. Now, using this view IS cheating! You can track an enemy plane no matter where your opponent is. The enemies (and wingmen) are limited to the normal field of vision that a real pilot has.

masten@beta.lanl.edu *5 Jul 92*

Here's what I got from Daron Stinnett at SH:

(me, Stinnett)

> Yes, we do try to tweak the performance of all systems for different vehicles (and that is not limited to just planes, it includes tanks, trucks, missiles, etc.). However, not every vehicle has been fully tested to see if we got it right. The MiG19 can turn with you, but I think we screwed up it's thrust characteristics. HOLD EVERYTHING!
>
> I just talked with Gary and he says that he doesn't know the specific capabilities of a MiG 19 or other MiGs but he used their weight, thrust and wing structure/area to program the flight models for the different planes and the MiG 19 is lighter, has less thrust, and its wing is designed to give it a lower cornering speed. We don't really know the operational difference between a MiG and an F-16 but based on what we do know, an F-16 may be in for a surprise if it gets into a turning fight with a MiG 19 or 21.

Does this mean that the different planes indeed have different max spd?

> Yes, based on max thrust and drag.

accel?

> Yes, based on thrust and weight.

maneuverability, turn radius, turn rate?

> Yes, see above.

radar sophistication (range, efficiency...)

> Yes.

radar signature (cross-section)?

> Yes / No. We special cased helicopters and F-117s, but I just asked and our next simulators will have a radar cross-section value as part of the parameters for each of the planes.

The bit about introducing individual radar cross-sections sounds interesting.

The modelling sounds a little too simplistic. Presumably modern fighters accrue some advantage from CCV, improved structures, fly- by-wire, and other advances of the last 20+ years. So wouldn't an F16 be able to handle higher G's, or for a longer time, or be able to change those G's more rapidly (I've heard the last is what it was optimized for)? All these factors don't have to be modelled, just show the final result.

Has anyone noticed planes with less sophisticated radars performing less effectively? Like not acquiring you till later, or having a lower hit rate with missiles?

masten@beta.lanl.gov

Some notes on F3 from No. 19 in CGR, September:

The hifi model switches back to the complex model at speeds under 300 knots. Their ASAT trainer for the Air Force was concerned primarily with high speed dogfighting, so they didn't develop a model for sub 300 knot flight.

Phat, you were right about the model switching to a simpler one when turning on autopilot. It's supposes to switch from hifi to complex. I still don't understand though why the plane can all of a sudden accel' faster with AP when I was already flying in complex mode.

ptran@watserv1.uwaterloo.ca *12 Sep 92*

Okay... after my raving about Falcon 3.0's campaign engine, I now have found something that really annoys me. The ALO/ATO keeps on ordering me to destroy targets that I've already bombed to smithereens. I'm playing the Panama campaign at the moment, and in an earlier CAP mission, I decided to take along a few bombs to take out a certain pestering SAM site. I was successful, and noticed that in subsequent flights over that area, I received much fewer SAM locks. But then, when I was given the mission of buckling a runway near that site, the computer assigns that still-inoperable SAM site as a secondary target. I ended up destroying the runway, but my 2nd flight dropped their bombs on a dead target, and thus wasn't credited for anything. And, now, just yesterday, I was ordered to bomb the same runway and SAM site again! I flew to the targets and saw that they weren't even under repair, so I aborted the mission and reassigned my flights to attack another base off to the east. Well, we totally destroyed that area, but were told that our mission was a failure, I guess because we didn't go after the targets the boss had in mind.

I wonder if my efforts were for naught. I believe that targets in Falcon 3.0 are quite functional... Destroy a radar installation, and the enemy can no longer detect your ingress, buckle a runway and they won't be able to get as many MiGs into the air, etc. So, even if I don't get credited for my kills, I think I've lightened the threat for future missions. Anybody know otherwise?

masten@beta.lanl.gov *13 Sep 92*

According to the OFT manual, you can switch bomb targets *at the original site* and still get credit for the mission. If you switch sites (red squares) you aren't supposed to get credit in terms of mission success.

That is supposed to be the case, I can't verify it though. But in order to win for that day, you want to win missions. So it may be that you bomb the hell out of a bunch of non-assigned targets, then end out losing ground for that day. But as you said, it should help in the long run. The F3 AC guide said you want to win at least 3 missions in a day, but I've had some success winning 2.

knutson@mcc.com *23 Sep 92*

During low speed flight the simulation runs in complex mode. It switches to hi-fi after exceeding some speed. The speed seems to be somewhere around 300kts, but I've also seen this happen at higher speeds with higher altitudes.

2.5 Falcon vs. Reality

bash@cbnewsd.cb.att.com *26 May 92*

This is a good suggestion [allowing rudder control at higher speeds], but unrealistic. The F-16's Flight Control Computer actually does phase out manual control of the rudders as airspeed increases. The FCC actually cuts off manual rudder around 250Kts, but for the sake of playability, SH extended this range to around 300Kts.

Actual F-16 pilots we consulted for reference stated that they usually adjusted the rudder pedals to be out of reach of their feet, and never touched them during flight, period. The F-16 is a true FBW machine; you just point the stick where you want it to go, and the FCC figures out how to get it there.

twh18@isuvax.iastate.edu *29 May 92*

> GOD YES IT'S HARDER!!! I can't believe it! Before I was the scourge of the skies, now I'm cannon fodder for the enemy.

Come on, guys, that's how real pilot life like if you ever played any game for real. I mean, how would you think it's possible to just lock enemy by a sidewinder for less than a second?

Besides, (correct if I am wrong) I always had doubts about that HUD cannon display. The gun displays that I used to see is a Circle with snake lines (LCOS). How did SH get this idea about that "tunnel aiming system"? Anyone know if they actually have that in real?

masten@beta.lanl.gov *6 Jul 92*

> The F-16 has a thrust/weight ratio of about 1.1/1 meaning that it can accelerate going straight up - even off of takeoff!

Yes, at takeoff. But factor in the incredible drag force at supersonic and near supersonic, and I don't think it has a chance of reaching it in a vertical climb. Drag + weight > thrust. Load it down with 32000 lbs. You'll find the performance to be pretty much the same as empty. I don't know about that - I was trying to land earlier (Which I have no trouble with lately) and I mushed into the ground short of the runway - I figure it was because I was loaded down at the time (which I was)

I've been told that the F3 plane *will bleed off speed a lot more quickly if loaded down. It will also slow somewhat due to drag. But in 40 degree climbs to altitude, it isn't much different than empty, though it will be tougher initially to keep it from stalling. It seems to behave differently between complex and hifi, but not consistently. Also, the G-limits are ignored, can still pull 8+.

opus@cbnewsc.cb.att.com *2 Jul 92*

> What is completely implausible is the actual number and type of enemy aircraft encountered. In nearly every mission my flight meets 6-12 enemy fighters... I'm in 1000% agreement. I *hate* this part!

Ditto.

I've only played using the D patch, so I can't compare it to earlier versions, but the enemy's ECM capabilities are absolutely ridiculous! I don't mind it at all when they break my radar lock at 10-80 miles, and that false images are produced on my radar screen. This seems realistic enough to me and enhances the game, adding electronic warfare to the host of other parameters that must be juggled in air combat. What really annoys me is that the enemy planes can evade radar lock at 0.5-2 miles out even if my radar beam is at its narrowest setting. Even worse than that, their ECM can make Sidewinder lock-ons impossible! I once followed a MiG-29 around and around for about 5 minutes, trying to get a Sidewinder lock, and never did! About every minute or so, my radar would lock for about.0001 seconds, then lose lock again. I wish my ECM were that good. Then on bombing missions, all I'd have to do is extend away from gun range, and then I'd be invulnerable! If anything gets fixed, this one would be at the top of my list.

jlong@uhunix.uh.cc.hawaii.edu *3 Jul 92*

> Is anyone in a position to pass this one to S-H? Basically, all I'm suggesting is that (since people seem to think the D patch is too tough) the best revision would be to make the campaigns realistic, rather

Realism? You want Realism? How about the Japanese interceptor pilot of WWII who had to face *hundreds* of b-29s? Hey, sometimes the odds are not too even... Realism indeed! There was *no* opposition in the air in Panama, and as to Israel, which war? Kuwait/Iraq, there was no air opposition except for lots of AAA. Like that stuff? Realism...

opus@cbnewsc.cb.att.com *13 Jul 92*

No one else has complained about this, so I guess I will. In my no-so-humble opinion, one of the most glaring omissions in Falcon 3.0 is the lack of lead pursuit or proportional navigation by the AAMs and SAMs. All missiles in the game fly pure pursuit trajectories (large SAMs do go straight up for a while first, of course). This is the reason that radar-guided missiles in the game are completely incapable of intercepting a target flying perpendicular to its flight path. It's the main reason that AMRAAMs are practically worthless in the game. Pure pursuit also yields the poorest effective range of all tracking schemes. In Falcon 3.0, all you have to do to avoid a missile is beam it, and keep it there, and it will fly by. You can even fly in a relatively straight trajectory, tightening your turn at the last moment. If the missiles were smart enough to predict where you'd be (as MANY real missiles are), such a strategy would (and should) be suicide. Shaw's "Fighter Combat" suggests that the best method to defeat a missile using lead pursuit is to get a beam aspect, then start turning in the perpendicular plane, always keeping the missile abeam, since this screws up the missiles ability to predict your plane's future position.

I realize that such sophisticated missile tracking systems would chew up a lot of CPU time. Nevertheless, it would have made the simulation much for realistic, and I, for one, miss it! Don't others think it's absolutely ridiculous that an AN-12 can almost always dodge an AMRAAM just by flying perpendicular to it?!?

masten@beta.lanl.gov *7 Sep 92*

The FSX is the joint GD-Japan F16 which is still (I think) fighting an uphill battle for both US and Japanese gov't approval. They use it in the game to give add both the Harpoon and a radar mode for naval attack. That sea mode radar works quite nicely, like the ground mapping mode but you can change targets on the map by hitting 't'. Don't know if the FSX will have the Harpoon capability, but since its still in the design stage, why not assume so for gameplay's sake? The plane is also a little heavier, can take a few more bullet hits, carries a bit more fuel, and has a max load of about 18,000 rather than 9,000 lbs. Of course, in F3 with all but hifi mode, you could always load more than the 9000 lbs anyway. Graphically it looks no different than the other (slightly modified) F16s in OFT, though it can have Japanese markings. Personally, I would have preferred a different looking plane like the XL.

> Now adding a LANTIRN would be great!

Agreed, and also an ATARS pod. But they did make night look like night now. A pain in the butt, but much nicer for simulations sake. And if you don't like it, you can crank up the brightness control to see what's going on.

hcm100@psuvm.psu.edu *8 Sep 92*

> I don't think heat seekers will lock onto choppers since they don't have hot jets. I've been successful at locking onto them with AMRAAMS.

Oh Contrair!! Having served as aircrew in with Rotary Winged squadrons in the Marine Corps, I can attest that helos have VERY hot jets. Granted, not as hot as a fast mover like the f16, but hot none the less. I flew with the CH-53 Super Stallions. The biggest ones in military service. They had two turbine engines that drove the rotors. We regularly carried chaff and flare pods to avoid lock on during war games, and used to have a whale of a time dodging f18's. Helo's can hover, while a fast mover must continue to move forward (obviously...), so we would often allow a lock on, drop flares and chaff, and then autorotate (read as: DROP LIKE A ROCK) to a much lower altitude. Often we would hide in a ravine or valley that a jet could never maneuver into. Then, when the lock was lost and the jet blew past, we would taunt him. It would have been more fun if the jet pilots could have seen us blowing raspberries and beating the tops of our heads (ala Monty Python...).

Spectrum Holobyte should get a clue. The Helos in F3 are all sittin' ducks.

ptran@watser1.uwaterloo.ca *13 Sep 92*

But in 3.0D, the G readout hits a solid floor of about -4.0 or -3.0 G's. I thought that this was unrealistic because in real life, you can pull (push?) G's more negative than that. You can also pull G's higher than 9.0 The sustainable and design G limits are 9.0 and -4.0 or -

3.0, but you can shoot above or below these specs in severe situations. I like the fact that OFT will now show you G readings outside of the design range.

masten@beta.lanl.gov *13 Sep 92*

> Adam, I said to use AMRAAMs. My reasoning was that choppers, especially something like the Gazelle, won't have a hot enough heat source to attract a Sidewinder. Its radar signature, however, should be quite inviting to radar missiles.

Sorry Phat, you have it bass-ackwards as others have pointed out. The heat signature of helo engines (turbines) should be plenty big enough. And according to SH, the chopper blades wreak havoc on radar.

But as to the game... I tried getting locks against SA342's and Mi24's in RF missions in OFT. Absolutely no success with HFR. Also tried turning off the radar and just using AIM9's (both types). Again, no missile (not radar) lock, and no hits when I fired anyway. Was able to get intermittent lock with the SAM radar setting. It always locks better than HFR. Then I was able to get the kills.

opus@cbnewsc.cb.att.com *14 Sep 92*

This effect is also mentioned in Shaw's "Fighter Combat."

> I full well know about the heat from those turbine engines, Dave. But I have no idea how hot they are compared to jet exhausts, and since Sidewinders in F3 never lock on them, I will assume that they are relatively cool. If the Sidewinder was designed mainly to home in on jet airplanes, then its threshold could have been raised to make it less prone to confusion from ambient heat. The chopper engines could very well be below this threshold.

If you are talking about S/N, clearly there would be some sufficiently small range at which the Sidewinder COULD get a lock on a helicopter's engines. On the other hand, IR homing missiles are tuned to certain bands of IR frequencies. It's remotely possible that helicopter engines produce IR radiation at greatly different frequencies than jet engines, but I really doubt it. I believe all-aspect IR homing missiles differ from rear-quarter missiles in that they can track a wider range of frequencies (among other things).

> As to the chopper blades confusing radar, it sounds somewhat logical. The spinning blades may cause the reflected signal to strobe. However, from certain aspects, the strobing should be minimal, and the broadside of the chopper will return a very strong signature.

Pulse-doppler radar detects differences in velocity. Although the cross section of a chopper blade profile is small, the returns it would generate are more likely to be picked up by the F16's radar. Also, don't forget that if the chopper is showing you it's broadside, it's beaming you so you may not get any useful return from the fuselage at all!

fwr100@psuvm.psu.edu *14 Sep 92*

As anyone in Afghanistan will tell you, heat-seeking missiles are _very_ effective against helicopters :)

A jet helicopter engine really isn't too much different in concept from a jet airplane engine. The exhaust temperature is very high, and will attract heat seeking missiles. Take a look at the design of the Apache - IR suppressors on the back of the engines, an IR jammer, and flare dispensers. Avoiding IR missiles is a big concern for helicopters.

Regarding Falcon 3.0 and helicopters (assuming OFT and HFR radar)...

The sidewinder in Falcon 3.0 will not lock onto a helicopter, no matter what you do. The AMRAAM needs radar lock to fire. If you don't have radar lock, it won't track the target. Practice with the guns.

The sidewinder seeker follows the locked radar target. This helps the missile aim at the target you are locked onto (lock on the MiG, not your wingman). If the radar is being jammed, turning it off lets the missile scan for the first hot object it finds. There is no way to change the target the missile is locked on to, except selecting another weapon and coming back.

knutson@mcc.com *14 Sep 92*

IR missiles are designed to lock on to a heat source that stands out from a colder background. In this case, jet turbine exhaust against a cold sky. Helicopters use jet turbine(s) for power just like planes do. Perhaps someone should try getting lower than a helo and try locking on a look up instead of a look down. I've never tried it though. However, IR missiles should have no problem with locking onto a helo. Just look at how many the Russians lost in Afganistan to stingers. Again, it's a heat source against a cold background.

> What's the logic behind turning off your radar when using heat seekers?

I don't know if this problem happens in real life or not, but it is somewhat logical. The idea here is that the seeker in the IR missile can be (read IS) slaved the radar locked target. However, ECM can project an image of the target which is away from the actual target. This can make the seeker look where the target isn't and therefore your missile won't lock. Again, I don't know if this occurs in real life. I have my doubts, but I can live with it.

> Pulse-doppler radar detects differences in velocity. Although the cross section of a chopper blade profile is small, the returns it would generate are more likely to be picked up by the F16's radar. Also, don't forget that if the chopper is showing you it's broadside, it's beaming you so you may not get any useful return from the fuselage at all!

There are several problems here. One is with a target that has a return that looks like it is both receding and approaching at nearly mach 1 (the speed at which the blade tips rotate). The second has to do with the way doppler radar (what the F16 has) works. Doppler radar looks for a target which has some velocity relative to yours. However, it doesn't look for just any velocity. For look down capabilities you have to throw away any return which is approaching you at your airspeed (i.e. trees, buildings, etc.). The other problem is that you don't want to lock onto cars when you are looking for low flying planes, so you throw away any returns which don't have at least some minimum speed (100 mph or so in Europe due to the autobahn). This would make it hard to lock onto a slow (or hovering) helo as well since its return is being thrown out.

shanks@saifr00.cfsat.honeywell.com *14 Sep 92*

In state of the art fighter design the pilot is now the limiting component.

As far as that goes, it's true. One feature NOT implemented in F3 is G-LOC: G-induced Loss of Consciousness. The AF and Navy don't want to talk about it too much, but the F-15/16 and F/A-18 are quite capable of loading on Gs at such a high rate that the pilot can not adequately prepare (perform proper straining maneuver) and therefore loses consciousness. Earlier generation fighters could pull the Gs, but they were loaded at a lower rate, so that many pilots could anticipate LOC and fly "grayed out". The newer aircraft, particularly the F-16 with its nearly-isometric stick (never mind the highly touted reclining ejection seat), can pile the Gs on so fast the pilot blacks out before he knows what hit him. The G-limiters in the 16 and 18 don't prevent this from happening, they just try to keep it to a reasonable level. Research is on-going on what to do to prevent this and what to do if/when it DOES happen.

For realism, S.H. should implement a screen blanker under high G onset rates - that would fix some of you armchair jet jockeys!

shanks@saifr00.cfsat.honeywell.com *14 Sep 92*

I have received so many letters about my previous posting that I guess I need to post this back to the net

It isn't the NUMBER of G's that I'm talking about; an F-4 can pull 9 Gs. It's the RATE at which the Gs are incurred. I worked 9 years on the F/A-18 program as a human factors engineer, and was an AF pilot before that. Pilots are well-versed in G-resistance, performing a straining maneuver that is aided by the G-suit to minimize blood flow away from the head. The high-performance aircraft today have the capability of incurring the G's so quickly that the pilot does not have the opportunity to perform the straining maneuver, and can lose consciousness at LOWER G LEVELS than he would otherwise be able to tolerate. What I want to see in Falcon is rate-incurred black-out: with Falcon's g sim, you can pull 9 Gs for a matter of seconds; I think that the near-instantaneous application of 6 Gs should 1) Blank your screen and 2) Apply RANDOM CONTROL INPUTS during the screen blanking and for 1-2 seconds after. (Films of centrifuge experiments studying G-LOC show that many pilots experience uncontrolled muscle activity similar to seizures when recovering from high-onset rate G-LOC.) The services and the manufacturers (McDonnell/GD/Lockheed etc.) are all working on improved G suits, including water-filled, that will address the onset-rate problem.

mccullou@cae.wisc.edu (c/o ptran@cbnewsc.cb.att.com) 13 Sep 92

Okay, about IR signature of Helicopters and their radar signature. A helo does have a very significant helo signature, IF you have a surface search radar. The F-16 has only air search radar, so it is not designed to counter ground return. As to the blades messing up the reflection, PLEASE!!!! The rotors are basically still compared to the burst of radar. You would get a solid return off the blades as well as off the body, the tail, the engine... No existing helicopter today is stealth!!!! (The LHX has not even a prototype and I haven't heard of the European stealth helicopter being produced yet.)

Now to the IR signature of helicopters. The AIM-9L model is a very sophisticated model. This means that it can lock on to the heat generated by the leading edges of the rotors. (it was designed for ALL-ASPECT, this means the leading edges of even a very slow flying aircraft.) The engines, Even though modern gunships have a IR-masking feature, are quite hot enough for even somewhat older IR missiles. Remember Afganistan? Stinger missiles blotted Mi-24 Hinds out of the sky (As well as anything else in range). A stinger is a smaller seeker and warhead than the AIM-9L.

I don't know about the game, but if it doesn't allow a AIM-9L or better IR missile to lock on quite easily, it has a problem. I CAN understand the problem with RADAR missiles, especially if the helicopter is flying low. Sorry, guys, not everything in Falcon 3 is perfect I guess.

out@cs.utwente.nl 2 Oct 92

Are AWACS planes really so blind and stupid that all they can tell me is

1. Where my waypoints are.
2. Enemy ECM activity
3. Increased enemy air activity
4. Violating rules of engagement (I know when I do that)

I thought that the least they could do was telling me about enemy flights near me (speed, heading). One of the big advantages of an AWACS should be that *I* don't have to use my radar, so I can sneak up on them Migs undetected.

opus@ihlpy.att.com 2 Oct 92

This has been discussed some on the net. The feeling of most people is that Spectrum Holobyte wanted you to use their whiz-bang HFR that they went through all that trouble to model. Having real AWACS coordination would, as you said, allow you to fly most of the time with your radar off. I think it would be nice to have some campaigns with full AWACS support and some with none. The waypoint business really could be completely dissociated with AWACS functionality, and that would be all you'd get if no AWACS were around. Even in the Kuwait campaign, for example, there are targets so deep in enemy territory that I don't think an E-3 can search that far (I can't remember the Sentry's radar range exactly--been a while since I played Harpoon).

This would certainly add a whole new dimension to the game. It would surely require some significant code changes, though. Perhaps in a future mission set (but I doubt enough people care enough for them to put it in).

knutson@mcc.com *6 Oct 92*

> I like it too. I'd like to believe this is what the AWACS would be beaming to me if I was using their radar instead of my own. If any SH types are listening, why not provide a passive-feed-from-AWACS option which gives a presentation like SAD mode, but doesn't cause my own plane to emit radar energy? And if the AWACS gets shot down, I lose the feed and am on my own.

Hmm, where do I start? I can think of several reasons why this is not done.

1. The F16 does not have a radar display big enough to handle the 200 mile (or whatever large number) radius of data that the AWACS handles.
2. It is not necessary nor desirable for the F16 pilot to know all this information. The F16 is a tactical not a strategic weapon platform.
3. It takes a whole plane load of GCI officers (is Ground Control Intercept the right terminology if they're airborne?) to sift through the data the dish brings in. No way one pilot can do this and get his job done. I have a hard enough time sifting through what's friendly and what's not as it is.
4. AWACS carry general officers to evaluate the strategic situation and make decisions. F16 pilots are told what to do based on this.

Granted, the current AWACS implementation leaves a lot to be desired, but please, don't turn my F16 into a one man AWACS. I would suggest that more vector information be reported by the AWACS, OR SH could implement role shifting ala Microprose B17 in which you could hop into a GCI officer's seat or whatever on the AWACS and get the strategic situation.

knutson@mcc.com *7 Oct 92*

> Interesting note. Now I know a bit more about the AWACS, thanks. However, I was under the impression that what I suggested (in principal anyway) is done today in the real world. I never believed that the tactical a/c were fed raw AWACS data, but were fed tactical information relevant to their situation. Maybe this is not technically possible, but isn't something like this done today?

There is a system in use now called Jsomething (JCCS?) which is a Joint military branch integrated command and control system (they used to be separate). This system shares information between the Army, Marine, Navy, and Air Force (both ground and airborne) CCC systems so that commanders can get a better picture of what is going on and apply all appropriate forces for the situation. I don't remember if this information sharing is by data link or voice, but I think at least some of it was by data link.

Flight information in the F16 is loaded during preflight using some kind of cassette. I don't remember seeing/reading/hearing any reference to aircraft receiving downloaded tactical information (other than voice) during flight except in the Microprose F19 simulator manual. I'm not going to claim to be a leading authority on this, but I do try to keep current. Someone correct me if you know otherwise. I'd like to know more about it if it really does exist.

Personally, I can think of more reasons why you wouldn't want to do this than reasons why you would. First, if communications security is compromised (remember Walker?), then directly integrating your tactical information into someone else's CCC system becomes easier with data link communications. Second, with voice, you need to copy the transmission, translate into your language, interpret the information and then enter it into your system. The amount and type of voice data that might or could be intercepted may not be worth it for time critical tactical information. On the down side, the fighter pilot doesn't have information that might make it easier for him to do his job (such as automatic ID of targets without IFF interrogation). Even with this, you would still need someone in the GCI role watching the strategic situation. I would not want to be in a furball AND having to watch my radar for approaching enemy reinforcements. I'd rather have the AWACS watch my back and report "Showtime, bandits 6 o'clock, 10 miles".

scott@figaro.lurnix.com *7 Oct 92*

Actually, the Navy is currently working on a tactical information integration system called JTIDS (I believe ... Joint Tactical Information Display System). The Air Force has had something comparable for a while. The idea is that each aircraft/airbase/ship has a terminal that can receive a copy of the tactical information being viewed by any other unit. The main idea is for interceptors to be able to use someone else's radar without revealing themselves, but it also allows remote aircraft (like E-2's and F14's) to pass their long-range observations back to a command-control facility (like the fleet). Such a system should have been in place a long time ago, but the military always lags behind industry in electronics technology.

scott@lurnix.lurnix.com *8 Oct 92*

> Personally, I can think of more reasons why you wouldn't want to do this than reasons why you would. First, if communications security is compromised (remember Walker?), then directly integrating your tactical information into someone else's CCC system becomes easier with data link communications. Not to mention that erroneous data could be feed by the enemy.

Not.

JTIDS uses spread-spectrum technology which is nearly indistinguishable from random EM noise. Without the key, it is nearly physically impossible to decipher transmissions because the energy transmitted at each frequency is roughly equivalent to the average background noise on Earth. Also, each frequency used is narrow and it is used for only very short periods of time.

Each JTIDS terminal has both data and voice channels.

The advantages of this are tremendous. It effectively gives interceptors long range 360 degree radar as well as possible target ID information ... especially for friendly aircraft. And, this is done without compromising the interceptor's electronic visibility. Moreover, any data seen by any JTIDS equipped unit on the net can be viewed by any other unit. This gives CCC facilities superior battlefield situational awareness.

Granted that aircraft with RIOs can probably sift through information more easily, especially if in the heat of a fight, but at least the information is there now when it is needed and when there is time to use it.

scott@figaro.lurnix.com *8 Oct 92*

> If Falcon 3.0 modelled the F-16C's TWS radar which can track five targets simultaneously (according to the Wings episode on the F-16), I'm sure it would be different, but it doesn't. I wonder how the F-16C's REO can display position and velocity information for all five planes at the same time!

When dealing with the real F-16 radar, there is a difference between "track" and "search". I believe that an F-16 can keep multiple targets spotted in search-mode but it can only track (or lock onto) a single target ... that is, it only provides detailed information about a single aircraft. One of the big deals about the F-14 radar/weapons system is that it can track and engage up to 6 targets simultaneously. Multi target "tracking" is a sophisticated feature that must be explicitly built into modern aircraft weapons systems. I'm pretty sure that the F-16 does not have this functionality. But the ability to search while tracking a single target is a common feature on most American combat aircraft.

If the F-16 DID have multi-target tracking, then it would be able to launch and guide AMRAAMS simultaneously to every target onto which it had a lock. (AMRAAMS are only capable of active homing for something like the last 30-40% of their maximum range) This would be a nice feature, but it would also be an expensive addition that I don't think our budget-strapped government would be willing to pay for.

VACSC09L@vax.csun.edu *8 Oct 92*

Unless I am mistaken, the F-16 can fire AMRAAMs against multiple targets simultaneously, at least the "C" model is supposed to be able to. I believe i saw this on some program on the Discovery Channel, probably "Wings".

We should keep in mind that even in the F-14, it does not "Track" targets in the track while scan mode in the purest sense of the word. Since the radar beam can only be in one place at once, in the F-14 it looks at each target it is tracking while in TWS mode just long enough to get its speed, range etc., then using that data predicts the targets position continually on the radar display until the antenna comes back to him and updates the info on him. In single target track (on the F-16 and just about anything else) the antenna makes the beam stay on the target continually, thus giving a real continual update. The F-14's phoenix missiles are active homing, so it does not need continual target illumination.

bobs@think.com *9 Oct 92*

Does this mean that the AMRAAMS are not truly a “fire and forget” weapon? If this is so does anyone know if this is how they are implemented in F3? It could explain some of the accuracy problems I have been seeing with the AMRAAMS.

dpipes@srg.srg.af.mil *9 Oct 92*

I was under the impression that this was due to a) long ranges allowing the target more time to evade/decoy the missile if it is spotted and b) the fact that radar-guided missiles have a lower hit rate in general than IR missiles (I believe this came out of the VietNam War, and has held true since). I have used them to occupy someone closing from far out, before I turn and engage a closer target. Seems to work, especially in OFT (I attempted to spoil an attack by two Indian ground-pounders this way. I kept watching for their break and evasion, right up until the first vaporized. *Then* the second one dropped ordinance, broke right and vaporized :-). Gotta watch that radar detector.

fwr100@psuvm.psu.edu *9 Oct 92*

> From what I’ve read, the AMRAAM is basically a short-range Phoenix. The electronics are a miniaturized version of the Phoenix’s. The missile contains an Inertial Navigation System (INS) which guides it to the general area of the target, at which point the active radar engages for terminal guidance. The missile can receive mid-course corrections from the launch aircraft. (I haven’t read specifics on this, whether it’s a semi-active radar or a command guidance system).

The launch aircraft finds the target, downloads its position to the AMRAAM, and fires. The AMRAAM will fly to the assigned waypoint and hit the first thing it finds. The launch aircraft could give it a steer if the target moves a lot, or to hit the proper target. Constant target illumination is never required.

As to the radar set - the APG-66 in the F-16A could not provide any sort of missile guidance, and was single-target-track only. The F-16C came with a new radar (same or similar to F-15A?) that could track multiple targets (4-6) while scanning. I’m not sure if this is compatible with the Sparrow/AMRAAM. From a 2 second glance in a “Wings” episode, it looks as if each target has a small “tail” behind it (like SAD mode), and that different symbology is used to represent altitude(?). It seemed as if the targets were squares or diamonds. (All conjecture, it wasn’t explained). They mentioned a multi- target track-while-scan feature.

Note that target tracking is different than missile guidance. An F-14A can track 24 targets but only guide 6 missiles.

Note: This information is from a bunch of different sources, none of which are with me now. Any of this may be wrong :-(

opus@ihlpy.att.com *9 Oct 92*

[Referring to dpipes contribution ...]

This may be true, but I found it interesting that some gun camera footage I saw during the Gulf War showed a plane (F-15?) fire a Sidewinder at a target in visual range, which missed or exploded too far away from the target, then fire a Sparrow, which made the kill. I was really surprised that the pilot would even consider using an AIM-7 at such short range.

Speaking of which, I've noticed a lot more proximity explosions with OFT than I used to with 3.0D.

scott@figaro.lurnix.com *9 Oct 92*

They are true "fire and forget" weapons at "close" range.

Aim-120's must be told where to fly until they can obtain an active lock on the target. Their on-board radar has a short range so they cannot enter active homing mode until they are within this range and are able to lock onto the target (I'm pretty sure this range is something under 20 miles ... probably as low as 10 miles). Until they go active-homing, they require mid-course guidance corrections from the launching platform. This means that at long range, the F-16 must track the target while the missile is in flight until the missile is actually able to spot the target itself. In this stage, the F-16's weapon system automatically guides the AMRAAM via radio transmissions as long as a radar lock is maintained on the target. (This is not the same as illuminating the target as must be done when guiding a Sparrow). When the AMRAAM finally sees the target itself, the missile may be "forgotten" and the launching aircraft can break away and engage another target. If the launch point were initially within the active homing range of the AMRAAM, then the missile would theoretically be able to go active almost immediately, effectively making it "fire and forget".

scott@figaro.lurnix.com *9 Oct 92*

As long as the targets are close enough that the AMRAAMs own active homing radar can track them, it may be possible for the F-16 to engage multiple targets "simultaneously" in the same way that one can do so with Sidewinders. Basically this entails launching against one target, obtaining a new lock on another target, launching, and so on in rapid succession.

Unless there is some new feature that I've never heard of (which is certainly possible ;^) where the F-16 can simply pass down search mode contacts to multiple AMRAAMS while in active homing range and have the AMRAAMS independently lock on to the targets prior to launch, I do not see how the F-16 can actually engage multiple targets simultaneously.

When firing AMRAAMS from beyond their active homing range, the targeting computer must provide guidance information to the AMRAAM via a data link. In this case, since the F-16 is only capable of locking onto one target at a time, the F-16 will only be able to engage a single target.

> The F-14's phoenix missiles are active homing, so it does not need continual target illumination.

This is not strictly true. The Phoenix does not require illumination, but it does require the F-14 to track targets and tell the missile where they are until the Phoenix is able to obtain an active lock. Since the radar dish on Phoenix and AMRAAM missiles is very small, their range is limited to a fraction of the maximum flight range of the missile.

scott@swindle.berkeley.edu *9 Oct 92*

One reason missiles are much easier to dodge at the long range end of their flight is that they no longer have thrust and are therefore much more sluggish.

Most missiles just have rocket motors in them that burn for a short period to accelerate them up to top speed and then they burn out. The missile just coasts the rest of the way to the target. I'm pretty sure that the burn period for most American missiles is significantly less than half their listed effective range. A result of this is that the missile's velocity bleeds away while it coasts to the target. If they try to attack a target near the end of their engagement envelope, they can even stall out attempting to maneuver with it. And since they no longer have a motor to propel them at that point, they just fall out of the sky (and detonate).

Anyway, this could be why you are noticing poor kill probabilities when you fire missiles at long range targets. I would be very impressed with SH if this is the actual reason, since would be a great testament to their attention to detail and realism! (Of course, instead of going to all the trouble of modelling reality this way, they could just put in a cheat function that says the probability of a hit is inversely proportional to the distance the missile flew. ;^)

fwr100@psuvm.psu.edu *11 Oct 92*

All short range missiles are powered throughout their flight. Most medium and long range missiles are not. The AMRAAM is unusual in that, as a medium range missile, it _is_ powered throughout the flight. The Phoenix missile is a burn and coast missile, but the AMRAAM is not. At long ranges, you have more time to try countermeasures and defensive maneuvering. This seems to be the main reason for misses in F3.

fwr100@psuvm.psu.edu *12 Oct 92*

> If AMRAAM has a sustainer which maintains it's mach 3+ velocity throughout it's full flight, what happens to the missile when the sustainer quits?

I'm not sure. Either the missile will continue to follow beyond max. rated range until it runs out of energy, or it will disarm/self destruct at that point. The flight profile is designed with powered flight in mind. Missiles that glide to the target (a la Phoenix) usually climb very high and use a diving attack to hit their target. The AMRAAM would fly a straight-line course and could not trade altitude for energy.

felix@sunspot.ssl.berkeley.edu *12 Oct 92*

Regarding the recent mail on whether AA missiles use powered flight throughout, most missiles, including all short-ranged ones, boost for only a few seconds, and then they fly unpowered. A few missiles have sustainers, which extends their range and improves their terminal maneuvering energy. The Phoenix is very special in that its maximum range profile uses a high altitude ‘up and over’ trajectory, to minimize energy loss due to drag. However, at the end of its flight it too is slowing down and probably can’t catch an evading fighter. A Badger or similarly lumbering aircraft, on the other hand, has far inferior evasion maneuver possibilities.

Keep in mind that G-loads on missiles go up as the square of speed, if they are to keep a certain fixed turn radius. That means a missile has to pull 45 G’s if it wants to turn with a target pulling 5 G’s and it is flying three times faster. Most missiles have very small flying surfaces, and can’t pull that hard. If they can, they lose lots of energy in trying.

It’s definitely easiest to hit an airplane with a missile if the former doesn’t know it’s been fired at.

scott@figaro.lurnix.com *12 Oct 92*

Well, I would think that the missile would do just fine until it finally did run out of energy. First of all it would be pretty silly to just self destruct once the sustainer ran out (if it does have a sustainer) since the missile would theoretically still have plenty of energy with which to pursue a target. So, if the missile DOES continue to the target with a velocity of mach 3+, then it’s capable range is significantly farther than what is supposedly listed. But then, I have never heard of a competitive defense contractor listing performance parameters that appear weaker than what the weapon is actually capable of (except in the case of very top secret programs or undeveloped programs). So I am reluctant to believe that AMRAAM’s motor runs for the entire duration of it’s maximum capable range. I don’t have any hard information, I am just speculating based on what I generally know about air to air missiles.

Would you mind pointing out your source of detailed information on the design of the AMRAAM and the other weapons which you are speaking authoritatively about? I would love to learn such detailed information about any modern air weapons for which you have reliable sources. I’m sure a number of other people on this mailing list might be interested in reading more on the weapon systems in Falcon 3.0.

> The flight profile is designed with powered flight in mind. Missiles that glide to the target (a la Phoenix) usually climb very high and use a diving attack to hit their target.

This is not true, actually.

One of the reasons Phoenix climbs to attack is that it was designed to squeak as much range as possible out of the technology of the day to enable F-14’s a safe fleet defense intercept range. Phoenix of course can engage targets up to 100+ miles (nm’s?) away and the only way to get this sort of range is to climb to a relatively drag-free altitude (as you pointed out earlier I believe). This is possible because the proposed targets are far away and there is time for the missile to execute this relatively complex trajectory.

However, I am pretty sure that the Sparrow in particular commonly glides to it's target. And this missile is a semi-active homing missile, meaning that it must pretty much point at the target during the entirety of it's flight. An arcing flight profile is not necessary for coasting missiles, it just happens to be efficient for very long range intercepts.

> The AMRAAM would fly a straight-line course and could not trade altitude for energy.

Any missile can essentially trade it's energy for altitude by simply continuing to aim at the target (at an intercept point actually). By doing so, the missile must gradually increase it's angle of attack to maintain lift so it can fly even a flat trajectory as it's speed bleeds away. This does not have to be specially programmed ... the missile merely tries to intercept the target and as it's speed drops away, it has to aim higher and higher (until it stalls).

3.0 Setup and Requirements

Many people have asked about various setup problems. This section is a collection of those comments. The problems range from machines and operating systems which Falcon has a problem running on, to peripherals and communications.

3.1 Software Usage

3.1.1 OS/2

roger@kean.ucs.mun.ca *11 May 92*

Has anyone tried Falcon 3.0 running under OS/2? I get it to run at good speed UNTIL I try to use digitized sound; then it slows to a crawl. Does anyone have the correct DOS_SETTINGS to enable digitized sound?

sip1@ellis.uchicago.edu *17 Sep 92*

> I need help running Falcon3 under OS/2. It starts up fine and the sound blaster plays... but right after the title screen it gets an error reading SOUND.BNK. I reinstalled it, and I get the same error. The game works fine under DOS5, so I think it must be the DOS settings. Any hints?

Hints for running most games under OS/2 2.0 are found in the file games10a.txt, available via anonymous ftp from ftp-os2.nmsu.edu. It should be in /pub/os2/2.0/info.

jtm48888@uxa.cso.uiuc.edu *22 Sep 92*

> I need help running Falcon3 under OS/2. It starts up fine and the sound blaster plays... but right after the title screen it gets an error reading SOUND.BNK. I re-

> installed it, and I get the same error. The game works fine under DOS5, so I think it must be the DOS settings. Any hints?

This happened to me too. I called SH and they told me to delete ‘SOUND.BNK’. I did that and it worked fine except that there was no sound. Then I went into the CONFIG screen and re-enabled the sound, and it worked after that. I couldn’t get the voice that you hear over the radio to work right, but I didn’t mess with the settings very much.

bpowell@osc.edu *23 Sep 92*

Well, I can run Falcon 3.0 (haven’t tried OFT yet) pretty well on my 486-33. The digitized voices do not work through the soundblaster, though. You have to just turn them off. Also, the frame rate is slightly (just barely noticeably) slower. Otherwise it runs fine under OS/2 2.0. I don’t remember all of my settings, but on Compu$erve there is a file in either the IBMOS2 or the game publishers forum that has all of the necessary settings. On your 486-50, the frame rate should be quite good even under OS/2...

lrj@helios.tn.cornell.edu *29 Sep 92*

Over the weekend, I discovered a couple bits of info. First and foremost is that although Falcon3/OFT _WILL_ run under OS/2 2.0, it’s slow as a government organization that owes you money. While _playable_ under OS/2, it is much, much better under MSDOS/EMM386.

I hadn’t noticed how dramatic the slowdown was, as I installed OS/2 in early June. Until a three or four weeks ago I didn’t have the available disk space to re-install Falcon3. Three months is enough time to forget certain nuances.

If someone _really_ wants, I’ll dig out the settings I used. Nothing special, other than HW_TIMER had to be OFF, and Radio Messages also had to be OFF. I also had to install OFT by hand through OS/2.

lrj@helios.tn.cornell.edu *8 Oct 92*

I’ve had it running under OS/2. The frame rate is _workable_, but painfully slow. Radio messages don’t work. The game goes to “unplayable” when something else starts running under OS/2 (like my uupoll daemon). It is worth the trouble of shutting down OS/2 and booting MeSsyDOS to play the game.

3.1.2 DR DOS

wbarnes@sura.net *18 May 92*

Not too long ago I upgraded to DR DOS 6.0. When I tried to install Falcon 3.0 - surprise, surprise! - it wouldn’t let me and told me I needed DOS 5.0. Does anyone know if I can work around this *minor* problem? It would really suck to not be able to play this game BECAUSE IT WON’T INSTALL!! Do one of the Falcon 3.0 patches fix this? “Help meeeee...”

3.1.3 SuperStor

rhodes@rhodes.cc.vt.edu *21 Feb 92*

Has any Falcon/DR DOS users running 386/486s configured super store disk compression and still had available conventional memory to run Falcon. I need to do more testing, but it initial tests indicate that I have 601K free with the SSTORDRV.SYS loaded prior to preparing (compressing) the hard drive. But after I prepare the drive and reboot with the same device drivers (and params) I only have 586K. I am not running DEVSWAP (my autoexec.bat logs to the D: drive). Sorry if this sounds like a comp.os.msdos.misc question, but I thought Falcon flyers have already faced this same problem. Thanks :-)

ll@linus.mitre.org *14 Aug 92*

I have SuperStor 2.04 and I could load it all high using Microsoft Windows 3.1's himem.sys and emm386.exe; but it would bump 14k bytes of DOS 5.0 back into low (conventional) memory, thus not freeing enough low memory to run Falcon 3.0. Then I bought 386Max 6.0, a smarter memory manager to replace Microsoft's, but it failed to load all of SuperStor's driver into high memory until 386Max 6.02 patch was released. (BTW, I only wanted to load SuperStor driver and mouse.sys high.)

After MUCH experimentation, I've come to the conclusion that you MUST disable SuperStor, make sure you have enough uncompressed space, install Falcon, run Falcon and DISABLE music and animation in the Config Screen of the War Room, quit the program, re-enable SuperStor in your config.sys file, copy Falcon from the uncompressed partition to the SuperStor compressed partition. You can now run Falcon EXCEPT that music and animation must continue to be disabled. Otherwise, Falcon will freeze up in the War Room, or freeze up during animation sequences with a band of video noise along the top of the screen.

I sent an email message to Spectrum Holobyte describing the problem, and Marisa Ong (No. 19) replied confirming that parts of Falcon 3.0 have problems running with the SuperStor driver, but that they haven't had problems with Stacker, a similar disk compression product. BTW, I'm running Falcon 3.0d version. Oh well, I don't miss the music and animation sequences *that* much...

3.1.4 HPFS

andrew@swanee.ee.uwa.oz.au *16 May 92*

This might be an FAQ but can you configure Falcon 3.0 to run with the HPFS system? I have Falcon 3.0 successfully installed and patched to 3.0D sitting on my hard disk and the damn thing won't work in HPFS.

I also tried with 3.0 and same error so is there a solution to this or is Falcon 3.0 inoperable in HPFS environment?

3.2 Hardware Usage

3.2.1 Packard Bell

killroy@niktow.canisius.edu *24 Sep 92*

Well, just for the record... Falcon3.0D will not fully work on the Packard Bell 386sx 20Mhz.... I bought the game couple weeks and tried getting it up and running since then with no success.... I finally went back to the store where I loaded for them the game on their Packard Bell (Computer City) and it also didn't work (we even tried a different copy of the game with same results)... So for all of you Packard Bell owners (I know this is the greatest PC) you might have to suffer through couple glitches in order to play the game... But I think it's still worth it... I love the game....

3.2.2 Zenith Z-386/20

twh18@isuvax.iastate.edu *4 Oct 92*

I bought F3 OFT today. After I got home, I successfully installed it on my computer without any error message. Then, when I typed "Falcon3", the processing light (the light which shows if the computer is thinking) flashed about 3 times, then stopped, and my screen won't blank. I tried this few more times, but I got same result every time.

My machine is a Zenith, Z-386/20. It has 623K memory available after I rebooted the computer, and it has 3.4 MG extended memory. I can ran every other pervious version of Falcon3 on it without any problem. So I thought it might be something wrong with my config.sys or autoexec.bat file. I was wondering if anyone knows the answer to this. My config.sys is "device=a:/himem.sys, device=a:/emm386.exe, DOS=HIGH, UMB,". since on the install card, under "installation failed", it says:(make sure that files=30 and buffers=30 are in your config.sys file), I add this to my config.sys, but it still wouldn't run. My autoexec.bat is "echo off, prompt pg, c:\". As I said before, those 2 files works fine with any other Falcon3 version.

3.2.3 DECpc 420SX

oecheruo@mailbox.syr.edu *8 Oct 92*

My problem is that after running OFT install on a FALCON 3D installation, the game refuses to run. Typing falcon3 without enough memory invokes some memory warning and the game quits. However, when I boot up with enough memory, the drive is read for a second, then the screen clears and the computer hangs completely. Pressing the reset switch causes diskette seek errors at POST time, so I have to hit the ON/OFF switch.

My configuration is a DECpc 420SX with 8MB RAM, mouse v6.26 (old one), smartdrive 4.0, QEMM 386 6.02 and an ethernet card (NE2100)

I have tried all software combinations (excluding smartdrive/mouse, qemm) etc. Every time the game hangs. So now, I have lost my 3.0D campaigns and I cannot even play the new ones.

The previous installation of Falcon 3.0D worked flawlessly. Anyone experience something similar. Also, there are no network/ethernet drivers loaded.

oecheruo@mailbox.syr.edu *10 Oct 92*

I wrote earlier about my problem with OFT and a DECpc 420SX. Well I have tried it on different systems and in all cases. OFT has HUNG (on/off required) the systems.

the only common factor is the presence of a NOVELL ethernet NE2100 board. I have reinstalled the original falcon 3.0A and 3.0D and they both work. ANY ADVICE?

DOS 5.0
QEMM 6.02,EMM386, NO EMS MANAGER
8 MB RAM
486SX, 386-33 64KB CACHE
PARADISE VGA/OAK VGA
NOVELL NE2100 (NOVELL ODI DRIVERS / WITHOUT DRIVERS
SMARTDRIVE 4.0 (both without also)
MOUSE 8.20 (and an older one too)
NETWORK DRIVE & IDE DRIVE
SERIAL MOUSE
OFT FALCON UPGRADE

3.2.4 Logitech Bus Mouse

jpa@dash.udev.cdc.com *28 Sep 92*

> Just purchased ‘Operation Fighting Tiger’, installed it, then found that when I typed ‘falcon3’, the screen went blank and the keyboard froze up.
>
> So I reinstalled Falcon, which worked fine (except that the joystick seems more sensitive than before - is there anything I can do to decrease the responsiveness of the joystick?). I added patch D, and it still worked fine. Then I installed OFT and fzzt! the screen blanks when I type falcon3 and doesn’t do a thing!
>
> I have a 386-25, 630944 Kb free memory, math coprocessor, and Stacker (loaded high). As far as I can tell, there’s no reason my system should work with 3.0D but not 3.01.

I have a similar problem.... I have tracked it down to loading my mouse (logitech bus) driver. I also had to rearrange how I loaded my drivers in high memory, using QEMM 6.03. I too have stacked disks, and drivers for my adaptec SCSI (not the same disks). When I comment out the mouse driver (either 6.00 or 6.02 loaded high or not) OFT works, leave it in or load manually and fzzt. Even with the mouse loaded I have plenty of free

DOS memory (>625K). BTW, no stealth qemm used. OFT also doesn't like to run off the SCSI, but runs off a stacked disk.

I would (if I were you John).. try pulling out TSRs and putting them back selectively... I seem to remember changing having to put STACKER in QEMM's default EMS region (not /r:2 or whatever it was).

Still pisses me off that my mouse doesn't work with OFT. Maybe its my IRQ on the card. Every other hunk of SW works just fine though.

3.2.5 Thrustmaster FCS and MAXX Rudder Pedals

riddell@netcom.com

How should Falcon 3.00 running with the D patch be configured to use both a Thrustmaster WCS and Maxx rudder pedals? I have tried setting it both for Thrustmaster products and just a Joystick, but it does not seem to acknowledge rudder commands from the pedals, just the keyboard. The pedals work fine with another sim (Aces of the Pacific.)

masten@beta.lanl.gov *17 Aug 92*

I have the same peripherals. All you have to do is set the config to joystick. Then recalibrate from the menu within the game (flight). First it has you move around the box calibrating your stick. Then it says it detects a rudder control and do you want to calibrate it. That's all!

hchong@netcom.com *20 Aug 92*

You need to press ESC during action sequence and than select configuration in order to activate rudder.

3.2.6 Thunderboard

rcs@rte.com *25 Sep 92*

I'm using a 486 with a Thunder Board (from Media Vision) to play Falcon3 and I don't get any radio messages. Media Vision refers to a patch available from SH to fix this problem.

Does anyone out there have it or know where I can get it?

stevet@research.canon.oz.au *30 Sep 92*

I have a 486/33 with Thunderboard. Under version 3.0 I had to turn off the cache to get the messages to work (painfully slow). Under version 3.0D I have to turn turbo off (18MHz) but I can leave the cache on (just bareable).

> If you let the intro sequence go through (the F-16 shooting down the MiG-29 over the swamp), then the digitized noises will not work on my computer.

If I avoid the intro sequence, I can get radio messages for a while at 33MHz (v3.0D), but after a few minutes they stop working.

Is this a problem that just affects Thunderboard, or does it affect SoundBlaster similarly? My ThunderBoard came with a refund guarantee if I could find a program that worked with SoundBlaster but not with the ThunderBoard.

3.2.7 Memory Usage

roeschmf@craft.camp.clarkson.edu *9 Jun 92*

Forget the 2 Mb of RAM, save it for a 386/40 motherboard. They are only $315US, and prices are falling rapidly. The difference is like night and day, color and black-and-white, a campfire and a hydrogen bomb, etc. The RAM won't really help the performance of the game, and it would be better spent on the motherboard.

crcraig@athena.mit.edu *9 Sep 92*

> I'm running a 486/33 w/ 4MB ram and PLENTY of disk space. Falcon was running properly before OFT installation. Now, before the start of the third scenario in Kurile Islands, it dumps saying not enough memory.

I had this problem too. I have 622k free, so memory should not have been a problem. I solved it by running QEMM's "LOADHI /LINK" (which is also one of the ways of getting the more detailed objects). I don't know why this fixed it, and I don't know what the analogous DOS command would be.

3.3 Setup

3.3.1 Getting the Most Performance with Minimum Hardware

roeschmf@craft.camp.clarkson.edu *9 Jun 92*

Ouch! You're really at the lower end of the minimum requirement [386sx with a math co pro, 2mb, and a 42 meg HD], so the best thing to do is turn down the terrain to it's lowest level and any other setting that might be effected by the horsepower of your computer. Turn off clouds, too.

The lag is (I believe) due to the lower speed that you are flying at [during landing]. Unfortunately, due to the speed of your machine, this might translate into a major overadjustment because of the frame rate you are running at. One option is to let the autopilot land you. Not very glamorous, but it gets the job done. Other than that, make very small adjustments and then seen what the results are when on your landing approach. If you miss, you can always come around again. Oh, and buy a joystick. The game is pretty unplayable without one.

bprescot@sirius.uvic.ca *9 Jun 92*

I always land with my joystick, with the ground detail set to minimum, (through the config screen) and I have only minor problems. (I once landed, completely out of fuel, engine stopped. I wasn't a great landing, but I made it.)

Sometimes when landing I try to use the rudder keys on the keyboard and I have a similar problem. Maybe instead of more memory you should look at getting a joystick. They can be had for about $40 here.

3.3.2 Reducing Disk Space

bweaver@quack.sac.ca.us *20 May 92*

Falcon 3.0 take about 11 megs to install and 9 megs once installed. I managed to slim Falcon down to 6 megs by deleting the music files and the annoying animation that shows that comes on every time you are going to fly. The music files aren't needed unless you have a sound card installed. Basically delete everything in the directory MEDIA and MUSIC. Also, make sure that you have music and animation turned off on the config screen or the program will crash with a file not found message.

I have not had any problems since doing this.

3.3.3 Getting Full Aircraft Detail

ptran@watserv1.uwaterloo.ca *4 Aug 92*

Remember the file substitution trick (OBJECTS/SOBJECTS) that gave full detail to the planes in Falcon 3.0? Well, Andrej Gaspari from the ILink Sim Conference has found an even easier method to trick Falcon into loading the full polygon models. Just use DOS 5's loadhigh command to start falcon3.exe! (e.g. LOADHIGH FALCON3.EXE)

When Falcon detects 632k or more of unused conventional memory, it automatically uses the full object models found in the file OBJECTS. However, not many people can free up this much RAM, and are stuck with the ugly flying boxes found in the abridged object file, SOBJECTS. The loadhigh command seems to trick Falcon 3.0's memory-sizing routine into thinking that there is enough memory to load the full models, even if you have less than 632k free. A Spectrum Holobyte rep has warned me of possible problems with forcing Falcon to load in more detail than it naturally wants to, but heck, I haven't run into any difficulties, and the planes sure do look better!

dpipes@spica.srg *5 Aug 92*

> Strange. Just how would you even be able to get 632K without cute tricks like the LOADHIGH you cited?

QEMM seems to do it for me...I have about 636k available. Seems to me the number went up a bit when I went from 4 to 8 meg RAM, but I could easily be mistaken. I use Logitech mouse.com and the soundblaster driver, loaded high, and dos loaded high, and nothing else.

ptran@watserv1.uwaterloo.ca *5 Aug 92*

Loadhigh doesn't really load Falcon high... the game is too damned big. What it apparently does is pull the wool over the eyes of its memory sizing routine, tricking the game into thinking it has more memory than is actually available. Amazingly, the game doesn't crash when you fool it like this.

I asked SH whether it was possible to get 632K free, and they said yes, if you use QEMM and a few of its tricks.

dbr@ocf.berkeley.edu *6 Aug 92*

A SH rep told me today to do the following:

loadhi /link
falcon3.exe

(after play is done, if returning to other software)

loadhi /unlink

He said this will give more detailed graphics to enemy images.

ptran@watserv1.uwaterloo.ca *7 Aug 92*

The loadhi /link, etc., commands only work if you use QEMM. For straight DOS 5 and EMM386, you must use "loadhigh falcon3.exe" That /link switch may mean that a portion of falcon3.exe may actually be loaded into the UMBs when loadhigh is used. Hmm...

umeister@hardy.u.washington.edu *6 Aug 92*

This is in regards to a couple of articles I've seen about tricking Falcon 3 into thinking it has more memory. It's probably nothing really new, so don't flame me if this has been posted before. Using a few include statements on my EMM386 line in CONFIG.SYS, I've gotten up to about 714K free:

DEVICE =C:\SYSTEM\EMM386.EXE frame=E000 I=B000-B7FF I=C800-DFFF I=E800-F7FF 2048 RAM

The I=B000-B7FF, which I think is the memory allotted to some sort of mono video driver, causes problems with Windows unless you get a file from Microsoft called MONOUMB.386 (available from the Microsoft BBS), so you may want to leave that out (and get a little less available memory).

umeister@hardy.u.washington.edu *6 Aug 92*

Oops. You're right. I read the Conventional + Upper line when I did a mem/c. Nevertheless, I loaded everything high (including Stacker) and got 624K Largest Executable Program Size.

3.3.4 Network Setup for Multi-player Mode

jnlong@magnus.acs.ohio-state.edu *20 May 92*

You might want to check the following things for your workstation setup:

1) Make sure you have enough base RAM left after IPX and NETX are running. 2) Make sure you are using the most recent version or NETX.COM, Don't use a DOS specific shell.

pete@fidata.fi *12 Aug 92*

> anyone tried falcon3 on a novell network? it is ok to have 2 players play together but it hang up when we choose more then 2 players, anyone know why?

I noticed two things: 1) You have to have the 3.0D version in order to get multi-player. 2) Load IPX low. It hung up on us when it was loaded high.

[See Section 4.12 "Multi-Player Mode" on page 105 for more info.]

3.3.5 Direct Link Setup for Multi-player Mode

adam@mentor.cc.purdue.edu *30 Sep 92*

just need a cable with two DB-25 female connectors with this configuration:

2-3
3-2
7-7

then when in falcon, choose comms in the war room, choose a pilot when asked to do so, select direct from the comms menu, as well as 57kBaud, select the same type of mission for both players (two player duel or two player allied), then get player 1 to select call, player two select answer, then let player 1 press accept about 3 seconds before player 2. Now Bob should be your auntie, at least that's how it has worked 4 me!

3.3.6 Modem Setup for Multi-player Mode

See Section 4.12 "Multi-Player Mode" on page 105 for info.

3.3.7 Modem Setup for COM3

jwein@watcgl.uwaterloo.ca *12 Aug 92*

> Has anyone gotten falcon 3.0d to work over a modem line if your modem is hooked up to com port 3? I have a mouse and Multi-function card stuck in ports 1 and 2, and can't get them out without dismantling the whole computer. I've called SH about this, but I probably won't get an answer for a while. Does someone possibly have a com port swapper, or do those exist?
>
> Just chaps my hide that they don't take the time to program in com port 3 support. But I love the game.

I asked SH about exactly the same problem. They recommend the shareware utility port finder (pf270.zip) which remaps ports. It is available at simtel in the sysutl directory. Of course, I have not tried it but SH tone's implied it has been confirmed to work.

4.0 Tips, Tricks, Tactics, and Strategy

This section contains a hodge podge of all the information that has been posted in regards to helping you get the best of Falcon. It covers everything from pre to post mission plus tips on using the non-flying parts of Falcon.

4.1 Missions and Mission Planning

Here we look at planning for success. Mission planning is a vital part of Falcon that really can't be ignored if you want to be good.

4.1.1 Default Mission Profiles

knutson@mcc.com *20 Feb 92*

The default mission profiles are not always optimal. The Operation Fighting Tiger manual goes into much more detail on optimal flight profiles.In particular, speeds are on average 100 kts faster and [???]. However, it is typical to change the flight profile. Many people have reported using lower altitudes (500 to 1000 feet) for ingress to escape radar detection. See also Section 5.3.2 "Fly Into the Ground" on page 122.

sekullbe@athena.mit.edu *21 Feb 92*
masten@navier.stanford.edu *21 Feb 92*

Another tip is to add a waypoint on the other side of the target that is low and fast. Without this, your extra flights will return to base through enemy territory at a very slow speed. OFT usually adds this kind of waypoint by default.

masten@navier.stanford.edu *21 Feb 92*

Agreed. I have been testing this with Red Flag missions against an SA-6. I find the lower the better. 1000 is better than 2000, 500 is better still. But at 500 ft, they still acquire you at about 20 miles anyway. I found flying tangentially is more stealthy than flying directly toward the CW radar. Turning on the ECM usually (momentarily)breaks the lock.

I hate these flights! First they don't tell you what the hell you are escorting! Then it usually turns out to be B52's going 250 knots! Wouldn't a B-52 go high subsonic? I mentioned all this to SH. Hope they change it. I fly at about 15k, occasionally doing circles to see if something sneaks up from behind. Since the B52's are so slow, I get to the target before them. I use the CAP waypoints as a bound. I generally just look for enemies to intercept. Usually no problem finding a bunch. That's another beef of mine,. too many enemy sorties. By this time, I'm typically low on gas, so I don't worry about hitting each waypoint.

John Scanlon@FS echo on Fidonet (c/o rick@ssg.com) *17 Sep 92*

One thing that I have found is that the RECON function button when laying out waypoints is critical. For example, In the Kuwaiti theater I have been assigned CAS missions at Iraqi Defenses Bases that are totally deserted. I simply set the assigned base as waypoint one on the mission, and then assigned another nearby base as a subsequent base for CAS. In general, Falcon does not care where you destroy the enemy ground targets on a CAS or S&D mission as long as you do destroy them. At one point in time I was assigned a S&D mission who's waypoint was not even on the map. This was with an earlier version of the game. Since there was no target to attack, and there wasn't even a target close to that edge of the map I reassigned the flights to BOMB missions at an enemy airbase. The mission was successful. I am a firm believer that the only thing that the default waypoints in Falcon are good for is getting killed.

4.1.2 Wild Weasel Flights

knutson@mcc.com *20 Feb 92*

Falcon provided no direct support for creating wild weasel flights until OFT when SEAD (Suppress Enemy Air Defences) waypoints were introduced. However, wild weasel flights can still be used in Falcon 3.0 with a little work. One way to do this is to assign your flights objective to another flight and fly the wild weasel mission yourself. Another way is to use CAS waypoints and load the flight with just Harms and Shrikes. Do not load Mavericks or bombs as the flight will use these first and ignore any radiating targets. See also Section 5.4.16 "Enemy Ground Radar" on page 131.

sekullbe@athena.mit.edu *21 Feb 92*

I wish there were a way to tell targets apart... I've wasted too many HARMs and Shrikes on ZSU-23s just in time to see a SA-6 headed my way.

cooper@cos.com *24 Feb 92*

I usually fly the wild-weasel missions myself - I find them VERY exiting, and VERY dangerous. (Don't fly too low, AAA is murderous, and don't forget to take an ACM pod - but use it only long enough to break lock/launch, the manual says a pod will make everyone know where you are but I'm too much a coward to actually try that out)

dpipes@spica.uucp *2 Oct 92*

The SEAD guys were first in, right? I had this problem until I realized what happened. I would set up a SEAD flight to precede my other planes by 2 minutes or so, near as I could figure. This way they could take out the ground defenses, I thought. And they will, IFF there are *no* un-engaged enemy aircraft in the area! If there are, these guys bug out, and they expect you too, too. If they ignore the local air - and they may be aware of planes that you are not aware of - even a mig-19 could take them out as they do their ground-attack thing.

The way to do this is to send in a flight of 2 or 4 fighters over the SEAD target area, to arrive a minute or two before the SEAD flight itself. This serves two purposes: it allows them to scare off or engage any enemy planes, and gives the enemy radars time to warm up and light up. In an ideal world, your SAM suppression guys show up just after a few ground radars come on line to deal with the fighters. The ground radars die, any enemy planes get royally screwed, and the main flight goes right in with no problem. Screw up the timing more than a little, though, and your fighters get popped by the ground stuff. Remember, "The attack which can be planned is not the true attack" - use the interaction of various tactics to manipulate events. In this case, you plan a fighter sweep over known enemy anti-air, and a ground attack in possibly enemy controlled airspace. Separately, both plans are death. Together, they are devastating :-).

4.1.3 Adding Escort and CAP flights

sekullbe@athena.mit.edu *21 Feb 92*

I generally add planes to my flight armed with AAMs so they will stay with me and not fly off.

masten@navier.stanford.edu *21 Feb 92*

I leave the number of flights as is. Might be worth reducing them so I can last longer in the campaign! I did a couple of Red Flag bomb with CAP/Escort support. The escort wasn't very good.

gt3017a@prism.gatech.edu *21 Feb 92*

If you're going to be using more than two f-16's, I've found it more effective to pair them up rather than use them in your flight. That way, they can get separate orders, and not blow your cover, if you stay back behind them, like a screen.

opus@cbnewsc.cb.att.com *13 Jul 92*

I've got an unrelated question to people who have been flying campaigns. I've seen lots of suggestions that you need to have multiple flights to complete missions. This works great UNTIL YOU RUN LOW ON FUEL! I've botched a couple of campaigns by sending up gratuitous numbers of planes on missions. After about 4-5 days, I've found myself either out of fuel entirely (so you have to skip missions!), or was forced to fly SOLO missions just to have enough fuel to last until the next resupply date! Don't other people have fuel shortages, or do you just never get that far into a campaign? I'm not sure yet, but seems like noticed that no matter how much fuel I actually use on a mission, the game subtracts my entire fuel load from what's left.

By the way, solo missions are pretty exciting. For bombing missions you get two computer-flown escorts, so it's not like you're all alone. The key is to approach the target slowly, so you don't lose your escorts, crank it up as you get close, zip in, zip out, and afterburn for home!

4.1.4 Formations

knutson@mcc.com *20 Feb 92*

I haven't looked at this a lot. The book says it supposed to make a difference as far as radar signature goes. It was supposed to have a section discussing the formations, but the most I saw was some diagrams of the formations and a note saying buy somebody's book. Does anyone have this book? Is it worth it?

The diagrams don't really help a lot. There is no separation information and the order of the #2-#7 AC in the formation is also not apparent.

It would seem to me that the formation being used ought to be able to be varied from waypoint to waypoint depending on what you need from the mission at that point (i.e. radar avoidance inbound, best ground attack coverage over target, etc.). Better yet, the formations could be changed via command in much the same way as wingman command is done.

masten@navier.stanford.edu *21 Feb 92*

I've noticed this often in Red Flag. I have had them auger in when going from the plains to the high ground. I finally decided I should play around with the formations, sticking to horizontal layouts at low level. Can't say definitively if this solves the problem.

4.1.5 Fuel Usage

Several people have reported large differences in fuel usage between the Complex and Hi-Fi flight models mainly due to the different throttle settings necessary to maintain a certain airspeed (with Hi-Fi having lower usage for cruise but perhaps higher usage during BFM).

masten@navier.stanford.edu *21 Feb 92*

The simulation of fuel management (in complex mode) is poor. I ran some test flights. The F16 had greater range at sea level than 35000 ft! It also had greater range at 600 knots than 350 knots. This pissed me off. I forgot the numbers, but they wouldn't be of much use with extra ordnance and afterburner use. I take along extra tanks if the far waypoint is over 100 miles away. Yeah, I also wish they had in-flight refueling.

cooper@cos.com 24 Feb 92

I usually play in Israel - flight time is short, and you can usually fly an entire mission on mil power!

[See also Figure 4.1.3, "Adding Escort and CAP flights," on page 58.]

4.1.6 Default weapon load

knutson@mcc.com *20 Feb 92*

In most cases, the default weapon load is probably not what you want. You need to take into consideration whether or not to use a standoff weapon, how much damage is necessary to destroy the target, fuel usage, weather, and probably other things as well.

For instance, it doesn't take 8 1000lb bombs to destroy a radar and free fall bombs are probably not a good idea to use when you want minimum collateral damage. You wouldn't want to use AGM-65Bs at night either.

Also, the computer pilots will make one and only one pass to bomb their target. Don't make them carry more than they need for that one pass.

sekullbe@athena.mit.edu *21 Feb 92*

I give EVERYONE 9Ms, AGM-65Ds if warranted and almost always ECM pods. Whenever I attack something I think will need a Mk84, I sub in GBU-15s. Not much heavier, but lots safer and more accurate to drop. I can also engage twice as many targets.

masten@navier.stanford.edu *21 Feb 92*

Never noticed this. Anyway, I always add the ECM pod and extra AA missiles (not 9P's), since there are so many enemy flights.

cooper@cos.com *24 Feb 92*

I usually take as many AAM as I can - remember, you're either a hunter or a target :>

dbr@ocf.berkeley.edu *8 Mar 92*

In Patch C, not only does it still allow me to overload the bird, the default CAS is too much (8 cluster, 6 AGM-65B, 2 AGM-45 and 2 AIM-9) and I crash.

bishopjl@infonode.ingr.com *24 Jun 92*

This is caused by overloading your aircraft. You need to be under 32,000 or so pounds (check the manual). This can usually be easily achieved by unloading 2 cluster bombs - which you are usually carrying for ground support missions.

The reason this happens is that the high fidelity flight model kicks in at around 200+ knots, and it does not know how to deal with your overloaded condition. Note that other aircraft (including your wingmen) are not affected by the 32,000 lb weight limit.

Other work arounds:

1. Keep your flaps down (and your airspeed below 400 kts!).

2. Drop some ordinance or burn some fuel to get your wait down (can you say "Afterburner"?). Once 2 occurs, you should be OK. In real life, the aircraft would be loaded with whatever was necessary, and a mid-air refueling scheduled if necessary.

opus@cbnewsc.cb.att.com *2 Jul 92*

On CAS missions, it seems pointless to give your wingmen more than one set of bombs since they drop every single one of them on the first ground unit they attack! Eight cluster bombs to kill one BMP seems like a wee bit of overkill to me!

4.1.7 Defensive Strategy

knutson@mcc.com *20 Feb 92*

What do you use for your defensive strategy. For ground attack, I've been using ECM pods on all AC in all flights. However, from the loss of AC, it would seem that either the ECM pods aren't very effective, or the computer controlled AC aren't using them.

I've been using the keypad for control because I can't keep moving my joystick back and forth between the computers I use. This has led me to use autopilot when the SAMs and AAA start flying. This is a fairly successful method, but the autopilot doesn't always do what I want.

Do you ever have problems with no chaff and flares being loaded when you load an ECM pod or this a problem with supplies running out?

What do you use to avoid a SAM when you get a launch indication? Has anyone been able to see a SAM after launch and been able to maneuver the AC out of its path? I wish the padlock view would allow for doing this.

How about radar detection avoidance? Do you position your waypoints to minimize radar signature based on AC flight path? Have you tried terrain masking? Do you fly low or high and how much?

sekullbe@athena.mit.edu *21 Feb 92*

I always add an ECM pod anytime I will get near enemy ground forces.

Avoiding missiles: I just crank on my ECM pod and bank into the tightest turn I can manage. Go to 100% power (no AB) and turn hard while diving. Drop chaff and flares randomly. I don't like how hard it is to see the missiles, even on the threat display.

masten@navier.stanford.edu *21 Feb 92*

I also always carry the ECM. The manual says that the ECM is only marginally effective against planes/A-A compared to ground radar. Might have something to do with it. Carry extra missiles.

Like I said, I turned them off in config, a real effective strategy :-). But in my RF tests, I saw the launched SA-6's. They go up real high so you may easily lose sight of them. The ECM seemed pretty effective in spoofing them. Does this make sense? Easily dodged shoulder-launched SAMs by flares and jinking. The SH rep said they wanted to put the SAMs in the padlock view but had problems (why?). May be a future patch.

dedmunds@selkirk.sfu.ca *4 Aug 92*

I only take 2 9M's up on my missions and instead stock myself up with anti-SAM missiles. I let my wingies fight air-to-air while I concentrate on SAM suppression. (I just loving watching those squares on my threat indicator vanish.)

knutson@mcc.com *11 Aug 92*

Best defence is no offence. I turn them off :-). Actually this isn't quite fair. I turn on SAM/AAA when flying Instant Action and I think I remember once where I was downed by an SA-6 even when I had SAM/AAA turned off while flying a CAS mission. My only suggestion here is make one pass at your target at 400+kts. Don't set your waypoint so that you have to turn 90+ degrees after coming off target (you want in and out quick). If you miss, tough! Practice better aiming. Better to return with no targets hit than to lose a pilot (trained ones are hard to replace).

jlong@uhunix.uhcc.hawaii.edu *16 Aug 92*

ECM. Don't leave home without it! Keep it off until you start getting painted from the ground radar, then turn it on until the radar goes off.

Jink a lot. Don't make yourself a good target. Fly unpredictably. Keep close to the terrain. Keep turning and changing direction. Don't believe all that textbook stuff the 'beaming' and 'threading' the radar sites.

It's basically that the bad guys on the ground know you are there, and you just got to fly better than they can shoot.

Remember your mission objective, and don't be wasting your time on some kids with launchers just because they're there. Save your best shots for the most deserving. Get in and get out.

And don't forget that old ECM, either. Boy, them young scientists sure make neat stuff, don't they?

4.1.8 Defensive Screen Mission

s026@brems.ii.uib.no *22 Apr 92*

I can't complete the defensive screen missions, no matter what i do, even if i stay in the air until my fuel burns out, and my missiles are all fired. even when i am sure no planes has crossed the line, i cant get it a successful mission.

primus@netcom.com *17 Sep 92*

I am having a lot of troubles with this type of mission. The mission briefing says that I am to fly defensive screen along the front line and prevent any planes from getting through. What?!? Most of the time, when I'm still on the ground, the enemy would already be near or have crossed the front line (line connecting waypoint 1 and 2) and bearing down on me already. (usually, the bandits would consist of either 3-4 Mig 29s or SU-27s, followed by 2-4 SU-25s or MiG-23s....). And to make matters worse, my Wingmen won't see them until I have left the runway, which by that time the bandits would be less than 20 miles away (and hostile, actively trying to lock on and shoot me down with their APEXes). I would then hit AB5, engage the fighter escorts, destroy them and (if I survive...) then work on the SU25s or MiG-23s. I then loiter until my fuel runs low and head for home. Of course, the mission would be classified as unnecessarily, since I 'allowed' enemy aircraft to cross the front line......

I've tried everything. I've even tried to assign a second flight flying above 12000 as their starting point with their speed at 700 kts and place their first waypoint close to where I would expect the bandits to show up, assign it as an intercept, speed at 700 kts and above 12000. No can do. the second flight still can't reach the initial wave and prevent them from crossing the front line in time. Once I even had SU-27s within 15 miles and they blasted me to kingdom come with their APEXes before I have even left the ground. What gives? Three or four of these missions in a row and my campaign could/would be ruined.

Could someone out there show me what I'm doing wrong? I have *NEVER* successfully completed a defensive screen mission, and it is really begin to get to me. If anyone out there have any good tips or strategy that can be used for a defensive screen mission, PLEEEZE, e-mail me!!! Thanx in advance...... (I am currently using Falcon 3.0D, with realism setting at about 88-91)

masten@beta.lanl.gov *18 Sep 92*

One thing you can do is advance the waypoint before you take off. This may get your wingmen to engage. I know OFT has a slight bug where the computer gets confused as to the status of the initial ‘START’ waypoint. If you hit shift-N really early, the ‘AWACS’ says waypoint 0 at 000, etc. Which has a ‘takeoff’ command, so your friendlies may all be passive. But if they have already crossed the screen, you’re probably SOL. This hasn’t been a problem in OFT. I know it sucks to have to spend $25 to fix this. Guess you can always wait till the E patch.

4.1.9 Escort Mission

opus@cbnewsc.cb.att.com *4 Aug 92*

I find escort missions to be the worst, since your charges fly directly to the target, regardless of how many SAM sites they have to fly over.

4.1.10 CAS Mission

opus@cbnewsc.cb.att.com *4 Aug 92*

When your squadron’s fuel level gets low, try flying solo CAS missions. You get two computer controlled escorts automatically. All you have to do is time it so that the enemy CAP is engaged when you reach the target, but make sure you bug out before your escorting planes are shot down.

4.2 Training

Very little discussion has occured on flight training. This goes for both your skill and the computer pilot skill levels.

4.2.1 Squadron Training

knutson@mcc.com *20 Feb 92*

Does anyone train their squadron at Red Flag before going on a Campaign? Has this helped the accuracy/survivability of the computer controlled flights when on a campaign?

How about training flights? I have considered trying to setup some scenarios from an Air Combat Tactics book I have, but the granularity of setup is pretty rough so it’s very hard to get exactly what you want.

If you do use training flights, do you setup the whole flight from takeoff to landing or just the engagement scenario. It looks to me like the pilot doesn’t get credit/experience for the flight unless it’s a complete one.

masten@navier.stanford.edu *21 Feb 92*

Not intentionally. But it is easy to get them 100 ratings in dogfighting. Just go up and take out a Mig29. Bombing ratings go up only a few pts per mission.

I was just thinking of setting up some engagements to train from Shaw's 'Fighter Combat'. Not sure what you mean by granularity. But I have had many problems with setting up good RF missions. Enemies/friendlies may not perform their CAP etc. I set up some bombing missions. More than half the time the computer pilots don't release their bombs. An SH rep said there was a problem with them dumping their loads when they are painted by radar. Also it seems easy to beat an 'ace' Mig29 in a guns/guns or missile/missile scenario. But I get whupped by cadet Mirage III's with heat seekers in the Campaign. Seems like my missiles do better in RF than the campaign

jlong@uhunix.uhcc.hawaii.edu *21 May 92*

One thing that is very important to know about in falcon is that fact that the pilots LEARN from experience. That means that pilot selection is very important to the success of a campaign or mission.

My strategy has lately been to put the rookie in lead, so that I-Human can fly him/her, and put somebody with *some* experience on 1st wing, and put the smartest dude/chick on 2nd where he/she/it is on his/her/its own. But watch that fatigue factor. Maybe the program could use a good X-rated R&R module 8^0

See also Section 5.3.8 "Pilot Ability" on page 124 for information on bugs related to training and Section 6.7 "F3maps" on page 159 for software which can ease setting up training missions.

masten@beta.lanl.gov *8 Jul 92*

Someone posted a set of about 20+ RF missions (to wuarchive?) a while back. If it isn't there, I'll try to upload it again, tomorrow hopefully. Includes some interesting scenarios, and some basic practice missions. The nicest thing is that its a surprise the first time since you didn't write them. And there not all the x vs. the entire world that you get in the campaigns.

4.2.2 Personal Training

knutson@mcc.com

Although, my postings were too late to make it into this document, I thought I would mention what I have done. There has been very little discussion on the net about training for fighter combat. Section 8.0 on page 166 contains several good references for learning more about fighter combat.

One of the best books on it, Shaw's *Fighter Combat*, is excellent. In order to help close the learning gap, I've started creating Red Flag missions as a supplement to his book. The missions are designed to illustrate and help teach the tactics and maneuvers described in the book. More information on these can be found in Section 6.5 on page 157.

4.2.3 Night Training

knutson@mcc.com *20 Feb 92*

I've tried setting up training flights to help in target identification at night, but the flight time seems to be pretty random and night training only occurs maybe 10% of the time. Does anyone know how to make sure a training flight occurs at a specific time?

sekullbe@athena.mit.edu *21 Feb 92*

I've found that by pausing and typing T, the 4 mission times can be cycled. [You don't need to pause when you use T (i.e. shift-t).]

masten@navier.stanford.edu *21 Feb 92*

Here I can help! First, the Red Flag flight time is sequential, proceeding from morning to noon to evening to night with subsequent missions. But you can change it by hitting pause while in flight than hitting 't' (found this one myself). This toggles through time. Warning: It is slightly buggy.

4.3 In Flight Manuevering

In this section, you will find various tips and strategies that are useful while in flight.

4.3.1 Flight Model Differences

opus@cbmewsc.cb.att.com *2 Jul 92*

Even with a heavy load of ordnance and fuel tanks, the F-16 does not seem any slower under the high fidelity flight model (yes, I have a math coprocessor, since I'm running it on a 486DX). It does lose airspeed much quicker in climbs and turns, but does not feel as sluggish as I would imagine it would be. Also, the G limits stated in the armament screen do not seem to apply at all. I've pulled 9 Gs with a full load with no problem, except once when my laser guided bombs seemed to disappear during a hard turn. In fact, on air superiority and intercept missions, I've sometimes taken along a couple of drop tanks, just so I could use full afterburner for extended periods without having to worry about running out of fuel, since it doesn't extract much of a penalty in maneuverability.

masten@beta.lanl.gov *19 Sep 92*

> Also, I have never noticed any other plane (except for my own) use after burners, and that other Falcons can go vertical and maintain 500+ kts without it, even when above 20,000 ft (I've noticed my wingman chased a MiG-19 straight into the stratosphere from 10,000 to as high as 45,000 while maintaining 450+ kts w/out AB. I can't even do that on AB5....). Also, I've noticed that every other aircraft (friendly. I have never seen an enemy plane land...) except for mine can land perfectly without landing gears?!? This is part of a beef I have with the game. First, are you using the Hifi flight mode? Cause I can climb at faster rates in complex

> mode. In fact, the plane can reach supersonic in a vertical climb. I maintain this is BS, though some of the less informed out there (;-)) think it can be done. Mark Shanks, can you help us out on this? Anyway, the computer controlled planes (or yours in autopilot) perform better than you whether you are in complex or hifi (SH says the AP flies complex I seem to recall). So you always see your wingmen zoom ahead of you when you let them engage and steal some of your precious kills.

F3.01/OFT does better in this I believe. The differences between AP and manually flying your plane are no longer obvious. Not sure this means the other planes no longer easily outperform you though. But OFT does improve a whole lot of stuff.

opus@ihlpy.att.com *5 Oct 92*

I recently got OFT and immediately tried some direct connect two-player allied missions with a friend at 57.6Kbps. Just thought I'd share some miscellaneous things I've noticed.

Complex Vs. HiFi Flight Models - Ever since I've gotten Falcon 3.0, I've only used the HiFi flight model. My friend doesn't like it because it's too sensitive (a common complaint, it seems). I got to compare the two by watching how he controlled his plane while we were connected. The Complex model seemed much more responsive to throttle changes, but the biggest difference was fuel usage rates. At low throttle settings (e.g. 40% throttle = ~450 knots), I was burning fuel about half as fast as he was, since he had to use a much higher throttle setting to maintain the same speed. The OFT manual states that the fuel calculations it shows are valid for both the Complex and HiFi flight models. Unless things change drastically under two-player mode this is far from the truth. I wonder which is more true to life. I guess I should see how the range listings in the OFT manual compare to the mileage I get.

4.3.2 Controlling Your Wingmen

knutson@mcc.com *20 Feb 92*

How adept are you at getting your wingman to do what you want. I've studied ACM manuals and have tried the bracket and drag commands without much success. Bracketing is typically done at MRM distance while drag is done close in. However, there doesn't seem to be a way to control or tell who the wingman is going after. Often, this results in both of us taking missile shots on the same AC while his wingman is swinging in behind one of us.

Mostly I have used the commands for starting an engagement and waypoint manipulation.

A lot of times, I get someone's missile up my tailpipe because my wingman didn't tell me anything. Is this because I let him engage instead of making him stick with me? Is it better to make my pass while listening to him whine about wanting to engage and then tell him to engage and let me fly wing? Is this possible?

I can't use the commands to tell planes in other flights what to do either. This would come in handy when you are trying to sneak in under the radar and somebody in another flight pops up to chase some bogey.

sekullbe@athena.mit.edu *21 Feb 92*

Not very- I just let him engage when I get no IFF tone on a target I want to see less of. They tend not to be able to see as far as I can; I will lock a target, get no IFF, and order the wingman to engage, but I just hear "Clean, clear, and naked."

masten@navier.stanford.edu *21 Feb 92*

Hard to do the 2 on 1 maneuvers since they often must be done at 15+ mile separation, but the wingman won't perform them until he has radar contact. I just use the engage/disengage and waypoint commands.

dbr@ocf.berkeley.edu *5 Sep 92*

Well, I thought someone would have mentioned this by now, but if ya' notice, we now have the Ctrl-H command that'll send your wingmen home w/o you. I recall people bitching for that... Also, one can spread out or tighten the formation in-flight.

masten@beta.lanl.gov *5 Sep 92*

My advice is to use it every time you land, if not before. I landed and watched my wing circle a bit before I quit the mission. He ended out getting shot down. I'm pretty sure I had the last waypoint selected so he should have landed that plane ("you don't own that plane the taxpayers do..." whoops I'm getting off track). Next time I used the ^H and all three landed fine.

> Also, one can spread out or tighten the formation in-flight.

Keep giving the command and check out the reply.

dbr@ocf.berkeley.edu *7 Sep 92*

Well, I found that the ^H is necessary when using ^F because I have had my wingmen rear end me a few times. -- woops--. The don't seem to notice that I'm on approach and have slowed down a bit.

primus@netcom.com *19 Sep 92*

> What can I do to make my wingman engage ground targets? Sometimes (not always) he stays on my wing throughout my attack. Also, what do I have to do to make my wingman land? Sometimes, he just flies around the base even after I've landed.

To have your wingman engage land targets, make sure your present waypoint is assigned either a CAS or S & D. My wingman just engages on his own. If he doesn't, press shift-e to tell him to engage (if the waypoint was assigned a S & D, and there are enemy air threats nearby, DON'T tell him to engage, because he'll most likely engage the ground targets instead. Wait a while and when the enemy aircraft is within 10 miles, tell him to engage and at this time he'll engage the enemy aircraft instead).

I don't know how to make your wingman/wingmen land after you did. Sometimes, my wingman/men will land on their own, and at other times, he/they will just circle around and around and around (you get point...). It's the same when I decide to land at a bingo airfield. Maybe SH should of included a command to tell the wingie(s) to land (or better yet, go home if they've sustained damage and/or a command to tell he/them to bail out, because sometimes my wingman/men won't bail when the plane sustained moderate damage and has lost the ability for sustained flight....)

ssmith@gandalf.ca *21 Sep 92*

The revision 3.01 of Falcon introduces three new commands for wingmen. The Shift-H command means 'Go home and Land'. Anytime you press this key combination the rest of your flight will abort what they are doing and return to base. Once they are gone, however, you can't call them back or issue any further commands to them.

The other two commands are 'tighten up formation' and 'spread out formation', which cause your flight to either halve or double the distance between each aircraft. You can issue as many of these commands as you want to bring you flight right up to spitting distance, or spread out of sight.

4.3.3 Bracket and Drag

renns@fraser.sfu.ca *16 May 92*

Has anyone succeeded in getting wingmen to execute a drag or bracket maneuver? I try to execute a bracket from say 10 nm out (head on encounter with a single opponent) but my wingman always responds "unable". I'm confused. (Someone told me that you had to be engaged but this doesn't seem to work).

knutson@mcc.com *19 May 92*

I was able to begin a drag once, but it fell apart. The problem is that the wingmen typically don't have the enemy on radar soon enough to do a bracket. Hopefully, that's fixed in the D patch.

renns@sfu.ca *20 May 92*

God, I'm glad someone else is having this problem. I have yet to execute a bracket successfully. Unable, unable, unable ... damn it, I've got him on radar, why doesn't my wingie.

jlong@uhunix.uhcc.hawaii.edu *20 May 92*

They work. You have to have your aspect angle right. They don't work head on. You have to set them up by turning one way, while giving the command to bracket the other way. Or you can first get your wingman to break. It doesn't hurt to keep sending the message, so keep playing with it.

I just figured it out yesterday, so it's still a little vague to me, but sometimes it works like a charm. The basic idea is to set up a situation where the maneuver will work.

4.3.4 SAM (and Other Missile) Evasion

opus@cbnewsc.cb.att.com *2 Jul 92*

SA-7s seem extremely difficult to evade. Does anyone out there have an effective tactic? I've noticed that my wingmen do not have much luck either ("Flame out! Flame out!"). What I try to do is just never fly over any enemy ground unit without blowing it up, so nothing ever gets behind me, but this doesn't work too well. :^) The few times I have evaded them, I've gained some altitude, then pulled down into a steep dive. I get pretty disoriented doing this, though, so that I have a hard time visually reacquiring the ground targets. Meanwhile, more SA-7s get sent up, and eventually my luck and/or airspeed runs out, and I find myself flying a glider.

opus@cbnewsc.cb.att.com *4 Aug 92*

On a side note, I've noticed that for some reason, it's easier to dodge missiles by using vertical maneuvers than level turns. This is especially true for SA-7s. I haven't figured out why. Level turns seem fine for SA-6s, though, since they're easy to dodge.

opus@cbnewsc.cb.att.com *5 Aug 92*

> Granted I've concentrated most of my practice on getting a handle on the padlock view, which I can use most effectively now. But shaking stingers is a technique I may never grasp. After a lock I drop lot's of the shiny stuff, after a launch I drop lot's more of both, just for good measure and turn into the missile. Once it gets close enough, I drop a few more and pull tightly in any direction. But my timing still seems to be horribly off. Again, I've tried following it in with padlock, and all this does is give me a really, Really good view of the missile prior to its intimacy. Help?

I guess I should say that I can't dodge them 100% of the time. It's probably more like 80-90%. All I do is use the padlock view to keep the SAM at a bit less than 90 degrees of my nose. Of course, the geometry of the situation requires you to tighten your turn as it get closer; your goal is to make it's relative angular position constant.

The key is to not panic when you get a launch warning! Use the threat warning receiver to determine where it is, turn your plane so that the blip is directly left or right of you, then switch to padlock for the final dodge. You have several seconds before the missile comes anywhere near you, so don't bleed off too much airspeed too early.

SA-6s are most likely to get me when the ground radar reacquires me after I've jammed it, and starts guiding a missile that is already in the air. In this case, you have very little time to get into proper position. I go straight to padlock view and pull a break turn to try to beam the missile. Unlike in the previous scenario, it is perfectly acceptable to panic at this point. :^)

If multiple SA-6s are after you at once, you'd better hope they approach you far enough apart, or you'll be forced to do a tap dance on Ctrl-E.

jlong@uhunix.uhcc.hawaii.edu *29 Sep 92*

Shucks Lew, if turning AAA/SAMs off doesn't help, I can't either. :)

I hardly ever get taken out by a missile... (famous last words)

Basic textbook is to break *toward* the missile. Note that I didn't say *fly* toward it! You want to make the missile have to turn in order to get you... If your missile is coming from the left, break hard left, level, 90 degrees. IOW, try and get the aspect angle between you and the missile perpendicular.

I set up a RFM where I let a mirage armed with missiles only get on my tail, and try to dodge them. I found that the best thing is to just do a quick level 90 degree turn. Breaking high isn't fast enough. You lose energy and can't maintain the radius. Also, you need to be at optimum maneuvering speed! If you're hauling along at 650 kts., you can't turn *near* as fast as you can at 450.

When I'm in SAM city, and get a ground radar lock indication, I turn on ECM. ECM is a lifesaver! You just have to remember two things about it: 1) Don't use it until you start getting painted, and 2)Turn it off when the immediate threat is over.

opus@ihlpy.att.com *30 Sep 92*

I've experimented with dodging SA-7s, and have NEVER EVER evaded one by turning on the level, yet can do it almost every time by pulling up into the vertical to beam the missile. I know it shouldn't work, since when you pull up, you lose 1 G of turning ability to gravity, yet it does. Can anyone either explain this or provide a more effective and aesthetically pleasing method of dodging these things?

For all other missile types, I agree with you 100%.

> Also, you need to be at optimum maneuvering speed! If you're hauling along at 650 kts., you can't turn *near* as fast as you can at 450.

Right. Air brakes can slow you down in a hurry, and are indispensable in these cases.

> When I'm in SAM city, and get a ground radar lock indication, I turn on ECM. ECM is a lifesaver! You just have to remember two things about it: 1) Don't use it until you start getting painted, and 2)Turn it off when the immediate threat is over.

I find if I'm too close to the SAMs, the ECM pod does nothing. Is it any more effective in OFT?

knutson@mcc.com *1 Oct 92*

> p.s. how do you beat the little guys with shoulder launched sams? the ones that show up as 1 on your TI just before the missile launches. Kamikaze dive bombing at ab5 straight down works fine, and if you eject at the right moment you may even live.....

I usually try to stay out of AB, out of range, and nose forward (can't see my tailpipe) as much as possible. Make sweeping left-right or right-left passes at their range limit, lock on with a maverick as it swings past the target and let it fly.

If they launch, don't use AB, head for the deck to pick up speed while turning toward the missile. Pop bursts of flare as you pass 90 degrees. Use padlock view to keep the missile between 90 and 45 degrees off the nose. You'll have to pull lots of G as it closes and pop more flares too.

jlong@uhunix.uhcc.hawaii.edu *5 Oct 92*

> I have the ENEMY SAMS & AAA on Reserve setting, and they are having a great time knocking me out of the air. Why not put it on none. No Fun. I want some SAMS but I don't want them wiping me out EVERY time. Please Please some tips to avoid SAMS. I ha v read the manual and it is helpful, but someone out their must know something else.

Use ECM. When you see the 'big square' turn it on! If you get a LNH indication, well, to make a long story short, break 90 degrees... you want to make that SAM have to TURN HARD to get your butt.

Use ECM. Give it to all your wingmen. Don't leave home without it.

BTW, I finally got OFT yesterday, and had about 1/2 hour to fly it. I started a campaign in Kashmir, and decided the B52's I was escorting would be all right without me, and headed to the Himalayas to check out the ski conditions... I didn't want to miss lunch, so I climbed up to 40,000 and kept it at AB5 for speed. Every minute or so I would get a ground radar indication *for about a second*. Once in a while I would get a LNH indication *for about a second*. So that's another way to avoid SAMS -- fly high like a bat out of hell!

knutson@mcc.com *9 Oct 92*

> I'm having a tough time evading SA-7s while in the padlock view, because the SA-7s can't be seen in the TWI. The only evasive action that kind of works is to turn tightly, dump countermeasures, and dive below 500' AGL.

Here's what works for me. When you get a launch warning, IMMEDIATELY pop into padlock view (if you're already there, use the 8 key to target the SAM), start turning into it and get your nose down (somewhere below the horizon that is, but not straight down). If you're slower than 450 kts, go to 100% mil but NOT afterburner and if you're in AB, get out (you don't need to be the perfect heat source for the SAM to lock on). If you're faster than 450kts, pop those speed brakes and slow down. Don't point your nose directly at the missile, place the missile about 45 degrees above you (you want it to be in the vertical plane that runs from your nose to tail and is perpendicular to your wings). You can pop flare early if you want, but when you see it start turning into you, pop 3 or so flares in rapid succession and start pulling as many G's as you can. This will tighten the turn that it must make to hit you. If you do everything just right, it won't be able to make the turn and will lose lock on you.

After it misses, make sure you don't have your speed brakes hanging out. You may need to use AB to get your airspeed back up and maybe gain some altitude. Do it now before another SA-7 is launched (luckily, I haven't seen Falcon launch more than a single SAM at me at any given moment). While you're at it, you'll probably want to pick a direction that lets you exit the area in the minimum amount of time so you can recompose yourself.

Hope this works for you. It takes a bit of practice to know just when and how much to do each step.

opus@cbnewsc.cb.att.com *9 Oct 92*

I've posted my method before, but here it is again.

- Level your wings. - Switch to padlock view. The SA-7 will ALWAYS be almost directly behind you (this should be a clue for how to avoid getting them shot at you). - Throttle up, but don't engage afterburners. If you're going faster than 500 knots, use the air brake to bring you down to 450-500 knots. - Pull straight back, until the view just starts to swing around. That's when you have a 90 degree aspect to the missile (you'd see it if you had enough time to look straight up out of the cockpit). - Maintain the 90 degree aspect angle, dumping flares when the missile gets close. Break hard at the last minute (you'll have to maintain the aspect angle). - The missile will pass very close by you, but will miss EVERY SINGLE time. This method is foolproof for dodging ONE SA-7. When they lob several at you at once, you might have to nose up or down to get the next ones at the right aspect. Praying may help here as well. - If you dodge the one, roll out of the loop and go looking for the S.O.B. who tried to nail you. You'll be pointed in the right general direction, though you may have to dive or climb quite a bit to level out.

This is the only way I've found to dodge them. I've tried level turns and gotten burned every time. I never tried diving to the deck at the same time, though. My method has the advantage that it always works. If you have Mavericks, it can also be used to blow away the unit that shot at you, but otherwise it is a disadvantage that you end up flying back toward the battle. I guess you could try to do a quarter roll while vertical and head off perpendicularly, but I'm usually too disoriented to do anything that fancy. I have enough trouble figuring out which way is up when I switch back to front view.

The biggest problems with this looping evasion technique are that it bleeds a lot of airspeed and makes you more vulnerable to SA-6s because of the altitude you gain. That's why I suggest throttling up right away. You might also dive low afterwards to either prevent SA-6 launches or to dodge them. They aren't much of a threat when they have to dive to attack you.

opus@cbnewsc.cb.att.com *12 Oct 92*

This [referring to knutson's post] seems like a very useful tactic if you start off high enough up and want to end up at a low altitude. SAMs all seem to have a hard time when they have to dive after you (except those #$%&*^@!* SA-2s which sometimes START tracking you from higher up). Usually, though, I get SA-7s thrown at me right after I overfly a convoy on a level bombing run at around 1000-1500 ft. AGL. I doubt I'd be able to afford a 45 degree dive for any length of time in that case.

If you really wanted to escape, and there are no radar guided SAM sites around, my looping evasion method could be better since it will bring you closer to 13,000 feet or so, the maximum altitude of an SA-7. Clearly, there is no one best method. The more you know, the better you'll be able to deal with the different situations that come up. I'll have to give yours a try.

Jim, you say you've never seen the game launch more than a single SAM at you at a time. Either you're very lucky or you have your settings different from mine. I used to play 3.0D with SAM-AAA set to Recruit (the lowest without eliminating them altogether). Used to get bunches of SAMs sent after me all the time, from both SA-7s and (more commonly) SA-6s. After I switched to OFT, I also adjusted SAM-AAA to Elite (call me a masochist). Guess what. It's EASIER now! The book says that poor SAM-AAA operators will concentrate on the first target they see, which was usually me, while better operators spread their attention over all targets in the area. What level do you have it set at? My wingmen seem to be able to dodge SAMs a lot better than before. I wonder if it's just that they only have to worry about one at a time now, or if they've gotten better. The SAMs sure don't seem any easier to dodge to me.

Has anyone else noticed how deadly the D-30 flak guns are? They can hit you at up to 19,000 feet, and WILL eventually down you if you don't fly out of range or take it out. Since it doesn't emit a radar signal, it's pretty darn difficult to find. I've taken to practicing high altitude dive-bombing with a release point at around 18,000-19,000 feet. Believe it or not, it is possible to hit ground units fairly accurately from this altitude. When I first tried it, I didn't know if I would even be able to see the brown dots from that high up!

knutson@mcc.com *12 Oct 92*

> This seems like a very useful tactic if you start off high enough up and want to end up at a low altitude. SAMs all seem to have a hard time when

There may be some confusion here. I didn't mean to take a drastic nose down attitude. Let's say you're flying level at 3000 feet and you get a launch warning from behind. You roll 100 degrees and pull back on the stick (100 degrees is an example, you might want more if you're high or less if you're low, i.e. keep the missile in your vertical plane). This will pull your nose down below the horizon and start your turn back into the missile. Pulling your nose down a bit will prevent you from bleeding energy as fast as going vertical (Hi-Fi flight model). Don't roll out horizontal when you get the missile located 45 degrees above the horizontal plane of your aircraft, just wait for it to start its turn. When it does, pull back hard.

> If you really wanted to escape, and there are no radar guided SAM sites around, my looping evasion method could be better since it will bring you closer to 13,000 feet or so, the maximum altitude of an SA-7. Clearly, there is no one best method. The more you know, the better you'll be able to deal with the different situations that come up. I'll have to give yours a try.

Using the method I described, if you start out low, you'll end up low. If you're high, you'll probably end up lower, but how much depends on how high the SAM gets by the time you turn back on it and how far back it was when launched. I can see how a vertical maneuver would make it more difficult for the SAM due to range and the effects of gravity, but I wonder if the loss of energy is really worth it. You really feel the effect in Hi-Fi.

opus@cbnewsc.cb.att.com *13 Oct 92*

Ah! Thanks for the clarification. It makes much more sense now. I used to try the same thing all the time in 3.0D, and was never able to get the missile out of my rear quarter, so I gave up. I think the problem was more that I wasn't used to the padlock view yet, and perhaps didn't understand where the SAM really was.

> I can see how a vertical maneuver would make it more difficult for the SAM due to range and the effects of gravity, but I wonder if the loss of energy is really worth it. You really feel the effect in Hi-Fi.

I fly Hi-Fi also, and the energy loss is not that bad (though still worse than the nose-down turn you use). I don't pull up that hard, and once I beam the missile, I maintain course for several seconds in a steep inverted climb, trading airspeed for altitude. By the time I finish my break toward the missile and it has whizzed by, I usually find myself in about a 35-40 degree inverted dive, gaining airspeed rapidly.

To be objective, I'd have to say a level (or slightly nose down) turn would be better in most cases than a half-loop, but since my usual bombing technique against columns if I can't line up with it (which would be ideal) is to drop, do half a Cuban 8, then drop again, repeatedly, going vertical to dodge a SAM is just doing what I was going to do anyway, only a little sooner.

4.3.5 ACM

opus@cbnewsc.cb.att.com *2 Jul 92*

Using high fidelity radar, I've noticed that the enemy planes always detect you if you go to SAM, whereas they never do in NAM unless they have really good radar (type 1) or you get into visual range. Once I discovered this, I found I could sneak up behind enemy formations undetected, making even my AIM-120 missile shots (which require a lock-on) more effective (they seem otherwise pretty useless except for downing planes that are already engaged with someone else). I don't know if it helps, but I always break the lock right after firing in hopes that the enemy will lose track of me. When I can sneak up to Sidewinder range, firing with my radar completely off has sometimes proven effective.

knutson@mcc.com *11 Aug 92*

It's funny you should mention that. I have the worst time with the Mig-19s that Instant Action throws at you. I usually have to take everything else out (while evading these guys) before engaging in a much prolonged maneuvering duel with one or two Mig-19s. They're not quick, but they evade missile real well. Usually I have to take them out with several gun shots (downing planes with guns does wonders for your score not to mention your ego).

> Is there a way to get you wingmen somewhat interested in defending themselves when one a NOTHING or LAND waypoint? The book says they will defend themselves if attacked, but I've watched a MIG-19 sidle up on my wingman's 6 and gun him down. Then he went to the next, etc. I couldn't do anything since I was dead empty on all weapons. I haven't tried a "return to previous waypoint" yet; maybe this will help.

If I see someone coming in from behind I usually take one of several actions.

1. If the bogey is far enough back and I have enough fuel and I don't want to engage, I'll accelerate to max AB and try to out run them. My wingman will follow me.
2. If the bogey can't be outrun for one reason or another, I might try maneuvering myself back in the direction of the bogey and try to engage it with my wingman.
3. If I can't engage, I may try to fake it with 2 hoping my wingman will engage, or I may just use various combinations of break commands to get him pointed in the right direction before telling him to engage.
4. If time permits, and I have friendlies in the area (ground or air), I may try luring the bogey in that direction in the hopes that others will take it out (has worked more than once).

dbr@ocf.berkeley.edu *15 Aug 92*

> Also, don't waste a missile on a plane coming head-on.

No, no. Shaw and SH reps have said that firing a medium/long-range missile at an incoming bogey can have several beneficial effects. By making the bogey go on the defensive, you gain a tactical advantage. Meanwhile, while he's turning to avoid the missile, you get a better opportunity to get on his six. Also, and of most importance, the enemy's medium/long-range missiles in Falcon are based loosely on Sparrow design; the bogey must keep you "painted" with his radar for the missile's passive homing to work. Therefor, if you can force him to turn away, he can't easily keep you locked on. An SH rep said that firing a 120 at 15 miles out is very useful -- especially against a group of bogeys because it will weaken or disband their formation and give you and/or your flight-group a tactical advantage.

opus@cbnewsc.cb.att.com *27 Aug 92*

I've used this tactic before. If the enemy plane is approaching head-on, waste an AMRAAM on him when he gets within Sidewinder range. It will miss, but allow you to get good angles on the bandit for a Sidewinder shot. He'll be coming out of his break maneuver fairly low on energy. This has worked well for me, but I'd somehow forgotten all about it until I read your posting. Thanks! :^)

primus@netcom.com *29 Aug 92*

As for the Mig-19s in instant action, if you keep flying in the same direction as the initial starting point, you should find 3 blips at about 10-11 o'clock (15 miles away) and another 3 blips at about 2 o'clock (about the same distance away as the first three. I'm assuming that you've already finished off the SU-25s, TU-22s and the Gazelles that was in your flight path near the starting point). I usually go after the three at 2 o'clock first, kill the lone Mig-19 guarding two AN-12s and turn around to face the other two now bearing down on me. One word of advice: Never get into a head-on pass with a Mig-19 (well, at least not in a situation where he has his nose pointed straight at you) because he'll tear you apart with his guns (them Mig pilots can aim good as hell).

If I find one coming straight for me, I usually hit the AB, launch a AIM-120 to distract the bandit (the bandit should be at least 6-9 away), hit the breaks when it's WVR or within 3-2 miles away, (the aspect angle should be below 130L or 130R by now.) and turn towards the bandit (now, you should judge how hard you would turn depending on the actions of the bandit). Usually, if I do this right, this would get me into the elbow and I would finish the bandit off with guns or AIM-9P/9M when the bandit makes a stupid move (such as breaking across your flight path and all of the sudden, banking in the opposite direction and breaking away...). Of course, if the AMRAAM loses it's lock, then you better think of a plan b fast. In a case where you have 2 Migs, and they're dragging left or right, I would shoot an AMRAAM at the bandit in the rear and go after the leading bandit that's dragging, and finish off the leading bandit as soon as possible. As in a case where they're trying to get you into a hammer-and-anvil, I just hit the AB and go into an inverted loop. Sometimes (especially in the Israeli campaign, where the terrain is dictated by mountains and hills...) I would just dive and pull up hard at the last moment, get into the rear view in time to watch the pursuing bandit eat dirt (not a good thing to do, but it's fun watching a Mig slam into the ground).

4.3.6 BFM

hogue@cs.arizona.edu *26 Aug 92*

> Does any one out there have tips on air to air combat. I find that I can never hit the enemies fighters with a gun and most of the time my missiles miss. Any hints, advice or pointers would be appreciated.

> Wait until you have a reasonably good aspect angle before firing, and don't fire Sidewinders from more than 2.5 miles if you want a good chance of hitting. An especially good time to fire is when the bandit is peaking out after a zoom climb. At that point, his airspeed is low, as is his maneuverability, so it's much harder for him to dodge your missile.

I'm not the god of Falcon dogfighting, but I do think I have a grip on it. some specific ideas

1. Many of the high tech enemy jets (mig 27, -29) can track you before you can see them, and you threat indicator will show a "1", even though you can't see them. Unless its an f-14, it's an enemy. I've found the best way to beat them then is to go straight for them at the highest speed possible, AMRAAMs ready. Keep tracking them, they hate it. If you do this, you can get to them before they pound you with those long range Apex's. If they do fire DO NOT dodge wildly, but give the missile time to get near you and pull hard. At 600 mph plus the missiles 2700+, it can't turn enough to catch you head on.
2. Oddly, even though the book says mig-21's suck on maneuverability, I don't think I've ever hit one with an AAMRAM. Since they don't have any long range missiles and poorer maneuverability, get close and dogfight.
3. If you are fighting a smaller group of fighters, don't send off your wingman, as if someone gets behind you can command him to break off and engage (shift-d, give him a sec, and shift-e). If you are in one of those slaughters, do it the Wing commander II way (send them off and pray) so you can get more guys before the inevitable.
4. If an enemy fighter locks on to you, fire. Who cares. They'll get off you very fast, and you can pick a position while they sweat it out with your missile.
5. I also saw a question about guns. I've found the best is to get within .7-.5 miles and, starting about the middle of the funnel, pull up while shooting. If they are dodging wildly, don't waste your guns. Stay on their back until they do something stupid or fire a missile. One thing I've found, if you try to use guns, they will turn tails and dodge, so they are easy missile bait (but then you switch to missiles and they try to force a pass, see what works for you)

opus@cbnewsc.cb.att.com *27 Aug 92*

If you use HFR, then it is rare that enemy planes will show up on your TWR when you're too far away to detect them, since your radar's range is 80 miles. Even then, the bandits will be too far away to threaten you.

You should never be hit by an Apex. They are very maneuverable. You should dodge them with the same ease that the enemy planes dodge your AMRAAMs.

The MiG-21 appears to be one of the most maneuverable fighters in the game.

hogue@cs.arizone.edu *27 Aug 92*

In **PLEA to FALCON 3.0 aces** someone asked for help on dogfighting, and some of my stuff was confusing, so I will clarify.

If you have a problem with getting nailed from behind while getting another guy, you can protect yourself by denying your wingman's request to engage. Keep him on your wing if you have trouble so you (or him) can turn around and get the guy, while the other can keep working on the old target. It's mostly an idea from real wingman (see top gun).

I do want to add that I've never had an enemy dodge a sidewinder shot from 1.7-1.3 miles out that was within 30 degrees of his tail, but under that rapidly becomes a miss zone due to tracking time (esp. for AMRAAMs).

knutson@mcc.com *9 Oct 92*

> Notice how enemy planes NEVER EVER MISS with guns? If you get to closing on a bandit's tail, hit auto and you won't either (confession: I've never really done this, so I could be wrong. 8-*. Trouble is, when

Actually, they've missed me with guns lots of times. If you are in a tussle with someone and your reflexes are quick and you watch for it, you can jink out of the way of the oncoming bullets. They do have a short but finite flight time. The standard by which to gauge your impending doom, is if you're opponent is behind you and you are trying to out turn him and you can see his underbelly, you're probably too late (or something like that).

4.3.7 Radar Avoidance

opus@cbnewsc.cb.att.com *4 Aug 92*

> I'm still looking for a good defence against SAM/AA sites. I think the book is wrong on beaming or charging the sites. I've tried everything and they still send up a mess of SA-6's. I'm getting better at evading them, but if my air speed drops below 400knts...

There is SOME truth to the manual's advice about beaming CW SAM radar sites (don't know about charging, though). The key factor is that if you are close enough to the site, it doesn't matter what your aspect is, you will be painted. At long enough ranges, if you beam the radar and then drop chaff, you will eventually break the lock, unless you get shot down first. :^) When I fly SAM suppression, I launch at the first radar contact, then do a quick 180 and run away for a while. Your ECM pod will jam the missile. Then turn around and do it again. You want to avoid overflying a nest of SAMs, because when you do that, they all launch at you at the same time from different directions, and your chaff and ECM aren't worth much.

4.4 Tactics from Spectrum Holobyte

darons@netcom.com *3 Jun 92*

Falcon 3.0d Tactics (Part 1)

The 3.0D version of Falcon can almost be considered a new game. It will demand a greater understanding of everything involved in being an F-16 pilot. To be successful, you must plan your missions -- adding support flights and carefully selecting your armament. At the higher difficulty levels, it is no longer effective to just take off and see what happens. You need to formulate group tactics, specify ingress and egress routes, and consider things like the appropriate altitude for the mission required. Remember that the game will set you up with a generic set of waypoints for a given mission profile; it is your responsibility to customize your route, taking into consideration terrain and threats. We Spectrum HoloByte play Falcon everyday; we enjoy the game. We are constantly working at improving our simulations -- some of the tactics I will explain below will become a standard part of our next Campaign disk, Operation: Fighting Tiger. I must admit that having the programmers around gives me a significant advantage. I have learned a lot about how the game "thinks," and I use this knowledge to hammer the enemy. So, I want to share some of the things I have learned. I am sure that there is more and this won't be the last discussion of tactics you will see.

*6!

Daron Stinnett Product Manager, Simulations Group Spectrum HoloByte

4.4.1 Missiles & AAA

1.1. Overview

Evading incoming missiles is a tricky business -- it requires situational awareness, split second timing, a good understanding of missile performance, knowledge of how the SAM operator thinks, and (most of all) some luck. Most people don't think about missiles until they get a launch warning on their threat indicator. The experienced pilot will consider any missile out there a threat whether it has been launched or not. By understanding what goes through the mind of a SAM operator or enemy pilot before the missile is launched, you can formulate tactics that will keep missiles from ever acquiring you.

1.2. Surface-To-Air

When you select the SAM SKILL LEVEL, you are setting the skill of the crews launching the SAMs. The skill level doesn't affect the effectiveness of the missile or launcher! When creating any of the artificial intelligence in the game, we tried to model the way a human thinks. Therefore, a SAM crew consisting of recruits will do stupid things. As you will see in the outline below, having recruits in the SAM launchers will not necessarily mean you will get shot down less often. The first thing you will notice about the recruits is the time it takes for them to launch. There is a very good chance that they will be tying their shoes when you first show up on their radar screen or come into visual range. When they notice you, they still have to decide whether you are a threat or not. Once they have decided you are a threat, they will lock you up and fire. This takes a little longer because the recruits are not as familiar with the controls. The recruits will tend to get a strong case of target fixation as well. They will lock up and fire on the plane that poses the most immediate threat -- sometimes with multiple missiles. What that means is that the flight leader will tend to get the most missiles fired upon him while the rest of the wing has an easy time. The elites, on the other hand, will divide their attention between multiple targets. They will check in all directions for possible targets and not get so easily confused by planes coming in from multiple directions. Once the missile is launched, try to turn into the missile, obtaining about a 135 degree aspect angle on the missile. What you are trying to do is to create a situation where the missile cannot turn hard enough to hit you. Since all missiles do what is called pure pursuit (i.e., they don't lead you), if you pull hard into the missile when it is close, you should be able to spoof the missile. Don't forget to fire chaff and/or flares!

1.2.1. Infrared Homing (SA-7 Grail)

You have probably noticed how quick and agile the SA-7s are. These are very tricky to evade -- but fortunately, they don't do much damage. Remember that the guys launching these need to acquire a lock before doing so. So, do your best to keep your tail out of view, and don't go to afterburner -- unless you want to give an SA-7 a really good heat source to lock onto.

1.2.2. Radar Homing (SA-6 / SA-8)

These SAMs are not too bad once you get the hang of them. Turning on your ECM pod will often break their lock, but remember, the elites are not as likely to panic when their screen goes white and will be a little quicker to switch frequencies and reacquire. The SA-6 and SA-8 SAMs are initially guided by the SAM crews. This allows the SAM operator to depend on his more powerful radar to guide the missile into range, whereupon the missile will switch on its active radar seeker head and guide itself. While the missile is being guided by the crew, you can jam the launcher's radar. In this case, you may see the missile just fly by. But, if the crew is able to re-acquire you, the missile will turn around and continue the chase. Remember to utilize additional flights and waypoints to set up multi-directional attacks. The rookie SAM crews will tend to get confused by this. Use the HARM and Shrike missiles as well. It can be very effective to set up a flight of F-16's for a SEAD (Suppress Enemy Air Defenses) mission. But remember, the crews will tend to lock and fire at the first plane they see, so it is best to send in some CAP guys first to distract the launchers before the SEAD guys pop out from behind the hills.

1.3. Air-To-Air

The enemy aircraft in Falcon 3.0 do not carry a missile that is equivalent to your AIM-120. Their radar missiles perform more like our Sparrow missile. The AA-7 Apex contains a passive radar homing device -- it requires the firing aircraft to illuminate the target with its radar while the missile is in flight. Using ECM is less effective against this type of missile, because the ECM pod must jam the more powerful and distant radar carried by enemy aircraft, rather than a smaller radar in the nose of the missile. A more effective technique is to beam your opponent or force him to take his nose off you. One effective way to do this is to quickly launch a missile at your opponent. That should keep him busy evading your missile and cause his missile to lose lock and fly right past you. Remember, enemy aces have nerves of steel: if you don't get your missile off soon enough, they will keep guiding that missile towards you - - waiting until the last minute to evade your missile.

1.4. Suppress Enemy Air Defenses (SEAD)

Setting up a SEAD mission can be tricky. But on bombing and CAS missions, it can be rewarding. I have found that three flights works best: one BOMB/CAS, a CAP and a SEAD flight. Timing is everything on this one. You want to get the CAP guys in first -- they will distract any enemy fighters and SAM launchers, allowing the SEAD flight to come in right behind and launch their Shrikes and HARMs. Following close behind should be the BOMB/CAS flight. Set the SEAD flight for a CAS action code; this will keep them from being distracted by air targets and if you give them only Shrikes and HARMs this will keep them focused only on the SAM and AAA sites. If you set the altitude anywhere from 100-200 feet they will keep out of visual and radar range but remember to change the formation to something flat like a vic. Have the flight pop up about 10 miles from the target, this will give them time to find targets and fire.

4.4.2 Enemy Pilots

2.1. Overview

The engineer who wrote the enemy pilot logic was once asked: "How did you make the enemy plane logic so realistic?" His response was simple: "I modeled the pilot's thinking - - not the enemy plane's movement." The computer-controlled pilots in Falcon 3.0 have no inherent advantage or disadvantage over a human pilot. Like you, they must acquire a target visually or by radar. They have the same field of view, and their radar operates within the parameters of the real plane. Therefore, if you sneak up below and behind an enemy (with your radar off), he will not see you. You will notice that once in a while your wingmen will rock their plane from side to side while looking for bogies; this is because computer pilots cannot see below their plane.

2.2 Skill Levels

To help you better deal with enemy pilots, here is a run-down of the differences between Trainees, Cadets, Veterans and Aces.

Trainees - Trainees have learned BCM (Basic Combat Maneuvers) in class but have little real world experience. If they don't get freaked out by your presence and you give them an easy shot (like flying straight and level), they will use what they have learned to shoot you down. But if you even look at them funny, they will run away, forgetting everything they have learned. If you get on their tail, they will probably just start pulling a tight circle. This is where you have the advantage. Practice one-on-one in Red Flag. Learn to think in three dimensions, the enemy will most likely make a mistake sooner or later, and waiting until that happens is fine... if there is only one enemy out there. But when you have three enemies to every one of your guys, one of them will see you going in circles and grab that golden opportunity. Keep your plane at its optimum turning rate (450kts) and use energy management to gain the upper hand.

Cadets - These guys are short on skill but long on enthusiasm. They will not run (especially when in numbers) and won't panic as often. They will use a few more advanced maneuvers and are more likely to spot you visually.

Veterans - These guys know their stuff. In addition to nerves of steel, they will use every trick in the book to get on your tail. You must pay particular attention to energy management when fighting a Veteran because he will spot the opportunity to make you overshoot and take it without hesitating.

Aces - Besides having 20/10 vision, these guys have the ability to predict your position even when they cannot see you. If an ace temporarily loses sight of your plane, he will predict your flight path and react accordingly. These guys are Veterans that have refined their skills in working together. If you give them the chance, they will use cooperative techniques to send you to an early grave.

2.3. Tactics

Fighting in groups is very different than one-on-one. When flying against one opponent, it is just a contest of dogfighting skills. But when you are involved in a furball, it is usually the side who succeeds in confusing and disorienting their opponents that will be victorious. Start thinking about an approaching group of MiGs when they are at least 30 miles out. You might consider firing an AMRAAM or two when they get into range. The enemy pilot will have plenty of time to evade the missile, but in doing so he will break up the group and possibly spoil any cooperative tactics they might have tried. Your goal is to split them up and shoot them down one at a time. Practice cooperative techniques with your squadron. Cadets and Trainees can be especially susceptible to something like the Drag-And- Bag maneuver. They will tend to get target fixation and not realize that it was a trick until they are floating to the ground. Don't forget to watch for your buddies when you have a MiG on your tail. It does no good if you are going in circles and your buddy is trying to help you but is turning just as hard trying to shoot the MiG. Try to get that MiG into perfect position for your wingman to shoot him down.

4.5 Aircraft and Weapons Systems

Proper use of the aircraft and weapons systems is essential to doing well in any given flight and certainly within a campaign. This section talks about how to use these systems

4.5.1 Free-fall Bomb Targeting

knutson@mcc.com *20 Feb 92*

Sometimes, the default second flight profile will have a waypoint operation of BOMB with no target selected and the waypoint not really on top of anything that I can tell. Has anyone else noticed this? Do you change it?

knutson@mcc.com *5 Oct 92*

> When attacking command control and communication targets located in a city, are there particular buildings that need to be taken out, or is any building in the city fair game?

If you go to the waypoints screen and select the waypoint where you deliver your ordinance, you can select Zoom to Target to find out which building you are supposed to take out. You can also zoom in on the map to mag 20 or so to see the bull's-eye for that target in relation to the rest of the area.

jlong@uhunix.uhcc.hawaii.edu *5 Oct 92*

When you are assigned a bombing mission, go into the 'set waypoints' screen, hit the 'waypoint #' button until 'bomb' comes up, then hit the 'zoom to target' button.

You can then plan your attack more effectively by knowing what the target looks like, and plan your in/out headings.

Also, use the 'recon' feature so you know what to expect, and toggle through the map modes to get a feel of what else is around town.

ALWAYS do this! Even if you are escorting somebody else, use this feature and *familiarize yourself with the target area*. The time you spend preparing yourself for your mission is always well spent.

You are allowed to add aircraft to your flight, and select pilots for these aircraft. Usually Falcon default gives you a good choice of weapons, pilots, waypoints, etc. But not always!

Sometimes, there are SAM and radar sites nearby, and these are fair game to say the least. You might want to set up another flight to take these guys out before you arrive.

Remember that the success of your mission is based upon your success at hitting your primary target. After that, other military targets *do* help your success in the overall campaign, but I wouldn't mess with anything that looks like a civilian target. That's not what knighthood is about...

Oh, yeah. Forgot to mention that on your 'ground radar' screen (f7) you will see a crosshair for your target when you get within range.

4.5.2 Radar Control

dedmunds@selkirk.sfu.ca *4 Aug 92*

> I just found out how to use the F8 key using SAM mode radar. All this time I've been letting the program set the range. Should you be able to change the range even when there is a blip on the screen? Hitting the F8 key doesn't allow me to change scale unless I turn the radar off, hit F8 and then turn it back on.

A deadly flaw in the SAM mode. I guess you could switch to HF radar mode if you don't have enough things to do already in the cockpit :-)

knutson@mcc.com *11 Aug 92*

SAM mode is still computer controlled. If you want full control of your radar, use HFR. I like it much better, but I don't like the way it changes my elevations when I change ranges.

adam@mentor.cc.purdue.edu *4 Sep 92*

> it usually picks it up again. The question is: will it be the same target that I was chasing before I lost the radar lock or has it just picked whatever plane was closest? (losing radar lock is why I'd like to master the padlock view).

Correct me if I'm wrong (which I'm sure you all will :), but I'm under the impression it just jumps to the nearest target, regardless of previous locks.

knutson@mcc.com *9 Sep 92*

> Another thing that bothers me is the use of the radar STT mode. I'm using the radar in HFR setting. When I get a blip on the screen I select the target with the "z" key and switch to SST mode and press N for IFF. I sometimes loose radar lock during the dogfight, but after a few turns it usually picks it up again. The question is: will it be the same target that I was chasing before I lost the radar lock or has it just picked whatever plane was closest? (losing radar lock is why I'd like to master the padlock view).

Radar lock can be broken for a variety of reasons including ECM, terrain, and maneuvering. There is no guarantee that the next locked target is an enemy. The best thing I can suggest is be quick.

Try this sequence:

1. Identify using lock, IFF, unlock in rapid sequence.
2. If unfriendly, and range is ok, load up amraams and lock, launch, unlock in rapid succession. If there is an enemy flight, use lock, launch, retarget, launch, ... unlock in rapid succession.

If you here the AWACS telling you about enemy ECM activity, close to visual range, select sidewinders and turn the radar off. Use padlock for identifying targets.

knutson@mcc.com *5 Oct 92*

> I hope no one here minds me asking a real novice question... I'm working through combat school, on mission 5, which is the first mission to feature an enemy plane. Now I follow the instructions in the book, but at no point does the enemy appear in the threat warning indicator. I also find that the main radar screen shows a "scale" of 20 miles even when the enemy distance indicator is less than 10 miles. I have version 3.0D. Am I doing something wrong, or are these bugs of some kind?

The OFT manual describes when radar is used by computer controlled aircraft (which includes both wingmen AND enemy aircraft). Lesson 5 uses a waypoint type of NOTHING for the enemy plane, so he won't turn on his radar and therefore, you won't see him on your TWI. You can go to Red Flag Control, Enemy Aircraft, Select Waypoints and change the second waypoint type to something like CAP, ESCORT, or INTERCEPT. This will cause the Mig to turn its radar on.

Your radar range control is either manual or automatic. In SAD and SAM modes, your radar will automatically adjust the range to include the target on which it is locked. In HFR mode, the range must be manually adjusted (although I think it may adjust range while locked as well).

dregis@pldote.intel.com *5 Oct 92*

> I've been using the SAD mode radar (blue/white/orange tadpoles), and have a problem. The danged thing won't let me extend the range when I'm currently tracking a target. Now, this is especially bad when it's locked onto one of my own wingmen or a friendly flight. I can't figure out how to clear the lock so I can F8 it to 80/40/20 range! I tried the 'x' and 'z' key, but those seem to be restricted to ground targets.

Tell me about it! You can turn off the radar, then hit the zoom key the appropriate number of times, but it will just jump back to the close-up when you select a nearer target.

Or you can turn until there isn't anybody in front of you and zoom it. Real dumb way to fly, but you might get a quick glance.

I *like* that tadpole radar! I don't care if it isn't realistic, it *should* be! About time for the DoD to catch up?

gt3017a@prism.gatech.edu *7 Oct 92*

I remember using SAD radar... and am thinking of going back to it now that you mention it... nah, HFR is soooo much fun ;-)

If you are willing to re-adjust your way of looking at the radar display a little, you might solve your problem by switching to SAM mode. As long as your wingies are behind you, most of the time you can expand the radar range to full 80nm. I used this mode for about 6 months, until I learned about HFR... the real advantage to HFR is having even more control over the range... but in any of the 3 modes, whenever you lock onto a single target...

i.e., you get heading, altitude, bearing, and speed info in your radar screen, it magically adjusts the range... kinda sucks if you want to keep your eye on other targets as well, but you gotta make sacrifices somewhere...

Give SAM a try... I think it'll add a new level of 'excitement' to the game for you... cause you'll have to use padlock or external views to watch your back...

masten@beta.lanl.gov *8 Oct 92*

Is this because the F16A radar was a 'single target track (STT)'? Would the F16C's TWS capable radar work differently as far as the sim is concerned? Sorry if this has been mentioned a bunch of times here before, but of course the disadvantage to using HFR vs. SAM mode is the damn HFR locks much less readily. But I use HFR just to get past the auto-ranging problem.

opus@ihlpy.att.com *8 Oct 92*

If Falcon 3.0 modelled the F-16C's TWS radar which can track five targets simultaneously (according to the Wings episode on the F-16), I'm sure it would be different, but it doesn't. I wonder how the F-16C's REO can display position and velocity information for all five planes at the same time!

4.5.3 Weapons Delivery

knutson@mcc.com *20 Feb 92*

The default altitude for most ground target waypoints is 8000' AGL. Do you use this? Have you found a better altitude for delivery? I usually find that I need a fair amount of altitude to deliver high drag bombs because identifying a target is so hard that you have to be on top of it before you see it. This means that you invariably need a 30 degree plus dive attack and some altitude to allow for lining up.

Do you use low altitude delivery of high drag bombs? When?

sekullbe@athena.mit.edu *21 Feb 92*

I fly lower and release at a 5-10 degree dive. I don't know why you have more trouble locking on.

masten@navier.stanford.edu *21 Feb 92*

Like I said, I've tended to stay low, about 2000 for bomb drops. But I plan to change this. I've checked the manuals on other flight sims I have. Strike Aces (bombing competition simulator) mentions 6 target dependent techniques: level slick (450-600 knots, 750 ft) level drag (450-550 knots, 500 ft) low toss (2200 ft, level) high toss (3200 ft, level) low dive bomb (6000 ft, 20 degree dive, release at 900 ft) high dive bomb (12000 ft, 45 degree dive, release at 1800 ft) Seemed like low dives were their recommended method of choice for precision. Pretty well matches what you say above.

cooper@cos.com *24 Feb 92*

I usually fly in low (<500 ft) when the target becomes visible, pitch up 30-40 degrees to about 4 or 5 thousand feet, roll inverted, pull back into an inverted dive, roll right side up, line up and deliver fire and brimstone! Pull up immediately and get the hell out of Dodge! Several passes on a target is a good way to die.

s026@brems.ii.uib.no *22 Apr 92*

I also are having great troubles in getting bomb hits on airstrips acknowledged, i have tried dropping bombs all along the runway, and also dropping align the center of the runway.

cooper@cos.com *8 Jun 92*

> Even with weapon effectiveness on high, I can't down all three planes on the Review2.

Make sure that the aspect angle is favorable for release - head on shots aren't all that profitable.

> Enemy planes down me on one hit, and they absorb all of my missiles and guns, no problem.

set up, in Red Flag, a 1V1 engagement against a fighter (unarmed if you like) and shoot one (1) missile at him - watch what he does on the radar screen, notice that his airspeed will probably start to drop (that is, if he's dead or gone) one shot might cause him to eject, but it won't always make his MiG into a nice, pretty, firework display. (also watch aspect angle, if he's dead, he'll stop making bat-turns) I've put plenty of missiles into “drone” aircraft - it's all a learned skill. - also, larger planes (bombers) can take more damage and keep going.

> I would fire one off and about a minute later it would hit its target, out of the blue.

Even a Mach 4 it takes a while for the missile to get there, especially if the bandit's 20 miles away (RADAR use is the most important skill to acquire in F3)

> How do you tell when a missile is completely going to miss?

You can't, unless you've got visual on missile and target - that's what playing in the big leagues is like :>

> When I fire a missile, is it ‘fire and forget’ like the maverick is? Or am I supposed to keep the plane in my sights at all times until the missile hits?

all three of you AA missiles (Aim9 P/M, AMRAAM) are fire and forget, but remember, *shoot* doesn't mean you're gonna hit, the computer's just telling you that you're within the MINIMUM firing envelope *masten@beta.lanl.gov* *1 Jul 92*

> (Footnote: can anyone give me advice on using A-G rockets? I can hit anything with every other type of ordinance, but I can't manage to kill even trucks using the rockets. Any advice?)

I'll give you what's in Falcon 3 Air Combat (don't bother buying it): shallow dive, set the dot below the target then nose up into the target and fire. I've had about as much success with rockets (and strafing) as you.

jlong@uhunix.uhcc.hawaii.edu *3 Jul 92*

That's straaaange! I have no trouble at all... I *love* to pound the ground! Do you have a problem with weapons *hitting* the target, or getting lined up with the target? I like to make repeat attacks using a loop-and-roll approach: You line up for the first pass by putting your nose ahead of the target, and when you are ready to fire, pull up, release, jink to one side to avoid shrapnel, and hit full afterburner... fly level and low for a mile or two until you have well enough speed for a loop. Then loop over, bleeding off power so that you are just about to stall when you are at the top of the loop. This way you have some time to line up with your target. When you get your target, continue flying inverted so your nose is again pointing to ground between you and the target. Then roll over, and when you get nice and close, fire another. Repeat till done.

opus@cbnewsc.cb.att.com *13 Jul 92*

By the way, I figured out how to get kills with AMRAAMs against targets that AREN'T already distracted (still the most effective method). Fire two at one target, a few seconds apart. It doesn't always work, but it seems much more effective. I was able to down an Ace level MiG-21 by doing this (the ONLY way I could kill him--you people who can defeat Ace enemy pilots one-on-one: my hat is off to you).

opus@cbnewsc.cb.att.com *27 Jul 92*

I've complained before about not being able to lock onto enemy planes using ECM pods with Sidewinders. If I keep the target in the aiming reticle, all I get is a warped sounding growl from the speakers that rises higher and higher in pitch, but almost never a lock on--very frustrating!

Well, I may have stumbled upon a solution. I'm not sure if it works every time, since I haven't experimented with it enough yet, but I know it's done the trick at least twice.

All I did was turn off my radar. I *think* that both times I did it, I was getting the weird growl from the confused Sidewinder. Once I turned the radar off, I got an almost instant lock (followed closely thereafter by a kill :^).

Again, I'm not sure if this works consistently, or if it is necessary that you transition from radar-on to radar-off with the target lined up. Perhaps you just have to fly with your radar off to begin with.

Hope this helps others avoid the frustration I used to experience when running afoul of enemy planes with super-ECM pods (jams radar AND infrared!).

knutson@mcc.com *11 Aug 92*

By the way, the trick for going after SAM sites seems to be to get them to light up, but stay outside their normal firing range, then lob AGM-88s at them. This seems to work well in Instant Action mode anyway.

Now, as far as aiming goes, I did notice that you have to lead the death dot a bit when using free-fall bombs. I usually release when the top of the death dot touches the target. To really see this, try the bombing range out for size in Red Flag. It's pretty nice for learning delivery. I found most of my bombs going long until I started leading the release a bit.

opus@cbnewsc.cb.att.com *27 Aug 92*

> now for my question--how to hit runways. I plastered a runway only to find I didn't hit it. I'm on my 3rd campaign, and I've only hit a runway once. is there a trick, or should I land and commit suicide by dropping the bombs DIRECTLY on the pavement?

I've got THE trick for this! What you need to do is carry along either Mavericks or LGMs in addition to your runway-cratering ordnance. When you get within visual range of the runway, switch to the aforementioned guided weapon, and keep switching targets until it locks on the runway. It should be at the point nearest the hangar. Point your plane directly at that point, since that's EXACTLY where you must drop your Durandals (or whatever). If you hit, you will see that a diagonal patch of gray appear over that part of the black runway (I use to satellite view for quick bomb damage assessment).

gavin.adams@lso.mts.dec.com *1 Sep 92*

Just a quick question on the use of Durundals:

I line up on the runway, drop the D's, and fly home. Taking a look at my ACMI tape, 3 out of 6 hit the runway. Out of the 3 that did hit, they were off to one side of the runway. The section hit was light grey, and seemed to be buckled. I didn't get credit for the hit (my primary target), and want to know if I did actually affect the runway.

According to the air combat guide (3rd party book), the light grey *might* indicate that they repaired the runway. Someone (I think it was Dave) said the runway would be broken if it took a good hit. So, anyone have an opinion on this? :)

opus@cbnewsc.cb.att.com *2 Sep 92*

I just posted something about this last week!

Anyway, it seems that runways have a magic spot that you have to hit. That spot is nearest the hangar, if there is one. If you take along a guided weapon such as a Maverick or an LGB, you can use it to lock onto the spot on the runway you have to hit, turn your plane toward it, then switch to bombs and pound it. If you hit the target, a diagonal section of the runway will turn light gray. I have no idea how you could have seen this even though you missed the runway. My guess is that in the actual run, you barely missed, but the ACMI reconstruction was a bit off, so in the tape it looked like you hit.

Usually, if I ripple all 6 of my Durandels onto the target, in the mission summary I'll get:

Primary target damaged. Primary target destroyed.

This tells me not to be a cheapskate and always take more than just two bombs along. :^)

Notice that because you have to hit a certain spot on the runway, it doesn't matter what direction you approach from. I always fly really low (<1000 feet) for greatest accuracy, then pull up from a level release to get out of the way of the explosion. When you're that low, the bomb impact time is not too long, so I usually give myself the luxury of switching to satellite view (1) to see if I got the target or not.

masten@beta.lanl.gov *7 Sep 92*

OK, how do you quickly get a lock on your desired target with the GBU glide bombs? Seems like there is some heinous intelligence that makes it lock on every other target but the one I want. It's also real slow to unlock (using the x key I believe? I use the WCS).

ptran@watserv1.uwaterloo.ca *7 Sep 92*

I really don't know what the required parameters are for a GBU target lock, but I've been lucky in that it always seems to pick the target I'm after. Try a longer approach to give you some time to cycle through potential targets.

opus@cbnewsc.cb.att.com *14 Sep 92*

> What's the logic behind turning off your radar when using heat seekers?

In 3.0D, at least, this is what you do to get Sidewinder locks on targets with ECM pods (is this fixed in OFT?).

yuqian.bvc.edu *15 Sep 92*

> > OK, how do you quickly get a lock on your desired target with the GBU glide bombs? Seems like there is some heinous intelligence that makes it lock on every other target but the one I want. It's also real slow to unlock (using the x key I believe? I use the WCS).
>
> I really don't know what the required parameters are for a GBU target lock, but I've been lucky in that it always seems to pick the target I'm after. Try a longer approach to give you some time to cycle through potential targets.

I always use T key, and it changes quick enough to get a bomb off.

asdyp@acad2.alaska.edu *16 Sep 92*

Bombs drop fine. Dumb bombs are dumb, but the computer (read: F3's simulation of a Falcon's computer) wants to make sure that you aren't wasting ordinance. You have to set up an attack, lock in the target and do *NOT* void the flight profile for the ordinance before pickling it. It is very easy to fool the 'puter into thinking that you have voided the profile.

I have been plastering stationary targets with CBUs and LGBs since I installed the first (unpatched) version; is it a year ago already? They can be tricky to use at first but once you get the hang of it they are *VERY* rewarding. Especially in campaign missions where you have limited armaments. Plastering a hard target with a dumb 2000lb bomb guarantees destruction because there is no wasted space for guidance.

My recommendation is to practice attacking from a high altitude with a high angle of attack. Start at about 10,000 feet and just push over for negative Gs into a 45 degree dive. Line up your pipper one circle's diameter past the target and pickle the bomb. The 'puter will do the rest. Do *NOT* press this attack closer than 4000 feet. Remember to throttle back, deploy speed brakes, set your radar to ground, choose the appropriate ordinance.

Practice with unlimited ordinance and complex flight modelling before graduating to full anal-retentive mode and hi-fi modelling.

Make it easy on yourself and use the C-model HUD.

steven.baldassarra@canrem.com *20 Sep 92*

In 3.01, direct hits with four Mk 83s on a truck column will destroy 15 ground units. It used to take an entire campaign to take out this many ground units.

opus@cbnewsc.cb.att.com *21 Sep 92*

I beg to differ. I still only have 3.0D, and can routinely wipe out about 80% of an armored or truck column by manually rippling cluster bombs or Mk 82s onto them if conditions are right. The hard part is first finding the column, then lining up for the bombing run, then dodging the SA-7s that are launched by the survivors.

Cluster bombs are great because of their extremely large area of effect, but you can't carry many. It's the weapon of choice against vehicle columns, unless your aim is really good, in which case 12 Mk 82s will be more effective. I don't use Mk 83s or Mk 84s against ground units. I have used laser guided bombs against columns, and found them devastating. Just pick targets far apart in the column, and you'll get lots of hits. The advantages of laser guided bombs are that you don't have to aim and you can approach from any direction.

jlong@uhunix.uhcc.hawaii.edu *9 Oct 92*

> scott@xcf.berkeley.edu says: If the F-16 DID have multi-target tracking, then it would be able to launch and guide AMRAAMS simultaneously to every target

> onto which it had a lock. (AMRAAMS are only capable of active homing for something like the last 30-40%
>
> Wim says: Is this also true for the simulator? I always thought that AMRAAMS are fire and forget missiles. If Falcon 3 really simulates the reality, it means I have to hold a lock on an enemy plane until the missile is near by.

It seems to me that if you fire one AMRAAM at great range, the target has so much time to dodge you, it seldom does the job. If you fire one and wait about 5 seconds, and fire another, your chances of hitting the target more than double, possibly only because the enemy gets too far ‘out of shape’ to dodge *both*. Whether the 1st is still tracking after the second is fired, I don’t know, but it seems like it would be easy enough to find out with a Red Flag exercise (set up two big slow easy targets, and fire one at each).

4.6 Situational Awareness

Situational awareness is one of those things you just can’t live without. It is important to always know what is happening around you. This includes knowing where things are around you and what those things are.

4.6.1 Rules of Engagement

steven.baldassarra@canrem.com *23 Sep 92*

SB> From AWACS: You are violating rules of engagement!

DJ> I’ve heard this one! And I was bombing the primary target, talk about a
DJ> change of the mission plan, maybe they could have told me ahead of time.
DJ> I got back and in the Debrief they gave me a mission successful and
DJ> destroyed primary target. Strange sounds from AWACS.

In the Kuriles, using iron bombs to take out Russian ground units doesn’t violate the ROE. But using Shrikes or HARMs to take out SA-6s does violate the ROE. Strange. Maybe the politicians told the Russians that the iron bombs just happen to accidentally drop from their racks and just happen to accidentally strike a Russian truck.

gavin.adams@lso.mts.dec.com *24 Sep 92*

> five minutes to use the copy option for loading weapons. I am still trying to figure out why I had been court-martialed after a mission in which I did massive damage to the enemy (I didn’t hit any friendlies), so I was court-martialed for weapon negligence.

Kurile islands, I assume? I had a few court-martials in the few furrballs I got into while still limited by ROE. Couldn’t tell if I did anything wrong or if it was a F3 ‘feature’. :)

4.6.2 Padlock View

knutson@mcc.com *20 Feb 92*

I like what padlock view gives me, but it still hasn't proven to be exactly what I need. I find it extremely useful in a furrball when I want to see if someone has swung in behind me, but it takes to long to cycle through all the AC if I just want to check my six while tracking a target in front of me.

sekullbe@athena.mit.edu *21 Feb 92*

I like it except that I've accidentally fired missiles at the wrong target since the target lock is independent of the padlock view.

masten@navier.stanford.edu *21 Feb 92*

I'm getting fairly used to it. I still prefer using quick view changes in Yeager's Air Combat. One problem is padlock first shows the closest plane. I'd like it to start with the radar locked plane. Also, it should let you redesignate the padlock locked target as the radar target (if in forward quarter).

reynolds@park.bu.edu *16 Apr 92*

On the subject of switching targets, I have a related question: I have never been able to do this in padlock view. Hitting "t" just changes where my eyes point. Even if I am looking at a target in my targeting circle, I can't seem to unlock the targeting computer from the previously selected target. I have to switch back to front view, deal with the computer, and then switch back to padlock. Anyone find a way around this?

opus@cbnewsc.cb.att.com *8 Jul 92*

A lot of people have been complaining that the padlock view is useless and that they always crash into the ground when using it. This was true for me for a while, but I stuck with it, used it constantly, so that now I crash into the ground much less often. :^) It's very useful for keeping track of multiple bogeys, and invaluable for avoiding SAMs and AAMs. Also, it's the only way I can follow top-notch enemy fighters (MiG-29, Su-27, and MiG-21 since it's so maneuverable) when they are jamming my radar. The only time I leave padlock view is when I'm close to gun firing parameters, or when I want to check my threat indicator, radar, map, fuel level, etc.

One of the most useful things it can tell you is which bogey your wingman is going after. I've found that it's absolutely pointless to try for the same target, as your wingman will shoot him down with guns before you even get close. Knowing this, you can look for other fish to fry.

I'm curious how people that don't use the padlock view even FIND the enemy planes in a furball!

opus@cbnewsc.cb.att.com *28 Aug 92*

> > If you're referring to the Padlock mode, I use it exclusively. It's the only way to dogfight in my opinion. It does take some practice to get used to, so try it in Red Flag to get the hang of it.
>
> I still have a few bitches (what else :) with the PadLock view. I tend to get focused on one bogie, and never see/hear his wingman until he guns me down from behind. What would be nice is a way of toggling between two targets. That way I can still track my primary target while taking a look at my 'six to see if any other bogie has slid in and is getting ready for a kill.

I just keep hitting "t" to make sure that no one's saddling up on my six. This works well when there are only a few planes, but when there are four bandits in addition to three wingmen all in visual range at the same time, it's pretty useless. In situations like that, I just hope for the best or use the rear view ("3").

I think it's more realistic that you have trouble keeping track of everything in a big furball. Your idea of being able to toggle between two targets sounds very convenient, but I doubt a real pilot could keep such close track of two planes at the same time.

adam@mentor.cc.purdue.edu *4 Sep 92*

I don't know about anyone else, but I pay a lot of attention to the front view (upper right) for a couple reasons. Primarily, it shows a line drawn to your target, so you know immediately which direction would be the quickest to turn. The other benefit of that screen is the horizon line, which on many occasions has kept me from taking a "dirt nap." :)

With occasional glances to the 360 view (top center), I switch to the large view when the target comes within HUD range. I don't pretend to be a pro at any of this, but I've been playing that damn game every day for the past 10 months, and I've become quite fond of padlock.

knutson@mcc.com *9 Sep 92*

> One thing I can't get used to is the padlock view. I'm getting reasonably good at following a bandit in normal view, but when I use padlock I quickly end up staring at my tail most of the time. I just can't figure out which screen to focus on during a dogfight. So I'm very curious how the rest of you handle the padlock view. Any advice?

Padlock view is a killer to get used to, but it's the best thing since sliced bread for a flight simulator dogfight. Here are some tips.

1. Before you take off, set your scale to 4. Discussion on the net says this is a more realistic size based on the HUD, but really it's mainly so you can get a better visual picture of what attitude your target is in.
2. Don't use padlock view unless you are:

   a) in a furball.

b) flying escort and need to check your position relative to what you are escorting.

c) checking your six. Yes, it's a cheat to let padlock find planes for you, but I justify it based on having to use a reduced resolution display.

3. When you use padlock view, try the following:

a) Use the main view pretty much for when a target is in front of you and for checking on directional changes in your target (e.g. reversals).

b) Use the upper display to for changing your relation to your target. This is important because it gives you the relative direction you need to be heading to point at your target. This doesn't necessarily mean you should be going that way though. Use the main view to see if the target is coming or going and choose your flight path accordingly.

Also note, there is a large view up vector change as a target transitions from front to rear and vice versa while it is high relative to your plane. My assumption is this is your head transitioning from looking up to looking back and vice versa. Try it and you'll see what I mean. This is one large reason for using the upper view. There have been too many times when I start correcting my position for what I thought was an attitude change but was really this view up vector change.

c) Keep an eye on the attitude indicator, altitude and speed. It's easy to slow down and be easy pickings by following someone high or dig a hole by doing a half loop to follow someone under when you're at 500 knots and a couple thousand feet AGL.

d) Wait until you get much better at using this before using the main view to decide on maneuvers based on a target in your rear hemisphere. The problem is roll control is reversed here because you are looking backwards (i.e. to get a clockwise roll on the screen you need to roll counterclockwise). If you fly RC planes, you should be familiar with this already.

Don't expect that your target will never be behind you. Head on passes are a common place where this occurs. However, if you plan right, this will be a short lived experience. Overshoots are another cause of having the target end up behind you. There is no real right answer to this, but try a hi yo-yo if you think you're going to overshoot.

If you get someone on your tail, you can try a turning battle to get them back in front. Keep your airspeed around 450 turning level just hard enough to keep your airspeed. You can pull a hi or low yo-yo to reduce or gain airspeed for this. Eventually, you should be able to pull around behind your target. I don't know how well this works at the higher experience levels.

ajredmer@netcom.com *16 Sep 92*

Also, in regard to the padlock comments made earlier, we discovered as a result of shooting each other down at Air Combat U.S.A. that the old saying 'lose sight, lose fight' should not be taken lightly. Padlock mode is intended specifically for that purpose. We have found that over time most Falcon 3 pilots use padlock view as their primary combat display.

4.6.3 Finding Enemy Ground Targets

jlong@uhunix.uhcc.hawaii.edu *9 Jul 92*

> Does anyone have a secret for finding the enemy in CAS missions? All I ever do is drop bombs on M1's! (I'm sure 60 minutes will be by to interrogate me about all of these friendly fire incidents!)

Try this: Break up your flights to one plane each, for as many planes as you wish to send into action. Have each of them fly a *slightly* different route, so that y'all spreads y'selves over the countryside. You can just as well program them for S&D... Then, when you fly, watch them carefully. The AI seems to see things us users don't. So use autopilot to keep ye flying right, and use all your view modes, especially the 7 key, which lets you look at other friendly planes in a large area. If one of your flights attacks something, they'll put an ad on the radio. Autopilot is you friend!

That business of using the flight recorder is a gross cheat and no self respecting virtual fly-boy would even think of using it. Disgusting. Might as well run the mission over and over aborting until you get it right! I've done that, too.

4.6.4 Identifying Ground Targets

u38339@uicvm.uic.edu *22 May 92*

Good Questions! My understanding is that ALL enemy ground units (not including bunkers) are BROWN while ALLIED units are GREEN or LT GRAY. I think this works for the aircraft a well, but if you are that close to an enemy plane....... Ground targets are very difficult to see being destroyed. You are usually flying low and fast. If things are not too hectic you can try briefly putting your plane on (A)uto and viewing the missile with the (Q) key. If you use mavericks or laser guided bombs you can usually see them hit as you fly over the target. Finally you can hit the VCR button and film your strikes and then play them back after the mission. This is usually the safest method.

masten@beta.lanl.gov *22 May 92*

Allieds are in grey/green. Enemies are grey/brown (or vice-versa?, just check the reports screens). Here's a slight cheat which will help: When you are getting close, switch on your VCR then pause and go to replay. Use the independent view to look to the battlefield and check out placement. Think of it as a last minute SR71 flight (as someone else called it) or as communication with the ground forces directing your attack.

You can also use the VCR to assess bomb/missile damage. Or use the missile view if you think you can afford it (probably not).

jlong@uhunix.uhcc.hawaii.edu *23 may 92*

Enemy ground forces are always brown, but there are some “false targets” i.e. little brown dots on the ground that are just little brown dots no matter how close you get. UFFSO’s (unidentified flight simulator objs)

You can get a preview of *all* forces, enemy and allied, ground and air, by going into red flag/nellis command/report/* (‘button path’). You will see a rotating picture of each weapon.

jlong@uhunix.uhcc.hawaii.edu *23 May 92*

Geez, what a cheat [VCR] !!!! You can also make good use of the ‘7’ key, esp. if you set up another flight to go ‘wild weasel’ for you. Use of the aux views in falcon is one of the more important things to learn.

dbr@ocf.berkeley.edu *15 Aug 92*

> Yes, friendlies are green and enemies are brown. Some friendly is gray. I think it’s the Bradly vehicle.

gavin.adams@lso.mts.dec.com *24 Aug 92*

Oh, if we only had 120 d.p.i. monitors... :)

On technique I use is a fly-by on the “engagement.” Lock an AGM-65 onto a target is a group and watch the monitor. At some point, the resolution will be good enough to tell what the target is (this requires memorization of the different target types). Fly-by, do an Immelmann, and fire away.

I found out this doesn’t work with regular AGM-65’s at night (no duh!). I forgot to load the IR variant on a night strike, and went huntin’. I found a group of gray target surrounding some green targets (friendly troops), and proceeded to fire. Turns out I nailed two M-1’s, an M-2 and a few trucks. The thing was, viewing the ACMI tape of that mission, there *were* enemy tanks interspersed (sp!) with friendly units. Go figure.

4.6.5 Identifying Air Targets

jlong@uhunix.uhcc.hawaii.edu *23 may 92*

The q key is also helpful (almost a cheat) in id’ing air targets. Like if you have 2 dots coming, it is nice to know that one is a Cub, and the other one is a su27.

4.6.6 Dogfighting Scale

masten@beta.lanl.gov *18 Jul 92*

At 1x, an F16 doesn't appear as more than 1 pixel until you are within 0.3 miles. I think I can make out some detail on a 50 ft plane at more than 1500 ft. Can't you? Also, the jet has to be within about 1000 ft to determine its heading (unless you get the aid of the high G contrails). At what distance can you tell which way a plane is heading? 10000 ft for a fighter maybe? 20000? More?

At 1x, it doesn't fill your (35 mRadian) AIM-9P circle till range reads "0.0". At 4x, it does this at 0.2 miles. 35 mR at 0.2 miles ~1000 ft is 35 ft which is about the wingspan of the F16.

Conclusion: 4x gives the most realistic portrayal of the scale of planes as seen by the naked eye. So don't feel bad about using it! 1x is for y'all with 20/huge vision.

BTW, the sun fills about half the 9P circle, or 17.5 mR = 1 degree, which is twice its angular size. So either they just decided to make the sun look bigger, or the 9P circle is 2x too small. If the later, 8x gives the most realistic scale!

masten@beta.lanl.gov *22 Jul 92*

> Isn't field of view greatest at 1x?

Off the top of my head, I believe not. F3 just magnifies the moving object (planes, vehicles). It doesn't magnify bldgs, etc. and 99% sure it doesn't change the fov.

> In 1x, you have to get pretty close to a plane (meaning that you start to see detail on the screen) before you can hit it with guns, so I don't know what good the extra detail is. With missiles, you don't really need to see your target, but with guns, you aren't close enough to hit it until you see detail anyway.

I'm not so sure. Like I said, you have to be within 0.3 miles or so to get detail in 1x, while guns may be effective out to 1 mile. Anyway, I like to be able to tell which direction it's turning even if it is still out of guns range. With missiles, you have the aspect carat, or you can use the aspect angle on the REO. But if you are in padlock, or forward-up (with fwd, the only decent in cockpit view), and guns mode, visual is your only clue.

masten@beta.lanl.gov *19 Sep 92*

Some more thoughts on field of view, magnification, etc.: Prompted by the option of default magnification in Falconer.

I said a while back that 4x was more realistic than 1x. A partial retraction as it was based somewhat on the AIM9P aiming reticle being the quoted 35 mR:

1. The field of view is 60 degrees. Checked this by looking at the sun at the morning (east, 90 degrees), and putting it on the edge of both the forward and side views. Both gave the above FOV. Maybe this is why I find the side views so worthless. Huge blind spots

as there is no overlap with the front or back. The only worthwhile views are front, front-high, and Padlock. But anyway, isn't 60 degrees pretty weak? What is typical, 120 degrees? I suppose it is a graphics/frame rate trade-off.

2. Given the FOV, the AIM9P reticle is more like 100 milliradians, not 35. The 9M, and 120 are about 160, 210 rather than the manual's 100, 145.
3. Given the new figures, 1x is the most realistic magnification.
4. The number of pixels/plane jibes with 320 pixels for the 60 degree FOV.

SH has done a pretty thorough job here. Except for the 9P reticle size.

But still, you won't see a fighter as more than 1 pixel till it is about 0.5 mi away. I was at an airshow and could make out detail (or at least direction) on an F16 3.0 mi up (as stated by the announcer). I guess this is another 320x200 graphics constraint.

In other words, I'm sticking with 4x, and I'll use any rationalization! Guess I'm not a real shit-hot computer fighter jock! You pays your money, you takes your choice.

primus@netcom.com *19 Sep 92*

1x mag. does have it's advantages, though. I used to play at 2x and I had *a lot* of problems trying to blast a MiG to Kingdom come with the guns in a turning fight. Sometimes, I would be right behind (well, or so it seems, since I was using the 2x mag. after all...) so close that I can almost touch it, and still miss. But now, at 1x mag, I'm taking them out using just short bursts. For example: it used to take me at least 70-100 rounds just to smoke a MiG (that is, if I don't get pissed off and just start carving out a path in the sky with them 20mm rounds...). Now, it takes me only about 40-30 or less per plane, which means more kills per mission and better odds surviving a mission after I've run out of missiles.

Oh, yeah, by the way, does anyone out there know of a way to re-set the default magnification to 1x? It's a *REAL* pain having to reset the magnification every time you take off...

dpipes@spica.srg *21 Sep 92*

As another data point, I saw an interview with Randy Cunningham, the guy who shot down Col. Tomb. He stated explicitly that a plane at 1 mile away was "just a dot", in a discussion of how hard it is to visually handle a dogfight, and why missiles are so important.

I would guess that the need to keep track of your plane and others, deal with g's, monitor weapons status, deal with radio calls and adrenaline will make the task of getting info from a plane a mile or so away much harder than just watching it from the ground. Camo could further degrade vision.

4.7 Landing

paulg@pyramid.com *19 Feb 92*

The safest approach to landing is to pull up the ILS and turn on autopilot. This takes a lot of the fun out of landing though. If you must do it yourself, practice, practice, practice. One thing to remember is if it doesn't feel right, go around again.

cooper@cos.com *21 Feb 92*

Try doing a combat VFR approach - come in low parallel to the runway - pop your flaps and brakes and pull a hard 180 degree turn to, hopefully, line up with the runway at an 30 to 35 degree nose down angle and start the pull up when you feel it's necessary (you'll get the hang of it after making a few holes in the runway :>) Drop your gear at the last minute (I don't like the way the plane handles with the gear down). There is actually far less room for error in this method than there is in trying to stay centered in the ILS for five minutes (at least for me)

media01!wde@relay.nluug.nl *1 Oct 92*

> And there's also the case where I completed my mission, landed, parked my plane, then my wingman landed, and decided he wanted MY parking space and rammed me from behind, blowing me up. @!@^%&@#!!!!!

I always try to be the last one who lands, because it happened several

times to me that my wingman flew into from behind. I think it is because

i slow down too fast once landed.

4.8 AVTR

knutson@mcc.com *20 Feb 92*

Has anyone done any useful mission review using the VTR/ACMI setup? I've recorded some missions and played them back, but don't have a feel for what I should be looking for to improve. Partly, it's a lack of real data to make a judgement with.

masten@navier.stanford.edu *21 Feb 92*

Trying to figure this out. One thing I use it for is damage assessment. See if I hit my target, and if not, why not. One cheat I sometimes use it for is 'scouting'. On a CAS mission, I get in the air, turn on the VCR, pause, then check out enemy placement when I 'm still many miles away. I figure I'd probably have more info then F3 gives me anyway. So I look at it as an intel report, or info from the troops on the front.

msf@astro.as.arizona.edu *18 Mar 92*

I have 2 megs ram on a 386-33 with QEMM. This gives about 630000 bytes in conventional RAM and 615000 bytes EMS. I cant seem to get the AVTR recorder to come on - i know it requires EMS memory. I have a sound blaster and I get the digitized sounds. I DO NOT have the terrain data loaded into RAM - the configuration settings under 'EMS Settings' are both OFF. I could not find anything in the release notes or docs which said how much EMS is required - just something about 1 meg = 20 minutes of recording time.

gt3017a@prism.gatech.com *22 Sep 92*

> Also on the net news someone said that troops pour out of burning vehicles after a CBU hit...how exactly do you look at the vehicle to see these guys pouring out when the vehicles won't be 'targeted' when using bombs (i.e. pressing 'Q' won't show them)?

Try taping the bombing run using the ACMI. Then when you view the tape, go into independent external view, and scroll around the battlefield to a place you can see the vehicle and watch those fighting men run!

4.9 Enemy Aircraft

opus@cbnewsc.cb.att.com *4 Aug 92*

> TU-22's and AN-12's are also easy prey for my guns now. The AN-12 doesn't even jink or try to bug out, and the TU-22's are just too slow and can't turn with me. It's those damn SU-27's that give me the chills now.

My biggest danger with TU-22s and AN-12s is a rear-end collision! :^) You say TU-22s are slow, but I have chased them at over 500 knots and eventually given up for fuel considerations.

dbr@ocf.berkeley.edu *22 Aug 92*

I've noticed a few times now that there is a sure-fire way to win a "protect ally assets" mission. If an SU24 is approaching, lock on with the radar, then type "q" to view the threat, and he'll drop his bombs prematurely! Although the "q" feature is something the enemy shouldn't know about, they seem to be camera shy.

ptran@watserv1.uwaterloo.ca *23 Aug 92*

Are you sure that it's not just the radar lock freaking them out?

roeschmf@craft.camp.clarkson.edu *25 Aug 92*

Not a bug! Think about it: Here you are in your lovely F-111 look-alike SU-24, carrying 25,000 lbs of bombs. Suddenly, a pulse Doppler fire control radar locks on to your plane. What to do? Get out of the area! If you want to get out of the area before the F-16s get to you, getting rid of that extra 25000 lbs of dead weight (and drag) would be a good idea!

This is a pretty standard tactic for attack planes. If the attack goes sour, live to fight another day, don't press a bad position.

dbr@ocf.berkeley.edu *22 Aug 92*

Let me more specific then. What I've noticed works like this. After getting the radar lock, the SU-24 won't immediately drop load. I've gotten the lock and waited 10-15 seconds, THEN typed q and he'll drop the bombs just when my view switches to his plane. It seemed to me that the "q" was the trigger.o

4.10 Helos

nsoloway@agsm.ucla.edu *7 Sep 92*

For some reason I have never been able to lock up helicopters in Falcon 3. I thought maybe they would fix it in Operation Flying Tiger but apparently not. Come on SH! How come your wingman can get locks on Helos and not the player? Has anyone else had the same problem?

ptran@watserv1.uwaterloo.ca *8 Sep 92*

I don't think heat seekers will lock onto choppers since they don't have hot jets. I've been successful at locking onto them with AMRAAMS.

etxstfr@helix.ericsson.se *8 Sep 92*

If you try the autopilot in Instant Action, you can just sit back and watch the show. That autopilot is one hell of a gunner! It downed two choppers with the M61... I'll never come close to that...

If you don't like the autopilot, do like Phat, use AMRAAM instead of heat-seeking missiles.

[Section 2.5 "Falcon vs. Reality" on page 32 contains additional discussion on the subject.]

4.11 Scoring in Instant Action

knutson@mcc.com *11 Aug 92*

After playing Instant Action for a few days (I'm on campaign R&R :-), I started finding a trend in getting higher (~100K) scores.

The trick seems to be to go after ground targets whenever you get the chance. Eventually, if you clear the skies and follow waypoint 0, you will advance to the next level. The AWACS should direct you there when the time is right. I've only made it to level 2 and did that only once. Has anyone else been further? By the way, my high score is around 130K.

jlong@uhunix.uhcc.hawaii.edu *19 Aug 92*

Time is definitely accounted for! I remember 2 nearly identical IA's where I shot down the same planes (just 2, I confess...) and the scores were different by a whole lot. Also the weapon you use is taken into account.

It seems that the key to winning in IA is knowing which target to kill with what, and when. You might have to sacrifice some pts by using a medium-range missile on a real mean bandit in order to live long enough to get some other easier ones. Then again, the target itself is certainly accounted for. No? A Mig-29 kill would be worth more than a Tu-22.

Then again, maybe the scoring is random.

knutson@mcc.com *11 Aug 92*

I just wanted to follow-up on my quest for high scores in IA. This past weekend I scored several >100,000 point flights with my high score jumping to 560,000+.

The key definitely seems to have something to do with nailing ground targets. My pucker factor is 80 (cadet, hifi, med, recruits, A model, limited everything, HFR, STD intel).

My MO is to immediately head out over the water to get clear of SAM sites and then pick off whatever A/C are near by. When I get a somewhat clear sky, I switch to AG weapons (Mavericks and Harms/Shrikes) and start picking off SAM sites and bunkers on the island (staying at the fringe of their launch window). I make one pass at ground targets, then look for more enemy A/C. I keep repeating that cycle until I'm informed of waypoints. When the AWACS announces enemy ECM activity, I switch the radar off and use strictly sidewinders and guns. I then start following waypoints very carefully so that I don't walk into a SAM trap. Still haven't made it past level 2 yet.

knutson@mcc.com *7 Oct 92*

I can regularly reach 200K and my high score is about 560K. This is with 3.01, Cadet logic, HiFi, medium weapons, and elite SAMs (by the way, other than none and some, SAM settings don't seem to make much difference). There have been three times when I've done much more, but the machine hung when the score board background came up, so I don't know what my score would have been. I tried going one notch higher on the logic, but I didn't like what I saw.

When increasing the enemy logic up one notch from cadet (I can't remember the level name), it seemed that the enemy aircraft got some kind of boost in performance. At Cadet level, shaking a Mig 19 that was on my tail (particularly if there were two working as a pair) was an effort, but could be done (even using level turns). At the new level, I couldn't do anything. If I used a turning slow climb (vertical rolling scissors?) to gain altitude, I eventually lose too much airspeed and they start using guns. If I try a lo yo-yo, they match me and I don't get anywhere except closer to the ground. I typically lose airspeed and energy trying to keep them from tracking long enough for a gun shot. If I try to unload to pick up some airspeed, they start shooting. To make matters worse, a Mig 19 seems to have better vertical performance than my F16. I find that hard to believe, but maybe so.

I too have noticed that you don't get any points for taking out bridges and bunkers (anything that doesn't shoot back actually). However, I like to do it for completeness and practice. It's also very hard (impossible?) to take out the armies of downed pilots that litter the landscape (and walk on water). I've tried guns, CBUs and everything else I could think of without success.

Changing levels seems to be related to following the waypoints. This takes a lot of querying the AWACS for vector information because the waypoint caret on the heading scale doesn't show up.

I've also swept most of the terrain in IA and there are very few targets that aren't close to the coast. The inland targets are mainly storage tanks with an occasional refinery/factory.

threadgj@fri.cri.nz *12 Oct 92*

I've just got a new high score in Falcon 3D IA (usual noddy mode ... cadet, no sams, medium accuracy etc.) of 1010091.

I did this by only engaging other aircraft when I had to. I had my radar turned off most of the time to avoid detection. (I used padlock view to check visually for other aircraft). I hit as many ground targets as I could.

In the end I dropped a GBU too low and it knocked out my engine. (That was the only damage sustained!).

4.12 Multi-Player Mode

srchurch@dahlia.waterloo.edu *11 Mar 92*

A friend and I have been trying to play over a modem (patch C, 2400 baud modem) and it is 1) Slow 2) prone to error

1. It takes roughly 20-30 minutes to actually get to the point where you can press the "takeoff" button (allied or duel mode) It sends an enormous amount of data through the line. (this wouldn't be so bad if it actually put us in the planes...)
2. It seems to drop CARRIER at some random point in the connection process. We have played F29 Retaliator successfully for months but have given up on Falcon until we both have time to try the null modem connection.

ong@a.cs.okstate.edu *24 Mar 92*

I finally got around to check out Falcon 3.0c, and the null-modem feature worked perfectly in the limited time period I played it. The two machines I used are my 386-33 w/387 in hi-res video, SB/SB, joystick/rudder/WCS, and my laptop 386SX-16 in low-res video, nosound/nosound, keyboard. Both machines ran in complex flight model (I assumed both has to be the same). I ran the baud rate first at 57600, which took about one minute to "download from satellite" before actually able to fly the plane, while at 2400 it took about 4 minutes to "download". Both baud rates played smoothly in the action sequence as if there were no serial port between the machines.

renns@fraser.sfu.ca *16 May 92*

I would like to hear from people who have played Falcon between two computers. A friend and I tried playing at 2400 baud but found it to be very 'jumpy' in the padlock view. Is this typical?

mat@vulcan.anu.edu.au *20 May 92*

I am trying to get falcon to run over a novell 2.2 network.

I have 2 different copies of falcon so I don't think the problem is checking serial numbers or anything.

The problem is that when a computer is logged onto the network and you do so much as even start falcon the machine just locks up. It does not get to the first screen. The copies of falcon run fine on the computers when not logged onto the network, and can play against each other through null modem.

Both versions have the C patch done.

jnlong@magnus.acs.ohio-state.edu *20 May 92*

See Section 3.3.4 "Network Setup for Multi-player Mode" on page 55.

mcrosby@bsa1.kent.edu *20 May 92*

The enclosed documentation file that comes with the patch does not mention any communications fixes in the 'D' Patch.

We've been playing F3 over a network since it first came out and Patch 'C' at allows three players to fly together. There are still some minor bugs, but they occur less frequently. Thursday we are going to give Patch 'D' a shake down flight after work. If people want I'll post a summary of what happens.

gt8477a@prism.gatech.edu *22 May 92*

I've played a 386 40mhz and a 486 33mhz with a null modem cable. I did have lock-ups with the original version A but we had no trouble with version C. I am going to try version D this weekend hopefully (right Will?). Toting around a full machine to friends houses is cumbersome but playing this game with two players is a heck of a lot of fun. I found modem play impossibly slow, so for me null-modem connection is the only way to go. The only flight sim I'll play over a modem is F-29.

james@cs.ualberta.ca *1 Jun 92*

We have had 4 players 'in the air'. It is FUN! We also had everybody connected with a voice link. It helps a lot when you try to coordinate.

We found that you had to get the caller to calibrate his joystick first otherwise the game locks.

james@cs.ualberta.ca *2 Jun 92*

First of all, some machines can't be the caller. My 25Mhz Gateway clone will not run the caller for multi-player, but it will work as an answer station. It will also be a caller for two player interaction. I have successfully been multi-player caller on both 40Mhz 386 and 33Mhz 486 clones.

The procedure I use is as follows: Get everybody (but caller) to go into answer mode get caller to link everybody up. others watch animation while caller calibrates joystick. others calibrate. fall from sky and play the game. Don't watch the animation after the mission - esc it. got to next mission

jlong@uhunix.uhcc.hawaii.edu *2 Jun 92*

> Also, while playing 2-player duel a couple of times on the network, I could not see the opposing plane (while he can see me). He too had the same complaint when I can see him. Something funny going on? I was sure we did see each other on most occasions.

By 'see' do you mean radar or visual or both? For visual, the location of the sun may be factored in, which would be realistic. Since you were both flying the same aircraft type, radar vision should be the same for both planes at all times. Just guessing...

I wonder if the fact that each plane can calculate it's own location, thereby reducing the calculation overload of its opponent is offset by the overhead of maintaining the network link. There do seem to be (extra) bugs in the network version, and it may be due to the nature of the position information received by each plane.

patrick@cs.vu.nl *5 Jun 92*

When I start the connection everything works fine. Only when you see the f16 from above (this is when the actual flying starts) the connection crashes. The first of the two machines machine to get to this screen breaks the connection with a "disconnecting communications" message and another message before that which I can't read because the second message is displayed immediately after the first. The other machine states "synchronizing all players". And then nothing happens. I even have to reboot one of the machines.

I have tried everything but nothing seems to work. I have tried many different wirings for my null modem cable. I use a 486 and a 386sx machine to play the game. Is there perhaps a problem with the speed difference? Or do I need to buy 2 copies of the game?

roeschmf@craft.camp.clarkson.edu *11 Jun 92*

The game plays quite well over a null modem link. That is the only H2H mode I have ever played it in, so I can't really speak for the modem mode. I have heard on GEnie that it is quit slow on a 2400 baud modem, due to the large amount of data that is transferred in the setup phase. Once you are in the air, things are fine, however. I know over a null modem cable it runs nicely at 57K baud, so check it out!

threadgj@mof.govt.nz *30 Jun 92*

> I tried making Falcon 3.0d work on my NetWare 3.11 network at work. It seemed to run ok between the two machines I tested it on. I don't know how well it will work with more, despite making it available to try out (I'm network support on my site - this is what we're here for) players have been too busy to give it a go.
>
> Up to 6 players (it is claimed), and eventually I hope to get it running on something like LANtastic so people can play it at home with 3+ machines instead of just 2 with a serial line.

I've played two player duel and two player allied modes of Falcon 3.0D over a Novell Netware 2.15 lan and found them really good. The original Falcon (no D patch) must have bypassed SH quality control because neither modes worked properly at all.

As far as I can tell (... reading the manual), the network option is only available for Novell-compatible lans that support the IPX protocol.

wilfred.wong@cutting.hou.tx.us *5 Jul 92*

Have you turn off SAM and set the connection speed to the lowest common? How about call-waiting?

I have tried modem play (like what you did) before with great fun!

Here are what we used:

Me: 486/33, Intel 9600EX	Them: 386/33 ZyXel 14.4K, UART unknown
16550AFN UART on COM2	ver D
ver D to ZyXel	486/33 USR DS, 8250/16450 UART
ver C to DS	ver C

Both sides set port speed at 38400 (because of v.42bis). I don't know my opponents setting, but I config my modem to use hardware flow control. In F3, I just use default init strings. Once we play for about three hours and only had a couple errors (locked up and disconnected).

jburney@seamis1.gsfc.nasa.gov *21 Jul 92*

Here are the instructions for Falcon 3.0D modem play: (Passed on to me by another netter)

Dual Play - the same technique for connecting applies to allied mode but you need to select a squadron first. The Caller always has control over game selections.

1. Select Comms - at the comm screen choose all of the appropriate parameters. One person is designated as caller the other as answerer. Make sure the speed and mode (dual/allied) is the same for both players.
2. When you save the settings or initiate the connection, you will be prompted to “Use the default modem settings” (or some such prompt), answer NO. Now as each of the three(?) commands is displayed in the “modem” command box, just hit return. You want to use the defaults but you have to feed them to the modem one at a time manually.
3. If all went well during the command sequence you should be connected (connection takes place one or two seconds after the modem tones stop). This is the most important step:

    > The _answerer_ should hit return three seconds after the connect. And the _caller_ should hit return about ten seconds after the connect. The actual time is not the factor, it is the order (answerer --> caller). I use the time as a sure-fire way of not hitting enter too soon. If the caller enters before the answerer, it will not work.
4. If all went well, the screen should go blank in a few seconds and return you to an inactive (nothing flashing) War Room. Then just wait while the computers exchange info.

gavin.adams@lso.mts.dec.com *22 Jul 92*

I’ve got to the war room w/o hitting return. After the war room, we (caller & answerer) both get “Satellite Downlink” followed by small red tick marks above the message. One row of tick marks, one on the second line, and both machines sort of lock-up. The modems still show SR/RD *even when they are disconnected!*. ANy ideas?

pete@fidata.fi *31 Jul 92*

> We have tried it on the network. The 2-machine setup works, but it did not work for more than 2. The hardware/connection part seems to work in the latter, but for some reason the logic/what-to-do part don’t. This is with patch C.

We tried unpatched version and it didn’t works. The patched it up to level D and it didn’t work until IPX.COM was take from upper] memory (High memory using QEMM) are to “conventional” memory. Then it worked fine with 3 players using multi-player duel.

dregis@pldote.intel.com *30 Sep 92*

Falcon 3.01 (OFT) -- Direct Connect -- Two Player Allied.

I got it to work, but it took some effort. The first thing to do is to start a communications package on both machines. Verify there that both players can see what the other is typing. My friend had his serial port set up for a 9600b modem which used some of the RS-232 lines not normally used by the modem. Turns out, our cable didn’t support the lines so he never got CTS (Clear To Send), i.e., his COM port wouldn't transmit. We used the comm software on his end to reconfigure the port and then we were off. You might want to verify that you can both talk together at the desired baud rate at this time as well.

Now, you both fire up falcon, select a squadron (the same, perhaps?), and a campaign (the same, perhaps?). Select COMM from the war room and follow it from there. Both will need to select a pilot.

When you're setting up the comm stuff, have the faster machine be the 'caller'. This made quite a difference for us, my machine is a 486-33, his was a 386-33.

Once they are configured the same (baud rate-wise), I think there is a Connect button. Both people have to hit that, but it doesn't have to happen at the same instant.

Both screens should display a window indicating that the machine(s) is waiting for connect (this may take a few seconds). Once connected they will spend a bit of time syncing (this may take a few more seconds).

If you're not getting to this point, and you've verified that the machines can communicate over the cable, you might want to try lowering the baud rate.

If everything worked, the war room screen should be displayed. From this point until jumping into the cockpit, the 'caller' has sole control of both machines. The 'caller' should Commit the squadron and from here, it should be much like a normal campaign/flight setup.

Things will go slow, with every mouse click, data packets are exchanged to keep the computers in sync (beeee paaatiieeenttttt). Once everything is set (flight(s), waypoints, armament, pilots), then you're ready to take-off!

The caller will start on the ground (as usual), and the answerer will start in the air with the other wingmen if any. The mission will continue until both players (and wingmen) have either crashed or landed.

Now, what's real fun is to have the other player act as a real wingman, one that actually listens to your commands (hopefully :). My wingman was a real wise-ass and liked to show off. Once, on our way out on a sortie, he was playing with his a-a weapon modes (I had complained that his weapons radar was pinging my threat display). So, here we are, no threats within radar range, he's still showing up on my threat display, and I hear (from his machine) a *whoosh* sound followed shortly by a launch indication on my threat display! Sorry, Ray, apology NOT accepted! Hey Spectrum Holobyte, how 'bout a weapons lock (Intruder had this)?

When either pilot dies (missile, crash, etc.), have that person shift his view to the other pilots plane. He can rotate the view watching for missiles, aircraft, etc. This makes the F16 more like a f-14, or two-seater F15 or 18 (or R2 unit on an x-wing :). When you hear an atoll inbound, or apex inbound, its _real_ nice having someone watching behind the plane telling you which way to break!

As far as playing in two-player duel mode -- not nearly as much fun. If you do try this, stick with guns for a while, missiles tend to shorten the fun too fast. Also, it helps if the players are in separate rooms (headphones would also work), often times, the sound effects from the other machine give too much information away (missile tone, bitchin betty, etc.).

I hope the above info is useful (and accurate) -- the two player (allied) mode really increase the depth of the game. It can be somewhat of a hassle getting the two machines within cable's reach, but it's quite rewarding!

opus@ihlpy.att.com *5 Oct 92*

I recently got OFT and immediately tried some direct connect two-player allied missions with a friend at 57.6Kbps. Just thought I'd share some miscellaneous things I've noticed.

Direct Connect Allied Missions - Missions take a long time to set up, even between two 486/33s over a 57.6Kbps link. - Mission summaries were rarely the same for both players. Ground units which showed up on my screen did not show up on my wingman's screen. - Although the some difficulty settings seem to be shared, others are allowed to vary, such as flight model and radar type. - All in all, I thought it was fun, but too slow and inconsistent to be worth lugging my weighty machine and monitor over to my friend's place. The real drawback was that I couldn't speed up time. I normally use this feature all the time. For those that don't have type-A personalities, this might be less of a problem. :^)

4.13 Debug Mode

masten@beta.lanl.gov *4 Jul 92*

A handy way to check the frame rate to see the effect of changing the various detail options is to hit: P (pause), then tab, then D (maybe capital D is required). A whole bunch of numbers appear in the upper left of your screen. The last is the frame rate, typically 5-20 fps. If it doesn't work at first, try again, sometimes it doesn't seem to register. Once you do this, take care to be flying in the same area as the frame rate is highly dependant on the ground detail that is visible. Flying near Vegas (Red Flag), and near mountains slows it down quite a bit.

joak@ocf.berkeley.edu *16 Aug 92*

Hey, someone asked about the debug features in Falcon 3.0, so here are the features I could find:

1. Getting into debug mode: during a mission, press 'p', then tab twice. You'll find yourself outside and behind your plane.
2. 'd' for some stats (coordinates, altitude, step size of your debug viewpoint). Toggle.
3. 't' for teleport by some funky coordinate system I didn't bother figuring out.
4. '+' to increase step size, '-' to decrease. You start out at step=20, and as your step gets higher, so does your rate of increase. 9999 max.

5. up arrow for forward, back arrow for backward, left arrow for leftways sidestep, right arrow for rightways sidestep, pageup for increasing altitude, pagedown for decreasing altitude. Also the IJLM keys acting as the arrow keys.
6. ‘‘’ (that’s the one that is probably with the ‘~’) starts up the action while still in debug mode. You should be in autopilot for this :) Good way to scope out the field, and another jock was probably in this mode to view a land- battle between Super-tank and the enemies of freedom. (Sorry I don’t have your name, dude!)
7. F3 and F4 + cntl/shift keys do the same things as in regular mode.
8. ‘esc’ still works, so you can change magnification, detail level, etc.
9. ‘n’ does something with the hard disk, saving files named “falcon3.###”. I guess they’re snapshots of the screen.
10. ‘p’ to get out of debug mode and back into the cockpit.

Also, shift-’t’ (or just capital ‘T’) changes the time, so you can dispense with the ‘p’, ’t’ routine...

I’d like to thank the person who stated first that ‘p’, tab, tab gets you into debug mode, but I don’t remember your name...

Others keys probably do stuff, too. I didn’t fool around with shift/cntl/alt combinations, and haven’t touched F5-F12...

Oops, I just realized that you might only need to hit tab once to get into debug mode, I think -- it’s just that two tabs get your viewpoint out of the cockpit.

crcraig@athena.mit.edu *9 Sep 92*

Also, I don’t remember this cool “easter egg” being mentioned here. In OFT, create a new squadron, assign it to the Kurile Islands, but don’t commit yet. Now click on the head of the guy drawn on the left side of the War room. You should see a momentary “Yes, sir!” message. Now commit your squadron. You should have a list of mission types to choose from. This is an easy way to see the new UMF :-) Read this on Compu$serve.

DCOETZEE@eleceng.uct.ac.za *23 Sep 92*

This is the reply I received to my query about frame-rate statistics.

I am posting it to the list for all to see in response to a few queries I have had.

Thanks to Phat in Canada for the info.

> Enter debug mode by pausing the game, waiting for the pause message to stop blinking, and then pressing tab. Once in debug mode, hit the D key. A set of numbers will appear on the screen, and the one fluctuating between 5 and 13 is the frame rate.

garton@jeeves.ucsd.edu *29 Sep 92*

when you're in debug hit '~' to start the action. Either be in autopilot or flying straight and level when you do so. Its kind of fun to launch a missile at the ground and then watch it hit: i've heard a great story about a soldier guarding a bunker throwing a tantrum when the bunker was hit.

for teleport, just type 't' and you'll be asked for coordinates....

media01!wde@relay.nluug.nl *30 Sep 92*

Another possibility is to record your flight and play it back later. Debug mode also works with ACMI.

jensen@pooh.sdd.trw.com *30 Sep 92*

Try this new tip/trick. Go into a power dive and press ctl-alt-5. The 5 is the 5 that is on the keypad.

[This will put you straight and level instantly.]

5.0 Quirks and Bugs

This section was the hardest of all. My original intent was to collect a list of bug reports and produce a table of bugs and which version of Falcon they appeared in and when they were squashed. However, the articles which contain the bug reports never quite gave all the information I needed to do this, so you may have to take some of these with a grain of salt. Where possible, I've tried to note when bugs have been fixed.

You will also find bug reports in the patch descriptions.

5.1 Missions, Mission Planning, Mission Evaluation

Here we examine all the reported bugs involving missions in general. This includes everything from planning to debriefing and evaluation.

5.1.1 OFT Icons Messed Up

t901580@mp.cs.niu.edu *13 Oct 92*

> My version of OFT (made in the UK) seems to have screwed-up map in the Korean theatre. The map itself is ok, but the _icons_ on it are from India/Pakistan theatre. So it's rather hard (to put it mildly) to draw any reasonable conclusions about what's going to happen during the missions.

I had the same problem after using F3MAPS. It may have been related to me switching both IA and Red Flag to the Kurile theater. I eventually wound up manually editing my

SQUAD0.SQU file to fix it (change the “Korea” to “India” near the very beginning of the file, I think).

5.1.2 Mission Brief

knutson@mcc.com *20 Feb 92*

The mission briefings in early versions of Falcon were almost too brief which often led to confusion. For example, while mission brief stated take out the C3 facilities at some airstrip, the targets were a radar and hangar and did not include the C3 bunker which was selectable from the bomb target list.

masten@beta.lanl.gov *14 Aug 92*

[patch D]

Doesn’t always tell you what other allies are in the area, or even flying with you. Don’t you think this would be part of a brief?

As another mentioned, there always seem to be AN12’s hanging around your base. Wouldn’t other flights scramble?

Remember getting CAP’ed by A4’s. Isn’t this bass-ackwards?

5.1.3 Setting Waypoints

jlong@uhunix.uhcc.hawaii.edu *23 may 92*

Another area where falcon could be improved is in getting the bugs out of the set-waypoints tool. What frustration! I often add flights, and for example will be setting the third waypoint of the second flight, and when I click through ‘action’ when the choice “bomb” comes up, my waypoint jumps to some other target way the heck away from where I want. And I don’t even want to bomb! I want the next choice. Another thing it does is change flights while you *think* you are setting the waypoints for one, all of a sudden you see that you’re setting them for another flight! Hate that! Earlier today I screwed up my default flight so bad when I thought I was setting waypoints for another flight... took forever to get it right. And you can’t just abort and restart, either! The changes get saved as you make them...

5.1.4 Default Weapon Load

dbr@ocf.berkeley.edu *15 Aug 92*

AGM65D’s should be loaded automatically on night missions. The computer knows it’s 2100hrs, why do I have to keep replacing the 65B’s. [patch D]

5.1.5 Copy Armament

gavin.adams@lso.mts.dec.com *14 Aug 92*

In campaign mission, when selecting armament, if you go to the 1st, 2nd, 3rd flight, and they have no (as in nothing) weapons on a hard point, and you select "Copy From Leader", the game will lock up. [patch D]

5.1.6 Non-F16 escort/CAP

knutson@mcc.com *20 Feb 92*

Early versions of Falcon had no information on non-F16 flights that would support your mission. Patch D [?] and OFT 3.01 has remedied this problem.

5.1.7 Mission Success Criteria

out@cs.utwente.nl *2 Oct 92*

Has anyone on this list ever had missions which simply CAN NOT be done?

Yesterday I was asked to hit an Iraqi regiment under attack by Allied ground troops. Despite flying on full afterburner the ground troops had finished the Iraqi off without loss. Coming home.... [OFT]

Mission summary: mission failure...you failed to hit a single enemy ground unit.

opus@ihlpy.att.com *2 Oct 92*

Just find some other concentration of units close by (check for this using the recon feature BEFORE you take off) and blow a few of those away. This will allow you to succeed, or at least it does in 3.0D.

[The Operation Fighting Tiger manual defines the success criteria for each mission type. However, the criteria may not be the same for other versions.]

5.1.8 Aborted Missions

dedmunds@selkirk.sfu.ca *4 Aug 92*

> Aborting missions can eat up certain supplies. I started the Iraqi campaign and went through the 1st two days w/o using any GBU-15's. I did use 2 on a Iraqi Defence Base run leaving me with 98. Then I got the (in)famous, "The squadron command has volunteered us to bomb an Iraqi nuclear plant". Never having been that far up, I had my plane loaded with 2 GBU-15's. I "cheated" and aborted the mission twice to reset some waypoints and change my SAM suppression flight a little. The aborts came after I dropped the bombs on the reactor cooling towers.

> Needless to say, after completing the mission the third time, I only have 90 GBU-15's left.

The problem occurs for more than aborted missions. Try just flying a single mission and then using <alt-x> to exit at the percentage enemy/friendly territory screen - the same damn thing happens. You'll have to fly the mission again and your supplies will be depleted. There doesn't seem to be any way to quit to DOS without reading the next mission briefing.

opus@cbnewsc.cb.att.com *4 Aug 92*

> On a side note, after the aborted missions, I went back to look at the reactor site to recon for SAMs. When I zoomed in, I noticed that the damage I did was still there. I was repaired/proper when I re-ran the mission. Yet another strange bug in Falcon 3.0.

I noticed this too. I was afraid to target the apparently destroyed sites for fear of wasting a mission.

gavin.adams@lso.mts.dec.com *14 Aug 92*

Ordinance being depleted when you abort a mission. Actually I kind of like this now. It allows you to "cheat", but you do pay a small price. [patch D]

5.1.9 Mission Debrief and Medals

masten@beta.lanl.gov *14 Aug 92*

[patch D]

Medals given to pilots who did NOTHING.

Gives credit for downing planes after non-lethal gun/missile hits. Same plane may later down *you*.

May say BVR kill for a 1 mile missile shot.

If you end a mission before all allies are destroyed, the game computes survivors but will never assign more kills unless you continue to watch the mission.

No assessment of non-F16 flights (RF or campaign).

You need to kill seven targets in ground strike missions for a success. I had one where my ground forces killed them all before I got there. End result...failure.

edwardsc@cpsc.ucalgary.ca *21 Sep 92*

Sometimes after the mission during the 'debriefing' when you're shown the path you took on the little map, the line goes nuts and jumps all around the screen. I once spent an hour doing a huge mission and got court marshalled because of this screw up... the line only started going normal about 30 miles from my home base on the way home. This bug has kept me away from F3 for some time. PLEASE say the new patches take care of it. [patch C]

5.1.10 Red Flag

masten@beta.lanl.gov *4 Jul 92*

Daily bitch about F3 bugs (#231): how often do you have to set up enemy flights in RF so they don't quickly try to take a shortcut to China (i.e. bury themselves)? :-) [patch D]

masten@beta.lanl.gov *14 Aug 92*

[Patch D]

AAA batteries never fire.

Sometimes SA-6 batteries are not present if only one is specified.

Enemy forces aren't always placed where you put them (yes I know they move).

Enemy radar bases (in Nellis) never broadcast (not a bug but still wish they would).

Can set unrealistically high speeds, example: copters at 400 knots.

Planes still occasionally decide to dig for oil. I never see the escorting Mig27's in Review 2 as they start below ground and crash when they climb to ground level! Su25's and AN12's seem most prone to crash dives.

masten@beta.lanl.gov *19 Sep 92*

Some new little [OFT] bugs: 4 dead-on GBUs or Mk84's don't destroy the Nuke or refineries in RF. Jaguars have radar "1" rather than "4" (I think). Mirage 2000's have radar "4" rather than "1". Get 'bomb bridge', but no bridge anywhere nearby.

5.1.11 Kill Recording

Kill recording was broke before patch D.

5.2 Flight Characteristics

Leave it to the die hard simulation officianados to nit-pick over trivial things like how your plane flies :-). This section reports what these armchair aviators believe to be incorrect behaviour for the real aircraft. There is probably a ring of truth to some or most of the reports. However, don't take this as gospel, because most of these Tom Cruise types may never have even sat in a jet fighter, much less flown in one. Oh yeah, you'll find my name heading the top of this list of Rickenbacker wanna-bes.

5.2.1 Crashing B-52

knutson@mcc.com

B-52s glided in patch C eventually crashing into the ground. Patch D fixes this.

5.2.2 F-16 Characteristics

masten@beta.lanl.gov *14 Aug 92*

[Patch D]

Performance not very load dependent (31500+ vs. empty weight): Same cruise speed (mil power) with high load/drag as in empty (hifi) Approx same climb rate with high load/drag as in empty (complex, hifi). Rated G loads are ignored (8+ G at any load).

Jet will reach supersonic speed in a 60 degree climb from takeoff (complex). Bogus!

While in hifi it will only go about 300-350 knots in this climb. But that speed oscillates, then increases past 40000 ft. Should probably max out at lower altitude than max level cruise since in climb induced drag is less important effect (not sure of this).

Hifi stick much too sensitive. Should only have this high roll/pitch rate at full stick pressure/deflection. I don't use hifi mode because of this.

Nose wheel steering (and rudder?) is flaky. Sometimes doesn't respond, sometimes over-responds (not talking dependence on airspeed). Seem better now that I use pedals.

Acceleration is better with autopilot (says Mil power) than manually controlled at full Mil *or* AB5! I think this manifests when your wingmen seem to be able to accelerate faster than you. Again, investigated this in the above RF missions.

gavin.adams@lso.mts.dec.com *14 Aug 92*

[patch D]

Hi-fi flight model w/ a heavy ordinance (>32000 lbs.) will not get off the ground, unless your in auto pilot (and then you will fall like a rock when you turn it off).

600kt. enemy helicopters that can fly and fight and 10,000 feet.

opus@cbnewsc.cb.att.com *14 Aug 92*

> Hifi stick much too sensitive. Should only have this high roll/pitch rate at full stick pressure/deflection. I don't use hifi mode because of this.

Since this was the first game I got for my PC, I didn't think this was a problem. A few days ago, I tried playing it after having played AOTP for a while (so I could see the more detailed objects using loadhi/link), and couldn't control the plane at all! Guess it just takes getting used to...

> Nose wheel steering (and rudder?) is flaky. Sometimes doesn't respond, sometimes over-responds (not talking dependence on airspeed). Seem better now that I use pedals.

I just got my pedals, and haven't figured out how to get Falcon 3.0 to recognize them. What did you have to do? I didn't see an entry for it on the configuration screen.

> Acceleration is better with autopilot (says Mil power) than manually controlled at full Mil *or* AB5! I think this manifests when your wingmen seem to be able to accelerate faster than you. Again, investigated this in the above RF missions.

I've noticed that my plane becomes much faster when the fuel level gets down to 2000-3000 lbs. Seems like the computer controlled planes fly like this ALL the time, if not better.

bprescot@sirius.uvic.ca *14 Aug 92*

Perpetual motion machine I suppose this one could be blamed on my playing with the ground detail set to minimum, but it is funny nonetheless. I was in the above flameout situation, but with a bit of skill landed my plane quite safely on the flat terrain. With zero thrust, my engine stopped, I was able to DRIVE the 30+ miles back to my air base, fording two rivers in the process, at a speed of 50 knots. I also discovered that a sidewinder will not allow itself to be launched while taxiing, when a low flying MiG happened within missile range.

masten@beta.lanl.gov *14 Aug 92*

Fuel management is f*cked: Jet has greater range at AB1 than at 60%,100% power (complex). Jet has greater range at sea level than high altitude. [patch D]

dbr@ocf.berkeley.edu *15 Aug 92*

[patch D]

Sometimes extending flaps increases speed.

Toggling flaps or auto-pilot causes small jinks to the left.

In Israel and Kuwait, when the take-off flight model switches to the in-flight model (all hi-fi) the plane jinks quickly to one side.

When at the top of a stall, the view jumps around and all orientation is lost. It's hard to follow a bogey when he's suddenly on the other side of the screen.

5.2.3 Enemy Characteristics

u38339@uicvm.uic.edu *18 May 92*

Several enemy planes can pull 9g turns that CANNOT do this in real life. Enemy turns appear to be dictated by enemy skill level NOT the plane they are flying. This can make for some interesting battle with so called B-class fighters. It isn't realistic but challenging. [patch D]

masten@beta.lanl.gov *14 Aug 92*

[Patch D]

Seen an SA-6 battery travel at a ground speed of ~400 knots!

Mig19's have radar (conflicts with manual but not reality).

Ditto on some missile loads.

Many planes seem to turn and climb too well: SU24, SU25, AN12...

Acceleration of virtually ALL planes is just about same. I think they are full of sh*t when they say each plane is individually modeled. I checked this in some RF missions (330 knots to 600 knots)

Copters flying at 600 knots (even when set to lower speeds) and firing missiles.

opus@cbnewsc.cb.att.com *14 Aug 92*

> Many planes seem to turn and climb too well: SU24, SU25, AN12...

Perhaps, but I do know that SU-24s and SU-25s are much less agile than MiG-21s and MiG-29s, for example. An interesting note from Shaw's "Fighter Combat" is that instantaneous G limits are not that important, as a pilot will do whatever seems necessary. Some popped rivets and wrinkled skin (and metal fatigue) are a small price to pay for getting a killed or preventing someone from killing you. Still, this does not mean that sustain G limits can be violated (engineering limits are much easier to exceed than physical limits).

dbr@ocf.berkeley.edu *15 Aug 92*

> Seen an SA-6 battery travel at a ground speed of ~400 knots!

I've seen tanks and trucks go about 400kts too. [patch D]

dbr@ocf.berkeley.edu *31 Aug 92*

> I'll verify the super choppers from hell. I've seen them doing 1000 knots according to ACMI, and yes in real play they had shot ahead of my F16. My favorite is still the 400+ knot SAM vehicle. It started with two others and blasted ahead to "greet" me.

I've seen trucks move about 400kts too. I pull in behind one at 350 kts and watch it pass me up.

Last night a chopper matching my speed of 650 kts pulled in behind me at 30,0000+ feet and gunned me to death. I couldn't shake him. Damn they're good. :) [patch D]

smith@ur-guh.com *31 Aug 92*

I was hit by one of those F3CFH's last night -- took me by surprise, to say the least, but I had it all recorded for posterity. When viewing the ACMI "video", I noticed that the two choppers were -really- fast and also behaved essentially like SAMs (IR-types?); they both had supreme vertical velocity, then appeared to home in on my tail. Terminal velocity (small pun there) was 754 knots -- altitude was ~38,000 feet.

Yow!

I never had a chance.

In related news, someone asked how one defeats those demonic green Mig 19s; I, too, had that problem til I used altitude to "gain an advantage". Reach for the sky and you -may-not die. [so, okay, reach slowly or maybe you will].

5.3 Computer Pilots

The computer pilots in Falcon have brought some of the greatest praise and flaming of any computer controlled flight simulator. Some have argued over the semantics of what "auto-pilot" means and how Falcon fits and doesn't fit this. Some praised the AI of the pilots as being the best available. This section deals with the complaints. If you want to hear praise (with just a little flaming) then reread "Testimonials and Reviews" on page 14.

5.3.1 Flameouts

knutson@mcc.com *20 Feb 92*

The computer controlled pilots must either be really gutsy or not be the brightest pilots in the world. They tend to stay with their plane, after a flameout, flying it the best they can with whatever airspeed they have left. This usually results in a crash with not only the loss of plane, but the pilot as well. If the plane is hit again, the pilot will usually eject if possible (i.e. the plane wasn't totally destroyed before he/she could get out).

bprescot@sirius.uvic.ca *14 Aug 92*

Flame out = Pilot death After I'm killed (all too often), I like to watch my wingmen continue the mission. If one of them takes a SAM in the engine, ("Flameout! Flameout!") but still keeps control of the plane, he will ride the dead plane into a smoking hole in the turf, unless something else hits him first, causing the familiar death spiral. Wouldn't it be more sensible to bail the heck out, and live to fight another day? They don't seem to be able to crash land worth beans.... [patch D]

5.3.2 Fly Into the Ground

knutson@mcc.com *20 Feb 92*

Several people have noted that their wingmen will fly into the ground. This mainly was a problem in early versions of Falcon. The computer pilots would not watch far enough ahead and abrupt changes in the terrain would leave them with little time to pull up. Speed and altitude were factors. One other factor to note here is the default [?] formation when creating a flight is a V Stack. If you forget to change this and set your waypoints for a low altitude profile, you run the risk of running your wingmen into the ground. Separation between wingmen is about 500'. The OFT manual spells this out in much greater detail.

5.3.3 Do Nothing

SCOTT@cs.santarosa.edu *30 Sep 92*

Yes -- sometimes it ignores terrain, but sometimes it does nothing! By "nothing," I mean, control acts as if autopilot wasn't turned on, but other functions (radar locks, etc.) act as if autopilot was on.

The "do nothing problem" has happened at least twice -- both times, the next waypoint was set to "100 feet" and "900 knots" and I was over 7000 feet in the Kuriles. [OFT 3.01]

knutson@mcc.com *1 Oct 92*

Here's a good one. Last night, I was (trying to) finish up a campaign in Israel and was given a deep penetration CAS mission. I knew the SAMs were going to be flying, so I setup a CAP and SEAD flight. We get into the air and I start following the other two flights in. Then the TWI starts lighting up and I hear Singer High messages from the lead flights. Great I say, looks like my SEAD flight will be busy, BUT, I hear one of the SEAD pilots say "Dropping air to ground stores." What the h*ll?!? Both SEAD pilots just kept right on going and the whole mission basically fell apart from there. My only guess is the SEAD flight was not flying to a SEAD waypoint yet. However, it seems pretty stupid to me to dump the weapons you need to defend yourself. [OFT 3.01]

5.3.4 Autopilot Flight Paths

edwardsc@cpsc.ucalgary.ca *29 Sep 92*

A few days ago I had just smoked some bogeys and was flying straight and level when I pressed 'a' to get me to my next waypoint, at which time my autopilot kicked in and promptly sent me straight down into the ground. ???. I wasn't damaged before hand so... Then one time my autopilot sent me straight up into the air and I spun around and around pointing straight up! Also someone talked about the AI of the enemy planes not noticing terrain features; not just the *enemy* AI. My autopilot was homing in for the kill on a tank but I couldn't see any target. After the autopilot had me at 200ft heading for a mountain, I turned it off, turned out there was a tank, problem is it was on the OTHER side of the mountain, seems the autopilot didn't notice that small geological feature.

5.3.5 Auto pilots Don't Land

bash@cbnewsd.cb.att.com *26 May 92*

> 2) It would be nice if auto-pilots would land along with leader.

Auto pilots will land, but *ONLY* if they fly to every waypoint. If you bypass a waypoint a land, the wingmen will simply circle. You can END-MISSION with no ill effects. If you fly all waypoints such that the waypoint indicator on the HUD automatically changes, the wingies will land.

dbr@ocf.berkeley.edu *15 Aug 92*

The wingmen should land!!!! [patch D]

5.3.6 Don't Lower Their Landing Gear

etxstfr@helix.ericsson.se *9 Oct 92*

I've read the discussion about the 'auto' function in F3 with great interest. So great in fact, that yesterday I tried it in campaign (Panama). The first mission was to wipe out some armored enemy ground troops. I added an extra flight and set their action to S&D. And off we go....

The extra flight was very aggressive, they were almost immediately engaged in a AA-combat and when the last bandit was sent into the ground, they continued on their way to the target. Flight #1 was still on 'auto', making their way to the target area. The attack was very successful, almost every ground unit was taken out with no allied losses. Still on autopilot!

So I set the waypoint for home and entered debug mode. I went ahead of my flight to the base to watch the landing and when something strange happened.

The leader lowered his gear, made a nice touch-down and taxied out on the green area (grass?) Then 1st wing did the same thing but, HE DIDN'T LOWERED HIS GEAR! He was floating around at a stable height of 12 feet.... This was repeated for the rest of flight #1 and #2.

The mission was a big success, 5 enemy plane + a lot of armored vehicles. (On the other hand, next mission was a complete disaster, still with the autopilot activated....)

Anyone else seen this bizarre landing?

knutson@mcc.com *9 Oct 92*

As far as I can tell, Spectrum Holobyte implemented the landing gear on your plane only. I don't know why they didn't do it for any of your wingmen. Seems to me, you'd use the same code, but who knows.

5.3.7 Autopilot Crashes on Landing

There was one point in the various patches where autopilot would not be able to land without crashing the plane. I know it has been fixed by at least patch D.

5.3.8 Pilot Ability

renns@fraser.sfu.ca *20 May 92*

Can someone explain what the dogfighting values in the pilots' records signify? I had a wingman shoot down a slew of planes and return safely. His DGFT level was set to 5/0. Does this mean 5 planes shot down with him never shot down?

jlong@uhunix.uhcc.hawaii.edu *21 May 92*

According to the manual p.26, the first number is the current ability of the pilot and the second is the max ability of the pilot.

I have seen weird numbers like that also, including a 5/0 on a very good pilot. Think it may be fatigue...

masten@beta.lanl.gov *8 Jul 92*

> I'd like to start developing a squadron and venture into the campaigns, but I still don't have a good idea of how to train my pilots more thoroughly. Is it just a matter of running Red Flag after Red Flag with squadrons of each pilot? I've had wingmen gain some valuable kills, and return with poorer abilities. (Down to zero dogfighting?! Must've really lost some confidence up there. :))

A definite bug. Looks like when a pilot has a 100 (or near 100) rating and has a successful mission, the program increments his rating and it overflows to a smaller number. So you see a 0 or 5 rating. Don't know if the game treats this as 0,5,100, or 105, or whatever.

My suggestion: if you are doing it for a campaign, just use Falconer to set the whole damn squad to perfect 100's. You'll have enough problems with the difficulty without worrying about sub-standard pilots. Also the fatigue system seems to be questionable, and it takes a while to filter through the screens to pick the right pilots.

If you insist on doing it with RF missions, be aware that its easy to improve DF ratings, but bombing ratings only go up a point or so. Don't know about the other rating.

opus@cbnewsc.cb.att.com *8 Jul 92*

I once tried using one of these "5/0" Dogfighting guys in a mission, and I seem to remember that he did get a kill, so it can't be all bad. I should use the wingman view some time to see how good he is. You can tell a computer pilot's dogfighting skill by how fast he reacts/rolls in response to vertical maneuvers by the enemy.

I once improved by bombing rating by 10-20 points in one mission. I flew over a tank column dropping a pair of 500lb bombs every second, wiping out about 3/4 of them on the first pass. Pretty darn lucky, I'll admit, but I wiped out lots of targets with relatively few bombs, hence the big skill increase. If you want to cheat without using Falconer, you could just put tank columns all over the place with no air defense, and take along lots and lots of 500lb bombs. Good practice, in any case.

I agree that it's easy to improve your dogfighting rating, but have found it very difficult to get awards for the pilot I'm taking over for. I can shoot down three planes to my wingie's one, but guess who gets the bloody Bronze Star? Anyone else notice this?

masten@beta.lanl.gov *14 Aug 92*

Dogfight rating overflows(?) to a low value if a highly rated pilot completes a dogfight mission successfully. [patch D]

gavin.adams@lso.mts.dec.com *19 Aug 92*

I've seen some questions (and answers) concerning the pilot's skill level going above 100, but no assertions that the pilot becomes incompetent. Once and for all guys, when the skill level is registering in the low 2 digits, it indicates a level *higher* than 100.

5.3.9 GBU delivery

knutson@mcc.com *17 Aug 92*

Computer controlled pilots (even ones with high bombing scores) have problems targeting a glide bomb to land in the same county yet alone on target. Most times, they seem to drop them a few miles short.

knutson@mcc.com *7 Oct 92*

I'm still having problems with computer pilots having their GBUs fall way short of the target. In this case, I was supposed to hit a refinery and the second flight was to hit a storage facility adjacent to it. The second flight of 2 planes released 3 GBUs that I could count and all fell short as if they didn't lock. My first GBU took out the factory just fine so I used my second to take out the storage tanks. On another note, the debriefing stated that I had destroyed the primary target, but it didn't mention anything about my taking out the storage tanks. [OFT]

For those who are interested, I put a VCR file of this on wuarchive in /pub/MSDOS_UP-LOADS/refinery.vcr. It was made with 3.01, so it probably won't work if you are still running 3.0. My flight is plane 1 & 2, the second flight is 3 & 4. There is a CAP flight 5 & 6, and a SEAD flight 7 & 8. The attack occurs about 4 minutes into the tape with my flight approaching from the southwest and the second flight approaching from the southeast.

An interesting note in watching the GBUs on the VTR is that they emit smoke after release.

5.3.10 Winchester

masten@beta.lanl.gov *14 Aug 92*

Wingmen saying "gone winchester" (presumably dropped ordnance, but I never see this) for no reason (no enemy planes or radar) with certain loads (AGMs) but not others (bombs). [Patch D]

5.3.11 Wingman control

masten@beta.lanl.gov *14 Aug 92*

Has anyone ever gotten the "bracket" or "drag" commands to work? All I get is "unable". Yes I'm following the manual's procedures. [patch D]

opus@cbnewsc.cb.att.com *14 Aug 92*

> Has anyone ever gotten the "bracket" or "drag" commands to work? All I get is "unable". Yes I'm following the manual's procedures.

I've never tried the drag, but I use the bracket all the time. I've found three things that seem to be important in making it work.

1. Your wingman has to be near you, and facing the same direction.
2. Your wingman has to see the bandit(s). This is VERY important. If your current waypoint is set to NOTHING, your wingman won't see squat. He'll open his eyes if you set it to CAP or INTERCEPT instead.
3. The bandit has to be heading almost directly towards you.

dbr@ocf.berkeley.edu *15 Aug 92*

> Has anyone ever gotten the "bracket" or "drag" commands to work? All I get is "unable". Yes I'm following the manual's procedures.

I have used this often now. It requires you giving the command when the enemy is at least 10-15 miles away but no more, b/c then they don't know about them.

5.4 Aircraft and Weapons Systems

This section reports the failings of various aircraft and weapons systems that have been discovered. Some of the problems are merely not modelling reality well enough and others are where the system doesn't operate correctly.

5.4.1 Vulcan

dbr@ocf.berkeley.edu *15 Aug 92*

Ground strafe never works for me... 500 rounds into a truck, and it just keeps on going at 400kts. [patch D]

5.4.2 AIM-9P

opus@cbnewsc.cb.att.com *2 Jul 92*

The AIM-9P is supposed to be a rear quarter missile only, yet it will readily lock onto a target approaching head-on. I haven't tried firing one, though, since even AIM-9Ms almost always seem to miss when fired from the forward quarter.

dbr@ocf.berkeley.edu *15 Aug 92*

AIM-9P's are all-aspect locking!! BAD!! [patch D]

5.4.3 Dumb bombs

gavin.adams@lso.mts.dec.com *16 Sep 92*

> I just started flying Falcon 3.0A on my 486DX 33 Mhz and I'm having a problem with the dumb bombs. I'm flying review lesson 2, and when I try to bomb the nuclear reactor, actually the cooling towers, the bombs won't drop. I line up the CCIP and watch the little horizontal line move from the top to the middle, but the bombs won't drop. Very frustrating. I've taken to manually releasing the bombs myself but I usually miss. Am I doing something wrong or do I need the D patch?

Don't even attempt bombing with version A. The CCIP was very touchy the few time I tried to use dumb bombs. Patch D is much better (read: get it or suffer the numerous bugs of the A and B revs.), and you actually get excited when you fly a CAS mission or bombing run. Of the joy of dropping 4 or 8 CBUs on a line a troops and trucks then going back into ACMI and watching the mass destruction. On a side note, under OFT, if you hit a truck with a CBU, depending upon the closeness of the hit, you can see enemy troops piling out of the burning truck.

5.4.4 Rockets and Guns Against Ground Targets

opus@cbnewsc.cb.att.com *2 Jul 92*

I've had no luck with these weapons either. It's too bad, since you can carry so many rockets.

5.4.5 HUD

masten@beta.lanl.gov *14 Aug 92*

Air-ground weapons give incorrect target range in HUD. [Patch D]

knutson@mcc.com *25 Sep 92*

During the same mission (in Falcon 3.01), I happened to be grazed by an SA6 which took out my HUD. This should have been an inconvenience, but turned into a major annoyance. I had no problem with getting the AIM-xxx missiles to continue to lock onto aircraft, but I was unable to get the mavericks or GBUs to lock onto anything. However, I could still use harms and shrikes to lock onto radiating SAM sites (at least I think so because the site that got me stopped radiating a bit after I launched a harm in its general direction). Anyway, I should still be able to get a lock on ground targets even though my HUD is damaged and I should be able to view the target lock on my radar display.

5.4.6 GBU

See Section 5.3.9 "GBU delivery" on page 125.

5.4.7 ZSU

masten@navier.stanford.edu *21 Feb 92*

I tried setting up a mission with AAA. I flew over the ZSU-23(4)'s at various altitudes, but they never fired. Has AAA fired on you?

5.4.8 SA-7

gavin.adams@lso.mts.dec.com *14 Aug 92*

SA-7's that nail me at 10,000 feet and start from a range of >1 mile(s). The book says a range of one mile, maybe the book has a typo. Anyone with Jane's??? [patch D]

5.4.9 IFF Tone

dbr@ocf.berkeley.edu *8 Mar 92*

In Patch C, the IFF tone now sticks *more* often.

masten@beta.lanl.gov *14 Aug 92*

IFF tone still rarely remains on (very minor). [patch D]

5.4.10 TWI

masten@beta.lanl.gov *15 Aug 92*

I occasionally get a “missile launch” indication when I (or my wingmen) fire off ground ordnance. May be true for AGMs, but from my own plane? And I think this also happens with the smart bomb which has no propulsion. [patch D]

Speaking of which, they seem to fly pretty much the same speed as me after I drop them.

opus@cbnewsc.cb.att.com *17 Aug 92*

I also notice that when my computer controlled wingmen have ARMs, they seem to be able to find three or four targets to shoot at on the first pass, while I usually only get one or two SAM radars to lock onto me.

It seems to me that you only see ground radar blips on your TWR when they’ve LOCKED ONTO YOU, not just when they’re searching, which is very unrealistic.

By the way, I have heard a wingman report “Enemy lock-on!” when an SA-6 is after him.

5.4.11 NWS

dbr@ocf.berkeley.edu *15 Aug 92*

NWS will even work when damaged. The rudder too sensitive Also, how come the rudder doesn’t work when the gear is up? I can’t do some of Shaw’s (Fighter Combat) neat ACM. [patch D]

5.4.12 ILS doesn’t work

roger@kean.ucs.mun.ca *19 Feb 92*

When I select the ILS mode for the HUD it seems that the Glide Slope Indicator is non functional. It just sits there despite changes in altitude. It makes for sweaty palms during landing since I find it difficult to judge distance from the end of the runway visually.

cooper@cos.com *21 Feb 92*

If you mean the crosshairs don’t change in their relative positions (and you have them centered), then, congratulations, your are correctly flying the glide path! Try centering the ILS crosshairs and flying over the runway maintaining your altitude - if they don’t move then, you’ve got a bug (Of the several problems I’ve had with F3.0, this isn’t one of them) *knutson@mcc.com*

ILS didn't work in the expected fashion for versions through patch D. In actuality, it was working as Spectrum Holobyte intended. They had implemented ILS as a homing beacon which pointed the direction back to your base. In Operation Fighting Tiger (and presumably patch E), a new ILS operations mode as added which displays a normal "beam" mode ILS which may be used to line up with the runway and follow the correct glide path.

5.4.13 HFR

masten@beta.lanl.gov *14 Aug 92*

[Patch D]

Hifi radar altitude coverage doesn't always increase with range setting (would expect a cone to widen with range).

Hifi radar will let you see any object within altitude coverage even if it is right next to you (again in narrow part of cone).

Hifi radar often loses target when attempting to go from AIR to SAM mode (due to target no longer in altitude band when SAM switches range?). SH says the reduce radar effectiveness is due to the D improvements in enemy ECM. Than how come SAM radar still usually locks?

opus@cbnewsc.cb.att.com *14 Aug 92*

> Hifi radar altitude coverage doesn't always increase with range setting (would expect a cone to widen with range).

The altitude band does not increase AUTOMATICALLY when you bump the range, but the maximum coverage is increased, and can be achieved by hitting F10 a few time. This could be considered a feature or an annoyance or both!

> Hifi radar will let you see any object within altitude coverage even if it is right next to you (again in narrow part of cone).

They do cheat here, allowing you to see planes you should not be able to, if you have your range set high enough, so that your altitude coverage is greater. The volume looks more like a pie slice than a cone. At least it does not allow you to lock on these blips, as it automatically adjusts the range (decreasing your altitude coverage) to prevent you from doing this.

5.4.14 ECM

felixh@sunspot.ssl.berkeley.edu *17 Aug 92*

Here's a bug in F3 that's pretty major: Enemy jamming is so powerful that it'll keep your radar from locking on at point-blank ranges! Since the sidewinder is slaved to your radar, you have to turn the useless radar OFF if you want to get a missile shot at a guy 1 mile in front of you.

In real life radars are much stronger than jammers; only the fact that received radar energy drops off as the fourth power of range compared to jammers dropping as the square of range lets jammers work. They function better at long range; at short range you get ‘burn through’. Even stealth aircraft are detectable at a short enough range.

5.4.15 AWACS

dbr@ocf.berkeley.edu *15 Aug 92*

AWACs should do what AWACs REALLY do and provide threat information. For example, they could warn about various threats (to ground installations, yours and other flights) and provide intercept vectors. Most importantly, with this feature, one wouldn’t have to broadcast their location by doing 360 degree radar sweeps to asses the threat environment. In war, pilots don’t do these circles to find targets, the AWACs tell them. [patch D]

5.4.16 Enemy Ground Radar

bprescot@sirius.uvic.ca *14 Aug 92*

Tight beam SAM radars. Your wingmen will have a SAM lock on to them while flying near you, but your threat warning indicator will not show the radar that should be striking your plane too. When compounded by the fact that nobody has ever called “Singer High!” like the manual says they are supposed to, often the first sign I get of trouble is when I hear “I’m hit!” from my wingman.

That’s when I wonder why I’m carrying all those fancy HARM’s under my wings.

[OFT has fixed some of this.]

5.5 Campaign

masten@beta.lanl.gov *14 Aug 92*

Too many damn enemies. Won’t argue whether this is realistic or not (I think not) but I would *strongly* like to see this made adjustable. [patch D]

5.6 View bugs

gavin.adams@lso.mts.dec.com *14 Aug 92*

With an AGM-45/88 selected in PadLok view, going back to front view will sometimes leave the reticule “imbedded” in you display. Doesn’t hurt anything, but hey... [patch D] *dbr@ocf.berkeley.edu* *15 Aug 92*

Some gray and brown dots turn out to be bogus.. maybe this is a feature.... [patch D]

knutson@mcc.com

No afterburner display on other aircraft. This is particularly noticable at night.

5.6.1 Padlock View and Clouds

knutson@mcc.com *20 Oct 92*

Padlock view allows you to track targets visually, even when flying through clouds. [all versions up through 3.01.1]

5.6.2 Invisible Objects

MECH413@catva.caterbury.ac.nz *7 Oct 92*

I was flying (OFT, Kurile Is.) a SEADSHIP mission against the russian fleet. I stocked up on mavericks and Harpoons and went hunting. I launched my two Harpoons as soon as I got a fix and watched them sink a ship. I then proceeded to the waypoints where the fleet was meant to be. The SEA Radar acknowledged their presence but I couldn't see any ships on the sea, Just a lot of wave crests. Even with the scale on 8X still nothing. What made thing s worse was seeing SAMs rise out of "empty" ocean right in front of me - Still no sign of a ship. My wingmen (7 of them, in 2 flights) couldn't find any ships either and resorted shooting down aircraft. I got a mission failure due to not killing any Air-defense type ships. The debrief didn't even acknowledge the ship I got with the Harpoons.

5.6.3 Wingmen Landing Gear

etxstfr@helix.ericsson.se *9 Oct 92*

Then 1st wing did the same thing [land] but, HE DIDN'T LOWERED HIS GEAR! He was floating around at a stable height of 12 feet. This was repeated for the rest of flight #1 and #2.

5.7 Sound

dbr@ocf.berkeley.edu *8 Mar 92*

In Patch C, AWACS waypoint message gets as far as "Waypoint" then goes silent. I don't even hear the "radio static."

masten@beta.lanl.gov *14 Aug 92*

Sound disabled after returning from mid-flight replay (ditto). [patch D]

opus@cbnewsc.cb.att.com *14 Aug 92*

Annoying, but escape-escape fixes it.

edwardsc@cpsc.ucalgary.ca *21 Sep 92*

Engine sound sometimes sticks. [patch C, I've noticed this is particularly true if animation is turned off.]

5.8 Machine Hangs

lrj@helios.tn.cornell.edu *29 Sep 92*

> The only real hanging I've had under DOS occurred last night. I'm in the Pakistan Campaign, and was assigned to escort some aircraft to a strike at New Delhi. BOTH times I tried the mission, the machine hung HARD halfway there. Apparently, it seems that some aircraft showed up on radar and they _may_ have been off the edge of the world. (I was ~50 nm from New Delhi and they were ~70nm away from me). My computer wouldn't even respond to the three-fingered salute and required a hit of the RESET button. I didn't have the patience to perform more extensive testing of the problem; I ran the mission again and selected "End Mission" before leaving the runway to get by it. [OFT]

dbr@ocf.berkeley.edu *15 Aug 92*

Ejecting at low altitudes can cause system crashes. [patch D]

5.9 Multi-player Mode

ptran@watserv1.uwaterloo.ca *7 Sep 92*

> Another bug which has never been mentioned or fixed in the direct connection mode is the fact that one cannot pick the pilots to fly as your wingmen. The computer picks it for you and won't accept any changes. It is no real big deal for people who like to fly only one or two missions and don't take their campaign seriously. This poses a problem when you fly over 3 or 4 missions with the same wingies. They tend to get fatigued and decide to crash after a while... PLEASE SH!!!!!!

A campaign was never really meant to be played fully in multi-player mode, since whatever accomplishments you've made will be lost when you disconnect. You have to do a bit of file swapping to continue from where you left off.

As for wingmen getting fatigued, use Falconer as a half-way measure to revitalize them.

dregis@pldote.intel.com *28 Sep 92*

You know, the more I use Falcon 3.0/OFT, the more I enjoy it. At first I was really discouraged, but now...

Anyway, I’ve had an opportunity to link-up direct connect with a friend to fly allied missions and noted some problems:

1. We’d modified a pilot on each of our machines to be us (name, callsign, picture). I (caller) would often get messages from my friend (his callsign) which he didn’t originate. Things like ‘Maverick’, ‘gun guns guns’, which, of course, were from a non-player pilot and not my friend. There was obviously some mismatch of pilots here.
2. The mission summary very often gave credits to one of the other pilots, not me (caller). Very obvious kills, etc., were attributed to some wingman.
3. Mission summaries also differed in varying degrees as to targets destroyed.

I talked with someone at SH regarding the three above problems and they said it was probably due to the modifications we made. Q: do we have to make all modifications in parallel, i.e., he and I both make the same pilot mods?

4. The way points for my friend (answerer) were way (no pun) off target. The _only_ way he could stay with the flight was by staying in visual contact or by maintaining radar contact. There occasionally seemed to be some inconsistencies between events, although this may be because he was in a different area.

Even with the bugs(?) above, we had a great time! I wouldn’t recommend doing this over a modem unless it’s danged fast. At 57k baud, things were _just_ tolerable. He’d played over a network and said it was much faster still.

5. (Running campaigns alone) I would occasionally get lock-ups when switching from a-g to a-a or vice-versa. The screen would flip to the forty column mode (text kinda) with lots of undecipherable junk. This happened primarily on one mission of one campaign (Kurile, ground attack).

This was most frustrating because it would be after a longish flight from my base to the attack site.

5.10 Instant Action

knutson@mcc.com *25 Sep 92*

I’ve had this happen twice now (in 3.01). It seems that if you destroy a lot of targets (I’m not sure if it’s the total number in general or only the # of air or # of ground targets) in Instant Action, the system will hang when you finally get to the score screen (screen blanks out to blue and then stops).

I had just spent the better part of an hour clearing the skies and laying waste to every ground target that I could find (cruising the map with a ladder search pattern) and managed to pass by my waypoint close enough to throw me into level 2. I was promptly downed by a couple of Mig 21s (it’s what I get for using time acceleration and spending too much time watching the ground map radar). I had to reboot to get my system back. System is a 486-50 DX2 with 8MB of memory and ATI Ultra SVGA.

5.11 ACMI

masten@beta.lanl.gov *14 Aug 92*

[patch D]

Using FFwd often results in a hang or other ACMI screwup.

Use of index pointer more often results in a crash.

gt3017a@prism.gatech.edu *21 Sep 92*

I'd like to know exactly what's supposed to be 'new' about the [OFT] ACMI replay. I was flying an anti-shipping mission in the Kurile isle's, and turned on the ACMI about 15nm from the ships, heading in. I armed my Mavericks and fired two at each of three ships. Later I realized, by flying over the targets again (amidst heavy flack and short range IR rocket fire), that they didn't sink, or even look damaged.

Anyway, after the mission, (I eventually got shot down, but it was MUCH later), I checked out the replay. It started out just like in the mission, but five seconds later, a piece of flack knocked me out of the sky! Since I know it wasn't flack that killed me, I played it again, and this time, things went ok, until I released my last maverick... another flying piece of flack hit me. And killed me!

I really wish this bug, if anything, could be eliminated, because I saved at least 4 minutes after I released the mavericks, dodging at least 10 missiles. (Something which is a real accomplishment for me). If anyone from SH reads this group (and I know you do :-), please check this bug out, because its annoying!

Of course, I would like to say something positive as well... At least the flack is realistic, in that, it hits and DAMAGES you. Not like Red Baron, or Aces (Aces being far worse), where flack OCCASIONALLY gets fired, and nearly never hits, if ever in Aces.

gavin.adams@lso.mts.dec.com *21 Sep 92*

Personally, I think this 'new' version of the ACMI player is worse then 3.0D. Case in point: I fired 2 HARMs at a long-track radar, and from my plane watched them hit. Radar went out (I was hit by one of the SA2's that was launched) and everything was great. Mission debriefing credited me with the kill.

Being the ego-maniac that I am :), I went into AMCI to watch the hit. FF'ed until I launched, the '8'ed to watch the ARM hit. Nope, just cruised straight and level for a long time. OK, no problem. I went into independent mode, moved behind the SAM sight, and waited for the ARM's to hit. Nope. I did see the B52 drop it's bombs on some of the launchers though.

ACMI is one of my favorite features, and hopefully it will be fixed in the first patch to OFT, the patch/upgrade to Falcon 3.0. :)

6.0 Patches and Other Software

I had a hard time deciding just where to place many of the postings in this section. Many are descriptions of the patch or version but could also be used as a review or somteimes even as a bug report.

Aside from descriptions of the various releases of Falcon, there are descriptions of other utilities and files of use with Falcon.

6.1 Version History

woan@soda.berkeley.edu (for Marisa Ong) *15 Mar 92*

Okay, word of a unofficial sort has come down the pipe that another patch/update has been approved to be done. And we are collecting bug reports to pass on to the folks. However, this patch/update is AT LEAST a month off into the future.... minimum. And I also heard that the "486 Network & Direct Connect problem" was one of the ones they want to take care of. As to what that is, I do not know.

But now would be a GOOD time to Fax in (510-522-3587) any listings of bugs that you have discovered in 3.0c that you would like to see fixed. No need to mention the defensive screen and the wandering wingmen, as they are already on my list to pass up the line. But besides this shard of hope, I have nothing to report.

Karl Maurer Spectrum HoloByte Customer Support

roeschmf@craft.camp.clarkson.edu *9 Jun 92*

The current patch level is "D". This means that at the main screen after the intro animation, down in the right hand corner it will show you the version: 3.0, 3.0a, 3.0c, or 3.0d. Patch D is the one you want, and it is available via anonymous ftp from wuarchive.wustl.edu.

bprescot@sirius.uvic.ca *9 Jun 92*

Check the title screen. Along the bottom, there is some type, and the last thing on the right is Falcon 3.0_ where the _ on my copy, bought in April, said C. I got the file f3fixd.zip through anonymous FTP to wuarchive.wustl.edu, in the directory pub/MSDOS_UPLOADS. It is an official correction to the falcon software, put out by Spectrum Holobyte. They should (eventually) send it to all registered users. There were also 3.0 and 3.0B releases, (no A), but all will be updated to 3.0D by the f3fixd.zip patch. The file contains full documentation for use and a list of the changes. Note that in the process of installing the patch, previous squadron and campaign data is deleted. (If you have never heard of anonymous FTP, see below.) (Also, while you are in wuarchive, look for falcnr.zip, f3maps.zip, and f3mapsD.zip. Falcnr lets you edit pilot faces, abilities, and plane and weapon stores. I haven't tried f3maps, but you are supposed to be able to play red flag on any campaign map. f3mapsD works with Falcon 3.0D. These are not official Spectrum Holobyte releases.)

If you are running a version prior to D, I would recommend getting the D patch. I know for a fact that the enemy AI is improved (i.e. combat is now a _lot_ harder) and many things concerning weapon effectiveness, radar countermeasures, SAMs, etc. were fixed. Most annoying for me before the patch was the way all B-52's eventually crashed, untouched by enemy fire. Underpowered, or something.

6.1.1 Patch A

gt3017a@prism.gatech.edu *21 Feb 92*

I'd just like to add my two cents worth to your article of questions and comments by saying I mostly agree with them. It sounds like you're still using the v3.0 version. Some of your problems, like ECM ineffectiveness and a screwy radar warning receiver, are fixed in the update patch fs3updat.zip, available on wuarchive, I believe.

94asl@vax.cc.williams.edu 24 Feb 92

I've finally found and installed the v3.0A patch for Falcon 3 (thanx to the guy who uploaded it to ftp.hawaii.edu!), but I've discovered that now all other aircraft (i.e., non-F-16's) in the sky appear in their "simplified" versions (less detail, no cockpits, etc.). Has anyone else had this problem, or am I just cursed? :-/ And is there any way to get around it or do I have to wait for version B? (Someone mentioned a version B patch on here a little while ago. Is that for real, and where can I ftp it?)

6.1.2 Patch B

A bogus patch B was released that contained a virus. Spectrum Holobyte skipped patch B and release patch C instead.

6.1.3 Patch C

dbr@ocf.berkeley.edu *8 Mar 92*

I just received the actual patch disk Spectrum is releasing for version 3.0c. However, after completely reinstalling the program and running the patch, I still have some of the bugs it was supposed to correct. So far: 1) The IFF tone now sticks *more* often. 2) the AWACS waypoint message gets as far as "Waypoint" then goes silent. I don't even hear the "radio static." 3) Not only does it still allow me to over- load the bird, the default CAS is too much (8 cluster, 6 AGM-65, 2 AGM-45 and 2 AIM-9) and I crash.

I'm running a 486/33 w/ a Soundblaster. Does anyone have any ideas as to what's going on?

lam@cs.colostate.edu *22 Mar 92*

How come my autopilot now crashes my jet on landing? It used to land me fine, but now it just barrels me in. In fact, the last landing it did, it landed fine, then jumped back up into the air and nose dived into the runway! Thankfully, it was at Nellis, so the pilot didn't die.

6.1.4 Patch D

mcrosby@bsa1.kent.edu *15 May 92*

I found a new patch for Falcon 3.0. The patch is F3FIXD.ZIP, and was found at wuarchive.wustl.edu. I haven't seen any postings about a possible new patch. Is this an official patch or a hack?

darons@netcom.com *15 May 92*

Falcon 3.0d is the real thing. 3.0d incorporates many new features -- in fact, so many that we considered calling it 3.1. Just check out the readme file for a list.

darons@netcom.com Product Manager Spectrum HoloByte

u38339@uicvm.uic.edu *18 May 92*

The patch is GOOD and OFFICIAL. I installed it with NO problems. All squads and campaigns started with any other versions are NOT compatible with patch D. If you try running old campaigns, squads or for that matter ACMI tapes then the program is going to mess-up. Try deleting all Falcon3 directories and re-installing the program. Again the PATCH is GOOD and OFFICIAL. Some noticeable changes: -- Campaigns actually WORK. I am about 1/2 way through one and F3 is now able to correctly record my kills (ground and air). I even heard that several people have actually been able to finish a campaign WITHOUT resorting to Falcnr. Neat. -- Wingmen are more intelligent. They will even use ECM pods! -- Enemy logic is greatly improved and they too will use ECM pods. -- You can padlock SAMS! -- B-52's don't nose-dive into the ground (or it is rare- I haven't seen it yet and this was an obvious bug with previous versions) -- Other little changes which I cannot remember right now. -- Sorry I don't know about modem/network play so I cannot tell if SH fixed this. Several bugs: -- Several enemy planes can pull 9g turns that CANNOT do this in real life. Enemy turns appear to be dictated by enemy skill level NOT the plane they are flying. This can make for some interesting battle with so called B-class fighters. It isn't realistic but challenging. -- SH is very generous with the medals this time around. VERY generous. In fact if you abort a mission before takeoff, you will still get medals! But I can live with this. Hopefully there will be a quick fix, but don't hold your breath. ----- All in all, I am now enjoying F3. The patch D does make a BIG improvement.

t88ntj@tbd.uu.se *17 May 92*

I had no problems unpacking the Falcon 3.0D update or installing it. The only problem is that my soundblaster card stopped working. Could not notice any other new “features”, except 3.0D in the corner of the title screen, during my brief try-out.

So if you have a soundblaster and a 40MHz 386 you may consider not updating to the D version or wait for the E version to fix the bugs in the D bug fix.

renns@fraser.sfu.ca *18 May 92*

I had problems with my machine crashing with the D patch (but I had run the patch on version C modified with F3MAPS). After re-installing from the distribution disks, everything seem to work fine (I don’t have a sound blaster but a friend who does (an ATI card that emulates SBpro) hasn’t had any problems.

jrpg8255@uxa.cso.uiuc.edu *19 May92*

Look at the version number on the opening screen (after the Fulcrum-kill sequence) -- I bet it’s 3.0 or something. F3 has been officially patched 3 times. The latest is patch D (f3fixd.zip), and I think it’s on wuarchive somewhere. That fixed all of my sound problems (and several others), and beyond that makes lots of additions to the game. I don’t know what the general consensus is, but _I_ think Spectrum H have been pretty good about making all these improvements besides the patches. Pretty darn cool game too :-)

coombes@tcom.stc.co.uk *21 May 92*

I got the F3.0D patch from compuserve last week, and it appears to work fine. It appears to fix mostly trivial things though, my main problems are with the mapping functions etc., and also my mouse doesn’t work properly with it (the ONLY thing it doesn’t work with). Anyhow, as far as I can see the principal difference is improving the way the game handles ECM pods in a number of places. The most obvious of these are:

a) Your ECM pod now doesn’t make you invincible, just less susceptible to missiles

b) Your wingman/men now use ECM properly, tho’ how do you prove this?? At least they don’t go down (!!???) immediately on contact with the opposition

c) The enemy uses ECM randomly, with the effect that it can be difficult to obtain/maintain missile lock or tracking at all.

I haven’t really had chance to check it out thoroughly, but I know that a list of fixes is included with it.

Also I have a SB and have had no problems, except for dodgy speaker.

roeschmf@craft.camp.clarkson.edu *21 May 92*

> It patches just 26 files, and when I run the patched version I start at a day somewhere in the 15000-16000 range and all data is wrong. A little later the games crashes!
>
> My conclusion is: do the same as with the B patch, throw it away!!!

RTF readme file!!!!!! It says all campaigns from previous patches will no longer be any good, which means YOU CAN'T FLY YOUR OLD CAMPAIGNS!!! I hate to yell (electronically speaking), but this kind of reactionary "throw it away" knee jerk response is completely uncalled for. The patch works fine and the game is now more challenging than ever. Your old ACMI files won't work anymore either, so don't try 'em. BTW, has anyone seen an AMRAMM actually hit a plane in the new patch? Maybe I'm just having bad luck, but there was this one SU-27 this morning that I had dead to rights and the $$%@#!~$$ missile missed, and so did the second one. On the C patch I had pilots with 40+ kills in a campaign on ace level, now I'm having a hard time getting five on trainee. Guess it's time to get out the old Modern Air Combat book and find a few new tricks...

vacsc11v@vax.csun.edu *27 May 92*

Is it just me, or does the "D" patch for falcon 3.0 make the game about 10 times as hard? I mean, before the biggest challenge was just getting the nose pointed at enemies who were in close. Now, at least using The HFR, getting a radar lock is a challenge, getting a missile lock almost seems a rarity, and the missiles actually hitting even more so. And before, the Vulcan gun was extremely easy to use especially with the weapon effectiveness on high, but now even with the weapon effectiveness on high its almost impossible to hit a thing.

roeschmf@craft.camp.clarkson.edu *21 May 92*

GOD YES IT'S HARDER!!! I can't believe it! Before I was the scourge of the skies, now I'm cannon fodder for the enemy. I talked to the SH representative on GEnie, and they said they are working on a near term modification, to scale things down a bit. People are horrified that they can't get kills even on trainee level (like me) or complete a mission in a campaign without dying. I used to fly on ace level, now I'm getting waxed regularly by trainees. Wait for the fix...

masten@beta.lanl.gov *31 May 92*

Finally the B52's are powered up and fly 450 knots, yipee! Padlock for SAMs is a nice touch. Now I know what is about to kill me! Enemies are now *much* tougher. Never won a campaign, probably never will now.

Negatives: Someone said all enemies fly alike. I'm inclined to agree. I flew the shareware 1v1 side by side mission with a Mig29 and had a tough time (he has all-aspect, you have 9P's). Switched to a Mig19 and expected an easy kill. Nope! I think he used all-aspect also, even though (I believe) that isn't a weapons option for Mig19's. Switched to a Hind. It started out at 450 knots (!), got behind me, an fired a missile at me! What's going on?

I've had a few halts and dumps to DOS. Could be patch D, could be the Stacker I recently put on.

Flew a campaign mission where a wing got the Air Force Medal (whatever is next after the CMOH) even though he got shot down before getting a kill!

In summary, still plenty of bugs. I vacillate between loving the game and thinking it is evil. Getting pretty damn frustrated. Guess I will get to use that Aces of the Pacific I have on order.

masten@beta.lanl.gov *6 Jul 92*

> I've been sweating with the "d" patch all weekend, and I'd say they pretty much have most of the bugs worked out.

Nah. A partial list: Ignores weight imposed G limits. Previously mentioned range vs. fuel and altitude problems. SU25's and An12's and others quickly diving and crashing in RF for no reason (try the 1v1h2h if you got the rfm missions off the net, switch to these planes and see what happens). Also run Review2 and see what happens to the Mig27's escorting the AN12. They never survive long enough for me to see them. 600 knot copters. Seems that all planes can turn with me. SU25,SU24,almost AN12's and TU22's. Am I that bad??!! THis at 7+ G's. AAA doesn't fire in RF (Nellis). Awards to pilots who did *nada*. Miscredits kills on non-lethal hits. Unexplained radar locking problems in HFR compared to SAM radar. Just added realism? Maybe, maybe not.

masten@beta.lanl.gov *4 Jul 92*

> > I just applied the D patch to it, and all of a sudden the intro sequence is even more out of sync, Before I had about 1 1/2 to 2 secs delay between soundblaster going BOOOOM and the Sidewinder? hitting the MIG, now it's about 5secs, therefor very frustrating :o(
>
> I always took that to simply be a realistic delay between the amount of time it would take for the visual of the explosion to reach you (lightspeed) and the amount of time it would take for the sound of the explosion to reach you (mach 1). And besides, if the only problem you have is with the intro, you should consider yourself lucky! Think of all those poor slobs trying to get into Aces of the Pacific!

On mine, the delay isn't noticeable (386/33+SB). I tried it on a 486/33 with PC speaker and the delay in *all* sounds in the intro were a few seconds off. So I can't help except confirm that it is machine specific. It isn't a "realistic" delay.

gavin.adams@lso.mts.dec.com *16 Sep 92*

> What else does the D patch give me?

Besides a pretty stable version of the game, you also get (top 5 answers):

5) bombs that leave your hard points under CCIP control

4) to watch B-52's actually make it back to base

3) IFF tones that work

2) a more optimistic outlook on life

and the number one answer:

1) lower blood pressure

6.1.5 Patch E

ajredmer@netcom.com *16 Sep 92*

Actually bug fixes are free. The bugs that you are referring to can be fixed with the E patch. SH had to finish OFT prior to finalizing the E patch because the E patch has to be OFT compatible. I believe that the E patch is on its way to production and will be distributed in the same way as all our previous patches. Note: That the 200,000 some odd legal users of Falcon 3 find a lot more bugs than our dozen play testers. We are doing the best we can to support the users of this VERY complex product.

6.1.6 Falcon 3.01: Operation Fighting Tiger

masten@beta.lanl.gov *3 Sep 92*

As this groups naysayer: I have found a bug and some nits. I've gotten two system crashes in the new ACMI. Pretty much where it used to hang with all previous F3 patches. But my hang/ACMI avg is pretty poor right now. I'll just have to be careful (stay away from fast-forward and don't move the index pointer with the mouse).

Also, although the manual says you can fly tall the new planes (except the unmanned vehicle) in Red Flag, the Mirage2000, Mig31, Jaguar (and variant), and maybe some others are missing. Darn.

The fuel management is still wrong. In fact, the manual now gives you table indicating this. At least its nice that they now give you an idea of the range under various conditions. Meanwhile in text parts of the manual, it still claims you will lose range by flying low and fast. Yet the tables admit otherwise.

The manual says that due to political considerations, your side will always be undermanned. In other words, still you against the world. Why can't they have one easy (Desert Storm) scenario? But now at least you can limit the enemy flights and SAMs with the difficulty option (yeah!). I'll have to see how well it works.

As to positives: The manual is now what the original and F3 Air Combat should have been. A whole lot of interesting info on the new campaigns, and planes. Wish they would add this info on the older ones. Also a lot of tips on formations, waypoint use, bombing techniques, etc. Excellent job SH!

Yep, the Rules of Engagement add something.

The manual discusses stand-off attacks at length. Can you actually designate a target to be bombed 10,20,30,40 miles from your waypoint without having a waypoint move over the target. Haven't tried it, but it would be real nice if so.

Night is now night, bravo.

Oh yeah, the logo and title screens are nicer :-)

gavin.adams@lso.mts.dec.com *3 Sep 92*

For $25, it's a good deal--I'd probably pay up to $35. For those who have renamed OBJECTS to SOBJECTS, re-rename them. As a test I did the patch on my F3 directory with the OBJECTS->SOBJECTS, and the program crashed after loading. Doing a patch to the 3.0a distribution came out fine.

The install method, while in practice is ok, has a serious bug--if there is a problem, it doesn't notify you (unless your watching the screen). At minimum, if the patch fails at any point it should tell you what happened at the end of the install.

You can copy OBJECTS to SOBJECTS once the install is complete. Haven't verified it yet, but I think the extra plane detail comes back. I'll try the LOADHIGH method tonight and see what happens.

PAS-16 owners will want to know that the digitized sounds now work better--somewhat. I haven't lost sound since playing the new version, but the game will temporarily lock up sometimes when playing a sound. This is most noticed in the opening sequence. The birds will sing, and the planes start their approach. The the screen locks, 2-5 second wait, and then continue. It may be something to do with DMA transfers or such. It would be nice to have PAS support from within F3, but I'd settle for "true" SoundBlaster emulation. Hear that SH and MV?

A lot of changes have been made to the campaigns. As a previous poster noted, campaign settings can be easy, standard, or difficult (hard). The current 'd' patch of F3 has a campaign rating between standard and hard. Many new digitized voices, including "Singer High!". Now I can tell when my wingmen are being SAM'ed (what good it does me, I'll never know :). With the info in the OFT manual and with complete descriptions on what is required to complete a mission successfully, a lot of campaign'ers success rate should go up (including mine).

The three new theaters are nice. I flew around Pakistan, the Himilaya's look interesting... I haven't tried Korea yet since I've been spending most of my campaign time in the Kurile Islands. The Kurile theater is the only place you can fly the new FSX, use the Harpoon anti-ship missile, and engage the Russian forces using Rules of Engagement (ROE). This is a trip---flying 3 FSX's towards a large flight of helpless strike aircraft and NOT being able to fire on them (unless they fire on you). This will definitely add a level of subtlety to the campaign.

New missions! Fly cover for the E-3. Help other allied flights who call in an SOS. Fly reconnaissance (sp) on enemy locations and naval fleets. Escort aircraft making supply runs. Milkrun that C-130 back to base!

Night is now night. Padlock view is (according to the manual) more limited at night, and heaven help you if you lose your HUD. The only nit I have is when you pull high-G turns and start to black out, the sky lightens to the point you can see. A new weather condition--overcast. It's kind of cool flying just above the cloud layer and sweeping in and around the clouds like those old Air Force commercials.

IMO, the flight models for the F-16 *have* changed (both complex and hi-fi). I haven't confirmed this, but there is a definite difference in feel and rudder use. Some of the enemy aircraft may have changed also. I'm going to put together a Red Flag mission against 2 MiG-19's and see what happens. Weapon effectivity seems to have increased (even when the system setting is set to the lowest level).

New planes, weapons, and radar. If your TWI notes an AMOS (IR) launch from a MiG-31 at under 50 miles out, pray. One confusing item, and one that probably is a real concern is having the same aircraft be both on allied *and* enemy forces. The Jaguar and F-5 are two I can think of.

masten@beta.lanl.gov *5 Sep 92*

Ok, now my second set of impressions and observations ya'll are (I'm sure) dying to hear:

Good: I was able to use Falconer for squad generation and auto-perfection and re-activation (100% ratings and all alive). *I haven't tried any of the utilities to restore planes, ordnance etc.*.

The campaign is easier and does seem to have less enemies in "easy" mode. I was able to roam above the Indian base searching for the airfield to bomb for quite a while without being attacked (it was night).

4/4 in India mission successes so far. Not that easy wins is inaccessibly a good thing. I just wanted less enemies. No more 'Choppers from Hell"! Tried some RF missions and they behave more reasonably. Though the SA342 was able to go about 240 knots and the Mi24 only wanted to go about 120. They no longer pull Hi-G's.

Jet acceleration between flying and letting the AP fly is more consistent now. Hopefully this'll mean that when you give a wingman an engage command, he won't be able to zoom away from you at unattainable speeds. Hopefully.

Judging from the first day of India, the campaign seems pretty much the same for everyone right? You get attacks before even taking off. You get your base moved because of the enemy proximity after the first day (even though I kicked the snot out of the enemy airfield and "captured" it). I hope it gets more variable after this. I personally don't like missions where they are half over before I take off! Also real hard to get any situational awareness that way. OK, I know attacks on your base can happen. Just hope this is the exceptional occurrence. Not the norm.

Again I ask: has anyone figured out how to do the standoff type missions as described in the manual? When I tried it in RF, the only way I could get a waypoint not on the target itself, but still designated “bomb xxx”, was to put it on the target, designate, then move it off. But I could only move it about 10 miles before the target box cleared. My pilots didn’t execute it anyway. Do you just leave the bomb waypoint on the target itself and then hope the wingmen release weapons at the earliest time? If so, this doesn’t match the manual’s explicit instructions.

Bad: Red Flag seems worse than ever. Couldn’t get the standoff to work. Now 4 GBUs or 4 2000 lb’ers don’t take out refineries or cooling towers (direct hits watching real-time). Don’t seem to get any mission evaluation feedback on objectives I did manage to hit and destroy. Cycle thru “bomb” when not on a target and the waypoint moves to some place in the middle of nowhere. Pain to have to reset it every time. They didn’t include SEAD in RF. Or many of the new enemy planes. What’s the cruise missile for? It seems to be the new version of the original B52. Fly unpowered then crash. Can you use it to bomb anything?

I’m getting more AVTR crashes than ever. Overall, definite improvement. But when is patch 3.01A coming out? :-)

hogue@cs.arizona.edu

I just picked up the Flying tiger upgrade (note: it is NOT a campaign disk) and have a few things to tell you about it....

good.... * it contains ALL the patches to Falcon 3.0 * your wingmen are much better at watching their radar * manual included explains waypoint commands (cap, cas escort) much better (if you wonder why the air support on your bomb missions sucks, it’s because escort will make wingman only attack visually sighted enemies, as they keep their radar off to avoid giving away your position) * Upgrade of the not-so-heralded ACMI player * Enemy logic better * Your f-16’s look MUCH better (you can even see yourself in the cockpit) * Elimination of all those nasty glitches, like the IFF tone not stopping. * Japan Theater set in 2001, with new version of Falcon, including missiles under development that are not finished yet * also only in Japan, You get to attack ships, which is hell, and you have to deal with rules of engagement * addition of borders of countries to the maps * Tells you, if you fail a mission, why. * Tells you if your wingman plowed into the ground. * No more static for wingman voices. * Also campaign in Pakistan/india or Korea, where the enemy is only 3 miles from your base! * addition of new waypoint commands, SEAD (suppression of enemy air defense) so you can specifically kill SAMs and AAA. * Book gives you some idea of how to manage fuel, dodge sams, and make wingman do what you want. * New, awesome intro screen, new Jets (mig 31, mirage 2000, it goes on...) * Padlock can lock onto missiles, so they are much easier to dodge--also, radar on left shows ALL missiles coming at you, not just SAM’s * many, many more little things (you can see trails of flare-chaff)

BAD..... * requires 616,000 (approx) of conventional space instead of original 612000 * STILL didn't make debriefing to show you what happened to other flights * Doesn't appear (yet) to have fixed problem with mig-19's moving like f-16's * Almost too real--6 types of ground radar now, not to mention dug in tanks that fire back--it is real hard to keep track of it all. * new changes will NOT allow comm fights with 2 computers unless both are falcon 3.0 or falcon 3.01. * cannot play old avtr tape on new player * lose ALL squadrons and records. Overall, the bad is very minor. I tried to keep this post down, so I didn't mention a lot of small stuff (like the Japanese zero mark on the FSX, or the american sign on are f-16's, or the unmanned mystery fighter owned by russia in Japan, or being able to pull 9.9 g's instead of only 9, or......)

donham@dbldog.enet.dec.com *4 Sep 92*

I picked up OFT last night at EggHead ($24.99 less 5% for a CUE card). Running campaigns in STD mode, I'm now able to complete missions...something I could never do under 3.00d. That alone is worth $25 to me!

I believe that they've done some important work on the flight models. One of my biggest gripes with 3.00d is that airspeed continues to increase at any positive angle of attack...it seemed to be based solely on the throttle setting. In OFT, airspeed will bleed off in a climb when thrust is less than mass. In other words, I now have to pay much more attention to energy management, something I missed in 3.00d.

OFT seems to run a bit slower on my machine than 3.00d, which was on the hairy edge of acceptability on my 386DX/25c.

The Loch Ness monster is gone from the opening.

The OFT manual says that external events surrounding a conflict are not always the same as you enter a campaign; I hope this is true! I tried my hand in India, and on the first mission was repeatedly blasted to bits by missile fire before I could even get off the runway. Very frustrating!

blj@kepler.unh.edu *4 Sep 92*

1. ground/sky detail seems better (at least in Korea) at high setting (don't know about maximum), but frame rate seems to be correspondingly a bit slower. It was not really noticeable with version d (on a 386/33), but I am more aware of it now (it is not bad and doesn't detract from the enjoyment of the game, but it is noticeable except when things get exciting). Clouds appear more "fluffy" now. Ground targets seem easier to pick out too, but that may be due to the green ground coloration. Ground detail seems to go further towards the horizon.
2. night missions are much more interesting. I have read about pilots who have lost their orientation at night, and "climbed" right into the ground. Well it almost happened to me last night. I was busy evading a sam when suddenly I was getting the "caution, caution" (or is it warning, now I am typing this I don't remember the exact wording). A glance at the instruments showed I was flying upside down, so was actually in an inverted dive when I thought I was climbing. Missed the ground by about 100' (I'll never complain

about that ground proximity warning again!). As an earlier poster stated, I would hate to lose instrumentation! You are fighting and flying strictly on instruments. I did note the “blackout makes things visible” feature someone else mentioned. Ground lights are rather nice, particularly the runway.

3. the caution/warning vocalization is a bit less annoying - I think they turned down the volume on it a bit. As others have noted, most (all?) of the radio messages are now vocalized.
4. on standard difficulty setting, you can still get blasted on your runway. Second mission I flew, I was getting the Bandit message from my wingmen as I turned on my engine, and before my plane was moving one wingman had already been shot down. I got nailed on the runway before I even got up to 100kts.
5. I didn’t get to see “nessie” on the opening scene as planes were too high.
6. After I had bailed out, a plane went past well below me (I was quite high, he was near the ground), but the image of the plane went over the parachute. It also seems that the detail in this view is a bit better, as is the “7” view.
7. the game seems to take longer to load and to switch screens. I also now get flashes of color on the screen between major scene changes (when the screen blanks) which I didn’t have with version d. I have had no problems once the new scene is displayed, however.
8. on a CAS mission, I got shot down just as we reached the CAS waypoint. My wingmen immediately headed for home without firing shot (there were little brown dots all over the place too)! I also noted on another CAS mission where I was on autopilot (I was talking to my son and hadn’t been paying attention to how close I was), as soon as the waypoint was reached, the plane simply headed for home (the next waypoint), again not a shot fired. Maybe this also happens in the other versions, and I had just never encountered the same situation before.

cooper@cos.com *6 Sep 92*

> When compounded by the fact that nobody has ever called “Singer High!” like the manual says they are supposed to

Thankfully (maybe...) this has been fixed in Falcon 3.01 (Operation Fighting Tiger) - but now just about all you hear is “Singer High!” :>

SH has REALLY done a great job with OFT, btw, all those little “chatter” messages have been digitized (well, most of them....)

One interesting bug I’ve noticed - when you’ve lost your engine, you can land and roll back to base. I rolled 100 miles once (on no engine !?!) at 19 mph - took a while to get home. I think, however, that it’s fair compensation for being able to dead stick a sick plane.... :>

I got OFT - and it IS truly amazing! The “kill” messages (i.e. “smoked a bogie”) have been digitized, the graphics have been improved (The ground is more “colorful”), the fsx is a real treat (I just loooooove launching Harpoons wellll out of range of any enemy retaliation :>).

The ca. 120 page manual not only tells about all of the new stuff, but give excellent explanations about some of the stuff not mentioned in the first manual.

masten@beta.lanl.gov *7 Sep 92*

Slight OFT bug: got a mission where the text said ‘bomb a bridge at xxx”. But there wasn’t a bridge there! The waypoints had targeted some other buildings instead.

ptran@watserv1.uwaterloo.ca *7 Sep 92*

Perhaps you have Intelligence set to limited. Did you use the Zoom to Target button in the setup screen to try and locate the target? It can be ways away from the waypoint. In the D patch, I’ve had the target description lie on me before. It may say “7 SAM site”, but when I zoom in, it shows a runway or something else. Reselecting the target will fix the problem, however.

masten@beta.lanl.gov *7 Sep 92*

Pakistan, 8 days. About 130 sorties and 130 credited kills. Doesn’t give you the F15 CAP kills, or credit for crashed enemies. I’d figure about an average of 6+ enemies per flight. Sometimes a good deal more. I’d still like to see less bogeys/mission.

Used easy campaign, cadets, recruits, low weapon effectiveness. SAM radar and complex flight. I suspect everyone else will find it much easier to win campaigns now.

Easy campaigns gives you more resupplies which kept me airborne. But was always fairly close to running out of fuel, so don’t plan on 8 sorties per mission.

Defensive screens and scrambles seemed easiest. SEAD and anything involving bombing were hardest. Also real sick of long range B52 escorts. Never got one of the new ‘recon’ missions.

A few more system hangs than before, but nothing catastrophic. Never had system crash in a mission. Maybe once lost digitized voices.

John Scanlon @ FS echo on Fidonet (c/o rick@ssg.com) *10 Sep 92*

> So far it looks really good. I have noticed that everything works well except for the fact that a few of the planes don’t have cockpits, sometimes the wingman sounds drop out on me <I think it is a memory problem>. Other than that I have not had one lockup. Knock on wood.

I played a little over the weekend. I found it to be very good. I read through the manual and found a lot of interesting information that was extremely helpful playing the game. For example, I was getting frustrated trying to shoot down enemy aircraft when they were using their ECM pods. The new manual specifies that the AIM-9 is slaved to the Radar, and that shutting down the radar will let it work in heat seeking mode only. This was great and worked perfectly.

I have started a Campaign in Pakistan and have found the update to work very well. I did however encounter one bug in the campaign. After flying one mission and completing it, If I started to plan out the next mission, during the select waypoint screens, I would be given a waypoint called SEADSHIP. After toggling past this waypoint I would be given the Waypoint called SEAD, and the program would lock up at this point. If however, I quit between these missions, return to DOS and start the program again, this does not happen. I have also in the last week upgraded from a 386-25 to a 486-33 motherboard and am having minor problems with at least one other program.

A point of information for you and others reading this. I was using Falconer with the D patch. Installing the Operation Fighting Tiger disk will delete your existing squadrons. Before installing the new OFT disks I deleted any existing campaigns, and restored just the squadrons with the import function of Falconer. I had four squadrons which I had created which were worth saving. I then copied all SQU*.* files to a backup directory. After Installing the OFT disk I compared the New SQU*.* file list with the old SQU*.* file list for size ETC. Found the actual squadron files to be the same so I copied them over the new ones, and I had my old squadrons back. I just had an interesting thought, I wonder if my bugs is related to this copying of the old squadrons?

The "D" version of Falconer can still be used to edit any squadrons, but is no longer compatible with the campaign files. At least this is what I have found. Try it at your own risk. Also Byron, If you hear of a new version of Falconer for the 3.01 Version of Falcon please let me know. I would love to get my hands on it.

One last bit of information for those that are interested. I have started as I said above, a campaign in Pakistan in the Standard difficulty mode. After three full days I have successfully completed 11 of 12 missions, and things seem to be going well. Sams are turned off though. How are you doing playing campaigns?

Scott Gray @ fs echo on Fidonet (c/o rick@ssg.com) *10 Sep 92*

I found OFT locally at Egghead for $24.99. That's less than SH was offering it direct. And they didn't have it listed on their computers when I called them. Oh well, on with the show.

So far I am impressed with what they have done with this new program. It practically is a new program, and the version is now upgraded to 3.01.

One of the first changes listed in the manual is a toggle you can use to change the ILS view shift, and the ILS mode. In the first instance, you can either have the view shift down as in Falcon 3.0, or you can have the view remain stationary. The second toggle changes between "beacon mode" and "directional mode" ILS. The beacon mode works like a NDB (non-directional beacon) which points you in the direction of the airfield. The directional mode works like a standard ILS localizer. This was a much asked for change.

There are three new commands to give your wingmen in 3.01. They are 1: Close up formation. This will cut in half the distance that your wingmen fly from each other in formation. 2: Spread formation. This will double the distance. And finally 3: Return to base. When this command is given, your wingmen will abandon the flight plan and return directly to base. Note that this command is irrevocable, and your wingmen will no longer respond to the other commands after you have given it.

SH has added an overcast sky to the game which appears from time to time in some theatres. Mostly Japan and Korea, known for cloudy days. I have not, as yet, seen an overcast sky in Pakistan. This effect is very well done. The start time of the last mission of the day has been pushed back to 23:00 hours (11:00p.m. to you civilians). True night flight is the result. You're going to have to rely on your guided weapons to take out targets now. You wont get a Tally on anything until you're on top of it. You can still use the padlock view to track a target, but with diminished range.

THEATRES OF OPERATION:

The three new theatres are as follows...

Japan (Kurile Islands): This is a dispute between Russia and Japan over the chain of islands North from Hokkaido to the Kamchatka peninsula. The campaign here must be fought under Rules of Engagement which are specified at every mission briefing. These can range from kill anything you see, to fire only if fired upon, and everything in between. I forgot my rules in the heat of battle once already and got admonished by AWACS right away. This theatre, in my opinion, is the most difficult. Not just because of the rules of engagement, but because you are going against the military resources of Russia. They are already occupying the islands and are well entrenched.

Korea: Believe it or not, the North has invaded the South, and overrun Inchon and is threatening Seoul where you are stationed. I haven't got very far in this area yet so I can't give you many details, but the sky has been overcast two days in a row.

Pakistan: This scenario revolves around the long existing border dispute between Pakistan and India over the province of Kashmir. You are in Pakistan as part of an expeditionary force sent because of favors owed the Pakistani government.

These are the three new areas. In the Japanese theatre you will flying the new FSX version of the F16, with larger wings, longer fuselage and an engine with 4,000 lbs. more thrust. This plane incorporates a positive pressure breathing system that will keep fatigue numbers down. The most notable difference is the addition of a new SEA radar for maritime operations, and of the AGM-84A Harpoon missile. Oh Boy! Time to have fun with the Russian fleet.

Along with some new action codes in this version (SEAD, ANTISHIP, SEADSHIP) the manual gives some help with mission planning which was absent from the Falcon 3.0 manual.

This is getting long isn't it. I thought potential buyers would like to have some details on it. My final recommendation is, if you have Falcon 3.0, buy the Operation Fighting Tiger software. I never had much trouble with bugs in Falcon 3.0, and haven't seen one yet in 3.01. 3.01 includes all previous updates to Falcon 3.0.

John Scanlon@FS echo on Fidonet (c/o rick@ssg.com) *17 Sep 92*

I thought I should let you know after posting my previous message to you I experienced a lockup in the Pakistan theater. I was assigned a strike mission to hit an Indian airbase in the south eastern corner of the map. I planned the mission out as always with a CAP flight to support my two BOMB flights and took off for the target. In keeping with the good mission planning strategies, I flew all flights below 500ft. to within 25-30 miles of the target, then split one BOMB flight south, and the other north, so as to attack the airfield from opposite directions. At this time I also set the CAP flight to climb to 8000ft. and intercept any bogies. As I approached my IP (on the southern route) and prepared to make the turn for my target run, the machine locked up. The screen filled with large characters and the sound locked up also. At this point I rebooted my machine, and since all of the waypoint information was stored, I simply started the mission again. At almost the same instant in the flight the machine locked up again. I was getting frustrated. I was probably only a handful of missions away from completing the campaign. So again I rebooted the computer and started Falcon again. This time however I changed the southern BOMB route waypoints, and had this flight fly it's mission along the northern route with the other BOMB flight. Mission accomplished with no hang-ups at all. Needles to say I was very relieved. I have since completed the campaign successfully and have moved to a new campaign in Panama.

barkerb@slab.unt.edu *14 Sep 92*

I just picked up OFT Sunday. I immediately noticed that in the intro (where Nessie used to be) that the graphics and sound were completely out of synch - the graphics were very, very slow! Also, after an initial go round with the game (everything was fine) I came back to it late Sunday evening and found that the engine noise was just an ongoing whistle and the missile sounds were no longer there either. I've fooled around with all sorts of things with now luck. Does anyone have a clue or a cure to either problem? Is there to be a patch for OFT already? Thanks in advance for any help.

stradley@jabba.uucp *14 Sep 92*

> Help!!! I just recently (like yesterday) picked up OFT for Falcon 3.0. Everything is working great (although the install tool cryptically failed until I increased the FILES in config.sys). The only problem that I have is that the IFF indicator, missile launches and engines do not make any sounds. I get the digitized voices, gun sounds, sidewinder growl, and fly-by noises, but everything else is silent. My configuration is a 4MB 386/33 with only a PC speaker (I'm waiting for the ultrasound). In Falcon, I've got the difficulty level set to the default beginner settings, the system setup is set for joystick, max detail, engine-sidewinder sounds, pc speaker radio msgs, pc speaker sound and music, and currently I shut off all ems settings (to see if it made a difference). My config is himem.sys, emm386.exe 3072

> ram, dos=high,ubm, files=20, buffers=20. I loadhigh the mouse driver in autoexec.bat and that's it. I've got plenty of RAM, EMS, and disk space. Has anyone experienced something like this, and/or does anyone have any suggestions? It's really irritating to have to constantly switch to the left view every time I pick up a new target.

Lee,

You'll also notice that the sound that you used to hear when you raised/lowered your landing gear is gone as well. I sent mail to SH on this very issue and they replied with this. If you are using the PC speaker then you MUST set the radio messages in the config setup to "NONE". This works for the IFF and landing gear only. You will not hear anything else (i.e. radio messages, missile firings, bitchin betty, etc.). BS is you ask me. I'm not sure why they made it this way, I haven't had the time to reply to SH to ask them why. Sounds like they are trying to push people to buy sound cards to get the full sound effect. Hope this answers your question.

lrg@crud.cray.com *15 Sep 92*

I've tried that (and I've tried setting the config to the no EMS setup), and in either case, I still can't get the IFF tones. I played with the settings for about 4 hours on Sunday, and I couldn't seem to find any combination that worked for me. Until I get a sound board, I'll probably play OFT in instant action only, and then for campaigns, go back to Falcon 3.0D. Sort of a waste, actually.

garton@jeeves.ucsd.edu *17 Sep 92*

I had problems installing OFT, and this was sent to me by SH themselves: that is their compuserve address.

begin quote:

For difficulty installing OFT, you should first try removing the SHARE.EXE from your config.sys file and reboot. If it still doesn't install, try the following procedure:

For anyone that is having problems installing Operation: Fighting Tiger, here are two things to try.

The first is to set "FILES=30" in your CONFIG.SYS file and boot from a clean DOS disk with only Files, Buffers, and HIMEM in the config.

The second is to try copying and starting the patch process manually. To do this, go to the DOS prompt of the hard disk volume that has Falcon3 installed. Follow the steps listed below.

Do not use PATCH.EXE from disk #2!!!

The Walk Through: How to install OFT without the installer. (insert OFT disk #1 into drive B: or the drive for your disk size. If you are not using drive B:, type A: whenever B: appears)

```
CD \FALCON3
COPY B:PATCH.EXE
CD \FALCON3\ARMSDATA
COPY B:PATCH.EXE
CD \FALCON3
COPY B:PATCH1.RTP PATCH.RTP
PATCH
DEL PATCH.RTP
COPY B:DELGARB.BAT
```

(now insert OFT disk #2)

```
COPY B:PATCH2.RTP
REN PATCH2.RTP PATCH.RTP
CD \FALCON3\ARMSDATA
COPY B:PATCHARM.RTP PATCH.RTP
CD \FALCON3
PATCH
CD \FALCON3\ARMSDATA
PATCH
CD \FALCON3
DELGARB
DEL PATCH.RTP
DEL PATCH.EXE
DEL DELGARB
CD \FALCON3\ARMSDATA
DEL PATCH.EXE
DEL PATCH.RTP
CD \FALCON3
```

That's all. You should now be able to type "FALCON3" and enjoy.

Atlas

ssmith@gandalf.ca *18 Sep 92*

I'm quite thrilled with OFT, and am currently engrossed in the Pakistan/ India campaign (I got my 1st gun kill on a Mig29 in a campaign flight recently - I was out of missiles and fuel, pheww!!). However, when I select one of the new aircraft types for a Red Flag mission (yes, I have the new f3map utility under evaluation now) they are not displayed in flight, although my radar and padlock view lock on to them, my missiles hit them etc., but I don't see anything but the visual cue box.

I have 614k ram available and 4 megs of ems when I boot Falcon. Am I singularly cursed, or has anyone else had this problem? Has anyone SOLVED this problem?

t901580@mp.cs.niu.edu *22 Sep 92*

One of the stranger bugs I've run into in 3.01/OFT occurred just after I had been hit (by a SAM, I think). I was close to the ground, and I was went crazy on the CTRL-E. I was in the track view, and I never saw myself bail out, and my plane crashed. A second or two later, I was reincarnated as an SU-25 driver who was bailing out of his plane. I watched him bail out, then tracked him the whole way down... weird.

Yesterday I saw another strange thing: I was flying CAS, attacking an amphibious landing force, when I saw what looked like a "school" of Harpoons just sitting on the ground in front of a one of my tanks. There were about 6 of them, and they were all clumped together, not moving, with big plumes shooting out the rear. If anyone wants to see the ACMI tape of this, just let me know...

lchong@zeus.calpoly.edu *29 Sep 92*

> Has anyone else had a problem with Falcon 3.01? I have noticed that it seems to lock up after a little while. I have also had it take up to five minutes to use the copy option for loading weapons. I am still trying to figure out why I had been court-martialed after a mission in which I did massive damage to the enemy (I didn't hit any friendlies), so I was court-martialed for weapon negligence.

Mine locks up when flying in turbo mode. (486/50 256i+e cache) I wish they would have fixed it for OFT but they didn't. So I just turn off turbo.

opus@ihlpy.att.com *5 Oct 92*

I recently got OFT and immediately tried some direct connect two-player allied missions with a friend at 57.6Kbps. Just thought I'd share some miscellaneous things I've noticed.

OFT Changes from 3.0D - My plane is definitely faster (again, this is using the HiFi model). - My wingmen seem more effective at attacking ground units. - The quantity and quality of escorts I'm given on strike missions is much better, though it's still possible to get A-4s. - Forward quarter missile shots are MUCH deadlier than they used to be. My settings are Cadet intelligence and Low weapons effectiveness. Head-on shots with AMRAAMs or AIM-9Ms used to be mostly fruitless, but now it seems like I get a better than 50% kill rate! On the downside, it seems more difficult to dodge APEXs and SA-6s than before. Probably makes the game more realistic. It certainly makes it more challenging. - My favorite addition is the ability to detect AAA and SAM radars from farther away (though it seemed a bit unrealistic when I could pick up an SA-6's search radar from over 200 miles away when I was only flying at 250 feet!) This single change makes campaigns about three times easier than they used to be, since SAMs were always the leading cause of death for my pilots, even at the second lowest (Reserves?) level. Now I can take them out using stand-off attacks with Shrikes and HARMs. - At the Standard campaign difficulty level, you get way more stuff on resupply days. This applies not just to the number of planes you get, but also to your fuel supply. The latter was always a problem for me under 3.0D in that I couldn't put up as many planes as I'd have liked in a lot of situations for fear of running out of fuel.

I'm currently flying a campaign in Kuwait, a theatre I was never able to win under 3.0D. After the first day, which I used to re-familiarize myself with the game since I hadn't played in a while, I stopped aborting and restarting missions (BTW, they fixed the bug where your ordnance would be lost if you aborted) and just let the chips fall where they may. I'm now on day 4 and well on my way to victory. This is exactly what I'd hoped for. Now I'll be able to ramp up the enemy pilot and SAM-AAA intelligence without getting totally blown away. Under 3.0D, I despaired of ever being able to consistently complete missions, even at easy settings, and was getting kind of discouraged. Can anyone truly admit to being able to complete missions under 3.0D with the SAM-AAA intelligence set to Elite? If so, I'd like to know what tactics you used!

6.1.7 3.01.1

This is the patch to Falcon 3.01 (from Operation: Fighting Tiger). It was not released soon enough to make it into this document.

6.2 Obtaining and Installing Patches

jlong@uhunix.uhcc.hawaii.edu *22 Feb 92*

Once again, I would like to announce to the entire civilized world that the elusive patch for falcon3.0 [patch A] is available for anonymous ftp at ftp.hawaii.edu

the filename is /incoming/f3updata.zip

I know that some people had trouble getting it in the past, but I think that the problem is fixed now.

mcrosby@bsa1.kent.edu *15 May 92*

I found a new patch for Falcon 3.0. The patch is F3FIXD.ZIP, and was found at wuarchive.wustl.edu. I haven't seen any postings about a possible new patch. Is this an official patch or a hack?

mkk9316@tamsun.tamu.edu *15 May 92*

Just saw that SH has uploaded F3FIXD.ZIP, the D Patch for Falcon 3.0, to Scorpia's Roundtable library on GEnie. At over 600K, it'd be about a $5-$7 download at 2400 baud, so I may wait to see if they will send it to all registered owners (like they've promised).

masten@beta.lanl.gov *31 May 92*

> Could someone tell me what I need to do bring my copy up to date? What patches do I need, and where do I get them? (IE: Do I need all the patches A-D, or will the most recent patch (D?) take care of everything?)

I see another FAQ question brewing!

All you need is the D patch (right everybody?). You can find it in wuarchive.wustl.edu in directory pub/MSDOS_UPLOADS. It is called f3fixD.zip or f3fixd.zip I believe. It will be obvious, just do “ls f3*”. You will also find two neat shareware programs: f3maps.zip and falcnr.zip. The first lets you fly designed missions in any theatre (yay!) and even will auto-create missions. The second lets you screw around with your squads (very handy).

Get them all by typing “binary” when you are in the correct directory and use the “get file-name” command. Then pkzip on your PC and follow the doc’s instructions.

Joel_Murray@mindlink.bc.ca *9 Jun 92*

See Section 2.1 “History” on page 2 for a footnote on why you may or may not have received patch information.

6.3 Non-US Distribution

U8843619@csdvax.csd.unsw.edu.au *25 Sep 92*

Some of you may be interested in this email I got from SH yesterday. If anyone knows where you can get OFT in Sydney Australia PLEASE LET ME KNOW

> Hi Derek,
>
> OFT should be available any time now in Australia. Our distributor is OziSoft. They should now have OFT packages. Sorry, but our sales department does not accept AMex.
>
> There are some minor problems with OFT which we are try to solve, but they only affect 5% of the people who have OFT.

6.4 RFM.ZIP

RFM is a set of 20 or so Red Flag missions done by Craig Allen some time back. It can be found on the Falcon 3 Internet archive site (onion.rain.com). Most of the missions are scenario type missions such as:

FALCON 3.0 Mission - “Dropkick”

A prototype of the enemie’s new stealth fighter has been flown to a base along the front and parked in one of two concrete-reinforced hangars. Take out both hangars with your GBU-15s and time permitting, level the remaining (green) hangars with your Mavericks. Two F-16 Falcons fly top cover.

There are 5 or so training type missions that look something like:

Falcon 3.0 Mission - Red Flag Dogfight “1V1SXS” (One Versus One Side-By-Side)

A classic one-versus-one engagement. Two high-energy fighters pitted against each other in a deadly duel. Try to maintain your speed and energy while honoring a 10,000 foot "hard deck". Here's the chance to hone your air combat maneuvering skills. You'll start off on the same heading and altitude as the bogey. Learn to fight 1 V 1, and you'll prevail in the multi-bogey engagements as well.

6.5 SORTIE*.ZIP

knutson@mcc.com

A series of these training missions have been done and there will be more to come. The following is a copy of one of the posts:

I have just finished lesson 2. The original lesson was placed in a file called combat1.zip. However, I've changed the name so that the file reflects the lesson instead of the mission name. I've also updated the contents somewhat and I now include a VCR file to try to illustrate the lesson.

I have uploaded sortie1.zip and sortie2.zip to onion.rain.com in /pub/falcon3/lessons. Sortie 1 is a training lesson on tracking shots and is mostly the same as the combat1 mission announcement I posted earlier this year. Sortie 2 is a training lesson on snapshots with the following text description:

Falcon 3 ACM/BFM Lessons
by
Jim Knutson
A Supplement to Robert Shaw's Book
Fighter Combat Tactics and Maneuvering

Sortie 2 - Snapshots (pg. 20)

Sortie 1 described the two types of gun shots that can be made (tracking and snapshot). It taught the steps to use in tracking shots. Depending on the situation (geometry, aircraft performance, and pilot ability), a tracking shot may not be possible. This generally leaves the snapshot.

Snapshots are differentiated by your G level during the shot and is generally broken down into low and high G snapshots.

For a low G snapshot, you predict the targets flight path and position your sight well in front of the target (based on target's maneuver, LOS rate, time before firing range). Ideally, you then fly straight and wait for the right time to fire. Some small amount of correction will likely be required. Low G snapshots are not very effective due to short firing times as the target passes through the sight.

A high G snapshot is "almost a tracking shot." It works basically the same way as a tracking shot with the difference being that somewhat more lead is taken at the beginning. It is not necessary to be in the targets plane of maneuver, but it helps. High G snapshots can occur when you are never quite able to saddle up. The more G, the slower the relative motion (remember, you are pulling lead trying to saddle up, but can't). The slower the relative motion, the longer the target remains in the snapshot's bullet stream.

There is an advantage to being in the targets plane of maneuver. As the target crosses the bullet stream, it will pass nose to tail through the stream with wings perpendicular to the stream. This increases the target area. If the cross was out of plane, the stream would cross diagonally over the target. This decreases the chance that one or more rounds will hit the target.

There can be a problem if the required lead is large and you are near the targets plane of maneuver. In this case, the amount of lead would place the target below your nose and out of sight. This blind lead turn is dangerous due to possible mid air collisions as well as "lose sight, lose fight." A solution is to turn slightly out of plane.

Remember that you must open fire at least one TOF before the target crosses the pipper.

Red Flag Mission - COMBAT1

This mission is a one versus one head to head engagement. Your opponent is a Mig-29 loaded only with guns. Turn on your gun camera (VCR) and try to shoot down your opponent using snapshots only. It will probably be best if you set unlimited armement so you can have as many cannon shells as you want. Try a snapshot at the pass and then turn toward the same direction the bandit turns so that you meet half way around the circle. This will set you up for another head on pass. Continue this until you down the bandit. Review the VCR to see where you can make improvements.

GLOSSARY

LOS	Line Of Sight (direction toward target)
LOS rate	Rate at which target crosses view.
TOF	Time Of Flight - generally the amount of time for a weapon to reach a target after firing

6.6 Falcnr

mkk9316@tamsun.tamu.edu *17 May 92*

I've just uploaded the 3.0D version of FALCNR.ZIP to wuarchive.wustl.edu (/pub/MSDOS_UPLOADS/falcnr.zip). I haven't used this before, but I've heard good reviews of the previous versions. Here is an excerpt from the included documentation:

Falconer is a freeware tool that lets you control every important aspect of your FALCON 3.0 ("F3") squadron and campaign.

You can:

Automatically reorganize the roster Automatically create “super squadrons” with max abilities for each pilot, and no fatigue Automatically eliminate all fatigue from your squadron Control ALL supplies and weaponry used on campaign Edit pilot ability scores Edit pilot rank Edit pilot status (KIA, MIA, Active, etc.) Export a single pilot and custom face to a pair of files Export a squadron full of pilots to a file Give or rescind any pilot’s awards Import a single pilot and custom face from a pair of files Import a squadron full of pilots from a file Print a pilot dossier Print your Sierra Hotel sheet Print a squadron roster Reactivate/resurrect lost pilots Replace any existing “pilot face” with part of a .PCX file Replenish any planes lost in combat Replenish ECM modules lost in combat Replenish fuel used in combat Run Greg Prete’s Falcon Mapper at any time Use Falconer as a shell for Falcon 3.0

lam@cs.colostate.edu *15 Sep 92*

I uploaded these two programs, updated for Falcon 3.01, to wuarchive.wustl.edu. The file names are f3mapr.exe and falcnr.zip. When you get f3mapr, you need to type f3mapr at the prompt, and it will extract itself. Falcnr just needs to be unzipped.

6.7 F3maps

gt3017a@prism.gatech.edu *18 May 92*

What exactly is this program? From what I’ve heard, it’s some sort of utility for Falcon 3.0 that lets you play red flag missions in any theater, and edit the maps or something... If someone could either tell me where to get this thing, or send it to me, I’d appreciate it much.

renns@fraser.sfu.ca *23 May 92*

You asked for it, you got it. F3MAPS for version 3.0D of Falcon is now available at wuarchive.wustl.edu in the /pub/MSDOS_UPLOADS directory (filename is f3mapsD.zip).

opus@cbnewsc.cb.att.com *8 Jul 92*

Some people have complained that Red Flag missions are too much work to set up. I agree completely. However, are people aware that the f3maps program (wuarchive: /pub/MSDOS_UPLOADS/f3mapsD.zip) not only changes the theatre you fly Red Flag missions in, it also generates random ones for you? I haven’t tried it yet, but the author’s notes say you are guaranteed to find enemy activity within five miles of the waypoints. Also, he bypassed the eight-plane limit, opening up the possibility of very large air engagements. Other nifty things f3maps can do include removing HUD clutter, eliminating the view shift that occurs when you use the ILS HUD mode or lower your landing gear, and (my favorite) changing the default view scale from 2x to whatever you want (I use 1x, since it’s the macho thing to do, but it sure makes it harder to tell what the enemy plane is doing!), so you don't have to reset it EVERY TIME YOU TAKE OFF. It does these things by patching the executable.

adam@mentor.cc.purdue.edu *4 Sep 92*

I use F3map more than Falconr to tell ya the truth. Mostly it lets you change which theatre you're in with Instant Action and also the Red Flag missions. I never messed with the Red Flag change, but changing the Instant Action location gives you new sets of ground targets and lets you do more "exploring." It works up to the D patch and (last time I knew) it was on the FTP sites wuarchive.wustl.edu and ftp.ulowell.edu. I imagine we'll soon see a new version of both Falconr & F3Maps to fiddle with Operation Fighting Tiger (HIGHLY recommended, by the way...).

lam@cs.colostate.edu *15 Sep 92*

I uploaded these two programs, updated for Falcon 3.01, to wuarchive.wustl.edu. The file names are f3mapr.exe and falcnr.zip. When you get f3mapr, you need to type f3mapr at the prompt, and it will extract itself. Falcnr just needs to be unzipped.

6.8 Showf3

t901580@mp.cs.niu.edu *24 Sep 92*

> Some people have asked about the 'debug mode' in Falcon, so I dug up this here bone I buried a while back.
>
> 9. 'n' does something with the hard disk, saving files named "falcon3.###". I guess they're snapshots of the screen.

There is a file available on CompuServe called SHOWF3 that will allow you to view these files (they are snapshots of the screen at the time the 'n' key was pressed). You can then use a a screengrabber to capture and convert to a more common graphics format.

7.0 Peripherals

This section is dedicated to peripheral devices which enhance the usability of Falcon. There is a small bias here as I was only collecting postings that interested me for quite some time before I started collecting articles that would be of general interest.

The postings used in the sections on rudder pedals are from postings after my cutoff point. However, I decided to go ahead and include a selected few for completeness.

7.1 CH Flightstick

This is one of the peripherals that I didn't collect much info on. I was more interested in the Thrustmaster products at the time. However, if you don't want to spend a lot of money for a joystick, the CH flightstick was well recommended by the net at about half the cost of a Thrustmaster joystick.

7.2 MAXX Rudder Pedals

masten@beta.lanl.gov *23 Nov 92*

> Just a quick question. I want to get some rudder pedals to use with F3.0. However, I dont know which to buy. My question is this, I could buy Maxx Rudder pedals for $39, or the Thrustmaster Rudder pedal system for $109. Now could someone explain to me how 2 things that do the exact same thing could vary by a factor of 3???? Is there something amazing about the thrustmaster?

I have the Maxx pedals. They work OK, but they're not all that useful for F3, except in landing. Remember the rudder gets progresively less effective with higher speeds and has no effect above 400 (450?) knots. It is easier to control the rudder with pedals than the keyboard. Or have they fixed the keyboard rudder problems? (always seemed like it ignored my keyboard input then, wham, big yaw change).

I bought the pedals primarily for AotP. With the new patch, rudder isn't as important, but is still quite useful for lining up shots.

Supposedly the TM pedals are a lot sturdier, which explains the price difference (that and TM overcharges for everything). I suspect my Maxx pedals will have a reasonable lifetime, but not forever.

Summary, pedals are somewhat useful , but I wouldn't pay $100 for them. I think there may be some conflicts with pedals and using the FCS 'hat'. Any comments?

7.3 Thrustmaster FCS

dpipes@spica.srg *10 Jun 92*

> I prefer the Thrustmaster joy stick but, as far as I know, the "coolie hat" doesn't do much. There's *supposed* be a driver from Thrustmaster for this but I haven't seen it and after being screwed over for paying to beta test Falcon 3.0, I'm not about to drop another $15 for a driver that *may* work. <grin NOT!>

Richard, The tsr to control the coolie hat and other buttons on the FCS does work. It allows you to reprogram most or all of the buttons, and even the coolie hat, with keystrokes. I like to use IFF instead of AA-AG, and ECM instead of the air brake (since that is on the WCS as well).

The tsr is put out by an independent guy who supports it very well. Updates are $2 with the original disk, so there is not a huge investment. Go for it! Anyway, Thrustmaster is not SH, so why the attitude?...

jeff@onion.rain.com *24 Sep 92*

FYI, here's what you get with the Thrustmaster Joystick:

A joystick (of course!) A-A/A-G weapon select, Weapon type, Fire weapon, Brake (Duplicated when you have a WCS).

You also have a "top hat" that lets you change views. To use the top hat with Falcon3 requires a ~$25/US TSR program, *MEGA SIGH* (I *REALLY* hate this. After buying Falcon3, OFT, a WCS and Thrustmaster, another $25 is TOO MUCH!)

7.4 Thrustmaster WCS

roeschm@craft.camp.clarkson *15 Apr 92*

I have been using the WCS for about five months now and I really like it. The device is well put together and very comfortable to use. It currently works with Falcon 3.0, Chuck Yeagers Air Combat, Red Baron, SWOTL, BOB:TFH, ATP, and a number of other flight sims. The buttons are configurable for each different game with a set of DIP switches on the front of the base. In Falcon 3.0, they are for chaff, flares, target select, lock radar, break lock, breaks, and the rocker switch selects between RADAR modes. This is very handy when you're in a dogfight and don't want to be looking at the kybd. It's even better for Chuck's YAC. Me and my roommate have been in a competition to see who could do a set mission faster on YAC, (F-4 jumps 5 excellent Mig-21's at 2500 feet, easy aiming off, target window on). The best time before WCS was 1 minute, 16 seconds. After WCS, the new record (MY record) was 28 seconds. As you can see, it really increased my efficiency. The only real drawback I have found with it is that when you move the throttle and try to push a button at the same time, some times the button press doesn't get seen. Pretty minor, but sometimes annoying. BTW, look around before you buy, the prices can vary wildly depending where you get it.

jeff@onion.rain.com *24 Sep 92*

> Does anybody have the spare time and will to give out some specs about that Weapons Control System, that has been talked about here before? Specifically I would like to know:
>
> a) where does it connect to (com port or lpt?)

It connects in-line with the keyboard. You plug your keyboard into the WCS, and then the WCS plugs into the computer's keyboard port.

> b) does it require a TSR to run

No, it's just as if you had pressed the keys. There's 8 dip switches on the back, and you set them to whatever game you are playing. The games' settings are coded in a (replaceable for $25/US) ROM. There are 2^8 = 256 possible selections, of which maybe 20-30 are used currently.)

> c) what kind of buttons has it got

You get throttle, with an afterburner detent, 6 push buttons, and 1 rocker switch The buttons are for: (on Falcon3) Chaff, Flares, Target Select, Clear Radar Lock, Radar Lock, and Air brakes

The rocker switch is for radar modes. (NAM, ACM, GM)

> d) what's inside it (wire and switches only, or electronics)

There's electronics, as it sends keyboard codes just as if you pressed keys.

> e) how does falcon recognize it

See above, but because when you press the air-brake button, it sends the letter 'b' to the computer.

> f) what does it look like (never saw one)

Well, it's got a fairly wide base that's about (in inches) 4 x 6, and 1.5 inches high. The stick is sort of like a joystick, but it only moves up and down. (throttle) It's made of plastic, but seems to be sturdy. (I like mine)

> As it stands, I have only talked to a single shop so far, that actually had sold one some time last year, but they hadn't seen one since. At the time, it sold for 198 Australian Dollars, about US$ 150, which seems a bit over the top to me. The same price applies to the thrust master joystick, of which I have seen exactly one around here(makes me think of Australia as a third world country without supply :o( )

Well, Thrustmaster's offices are about 2 miles from my house. I could try and get some sales information if you're interested. $150/US is VERY VERY VERY expensive. You can get them for $80/US easily here. If you want, I could purchase one for you here and send it to you. Send me private mail for details if you're interested.

> P.S. How about some info on the pedals as well?

I haven't seen them yet. I did see a picture of the new chair-like contraption that they're trying to sell. (By another company, but you buy Thrustmaster stuff to use with it.) Seemed like a waste of money to me. :)

Overall I like my WCS/Thrustmaster combination. I do wish that I could remap the WCS buttons though. I bought an early one, and ended up having to spend another $25 for a rom that would work with ACES of the Pacific. Not fun... It's nice to be able to play without having to touch the keyboard all of the time though.

7.5 Thrustmaster Rudder Pedals

darons@netcom.com *26 Nov 92*

> Supposedly the TM pedals are a lot sturdier, which explains the price difference (that and TM overcharges for everything). I suspect my Maxx pedals will have a reasonable lifetime, but not forever.

It is DEFINATELY worth the money for the TM rudder pedals! You are right, they are much more sturdy -- but more importantly, they slide back and forth just like real pedals. In addition, they have similar spacing to real pedals. You are correct though, pedals in F3 are useful for landing.

It is one of those things that you don't know how much you like the TM pedals until you have to do without them. We are working on A-10 right now and just like the real plane, you wouldn't want to think about flying without pedals. The Hi-Fi flight model in the upcomming A-10 Warthog is the most advanced I have ever seen (including FS4). By using your pedals effectively, you can: recover from deadly spins, "side slip" your plane (point your nose in one direction, fly in another), perform snap rolls, and other fancy stuff.

For those who are not interrested in learning to fly, we will offer less sophisticated models. These will offer "fly by wire" characteristics (like F3 and AoTP). These models won't be very realistic, but will fly like most people expect simulators to fly.

The point is, if you are interrested in experiencing real flight dynamics, get some pedals. Remember that our (as well as other's) flight simulators will be getting more and more realistic, and any non-fly-by-wire pilot wouldn't think of flying without pedals.

7.6 Thrustmaster Cockpit

knutson@mcc.com *7 Oct 92*

I got a copy of the Thrustmaster newsletter recently and was reading through it today. In it they have a column dedicated to a product coming out this November. What else could Thrustmaster come out with besides an expensive joystick, throttle/weapon control, and rudder system you ask? Why, an entire cockpit of course. "A cockpit with instrument panels, switches, ThrustMaster Aircraft Combat Controls right at your hands and feet and a very large, amplified speaker to enhance the sounds and feel of flight. Now all you need is G forces..."

The cockpit can be ordered as plans which include instructions, bill of materials and instrument panel templates, or a kit with pre-cut materials, templates and hardware. There's also a Console Module which activates the side panel switches and translates them for the computer. The switch kit provides 62 buttons and switches for the control panel. The setup is supposed to eliminate the need for a keyboard during flight. The final option is the sound kit which includes a 15" sub woofer and amp. It is supposed to produce realistic air frame vibrations (through the speaker) during aircraft operation. Looked like the cockpit, console module, switch kit and sound system were all going to be priced separately.

Most of this is quoted directly from the article. Some is just paraphrased. I have no affiliation with Thrustmaster other than having bought the FCS and WCS. I also don't know anymore than this and no it didn't mention prices. If I had to guess from there current prices, I'd say around $400 - $600 ($100 - $150 for each kit) for the whole cockpit or $700

- $900 for a fully outfitted cockpit including the FCS, WCS, and RCS. It’s time to find out who the REALLY serious simulator fliers are.

shanks@saifr00.cfsat.honeywell.com *9 Oct 92*

(I read an article in the comp.sys.ibm.pc.games board about Thrustmaster coming out with a “cockpit mockup”, including a Main Instrument Panel, side consoles, Thrustmaster joystick, etc., apparently intended to give you a better flight simulation. I posted a reply, which I have expanded upon here.)

I have a REAL hard time envisioning this thing. What are you supposed to sit on? If what you’re building is essentially what the contractors call a “lighting mockup” without the lights, where do you put the monitor?

Honestly, if what you’re interested in is a simulation of a flight environment, you would be much better off by buying yourself a surplus flight helmet (preferably one that doesn’t fit perfectly), a sun lamp (to get your head nice and toasty), and a pair of Nomex/leather flight gloves (soak ‘em with sweat/oil/hydraulic fluid for that crisp but slick feel). Put your monitor a little above coffee table height. Get about 4-5 of those concrete slabs you see at the garden section of your local K-Mart, top ‘em with the thinnest cheap cushion you can find. (That’s your “ejection seat”.) Wipe the mask out with denatured alcohol (smells nice), and clamp a rag soaked in JP-4 (kerosene will do) on the end of the oxygen hose, and strap that puppy on ‘till it leaves a ring on your face that lasts for hours. (You do this ‘cuz when your face is sweaty and you‘re pulling Gs, the mask will be on your chin if it isn’t on TIGHT.) Turn the sun lamp on and point it at your head. Now you’re doing it like the big boys!

Optional “realism” techniques:

Buy some nylon webbing (the kind you use to repair old-fashioned lawn chairs with). Cut two straps of this and wrap them between your legs TIGHTLY. (That’s your ‘chute harness.)

Play when you’ve got a BAD hangover. (Rough night at the O Club.)

Have your wife/friend/neighbor pester you with questions out of the Owner’s Manual (your pretend “Dash One”) while you’re trying to fly (Check Ride!)

Get up and play at 4:00 am (otherwise known as “oh-dark hundred”).

Make a cheese sandwich, wrap it in waxed paper. Stick it in a shoe box with a half-pint of milk, a bruised apple, a crushed bag of Fritos, and an onion. Put in the fridge overnight, then take it out, throw out the onion, put the box under the sunlamp while you’re flying, and eat when you’re hungry. (Box lunch.)

With some imagination and very little cash outlay, you can do a hell of a job simulating what it’s like to fly. That other shit (side consoles, switches, speakers, etc.,) is strictly for show, and doesn’t do anything towards giving you that “There I wuz” feeling.

7.7 Soundblaster Pro

wche@polyvm.bitnet *16 Apr 92*

I just recently got a Soundblaster Pro, but it won't fit in my computer! I have a Gateway 486 - 33 Hz ISA desktop, and I was wondering if any other Gateway owners had a similar problem. It seems to be a few millimeters out of place, and if forced in it appears to put a lot of stress on the card and pushes the cardholder outwards. This makes it impossible to screw in. Do I have a messed up case, or does everyone just force the card

ilaine@panix.com *17 Apr 92*

> Hmmmm..... I was planing to purchase a 486-33mhz machine from Gateway 2000 in the near future. I just want to know if the tower version will have the same problems?

Nope, fits fine :)

t88ntj@tbd.uu.se *17 May 92*

Said his soundblaster stopped working after applying patch D.

jrpg8255@uxa.cso.uiuc.edu *19 May92*

Said his sound problems were fixed after applying patch D.

8.0 Information Sources

The following sections detail additional sources of information which may be used to learn about Falcon 3, fighter combat and other related things.

8.1 Books

masten@navier.stanford.edu *21 Feb 92*

I think you are being a bit harsh here [in regards to the Falcon 3 manual]. Yeah a lot is repeated. Yeah, they screwed up on formations. Yeah, they include zero bombing tactics. Yeah, there is no mention of 'ordnance efficiency' or whatever its called in the campaign summary. Hmmn, maybe you're right :-). The fact that you have so many unanswered questions does indicate that everything isn't covered adequately. But, then again, manuals of other games don't cover this 'cause their games don't have half these features! I still think it compares favorably with other manuals. I like the photos, I like their criticism of US involvement in Central America. The weapons/aircraft reference section is pretty good. I have enough info on tactics in my many other sims and books. By the way, if you don't already have Mike Spick and Bill Gunston's *Modern Air Combat*, I highly recommend it.

Looks like SH just plain forgot it. I'd also like to find out about this book. There are actually two advertised by SH. The Pete Bonani '*Falcon 3.0 Air Combat*' and a '*Falcon 3.0: The Official Combat Strategy Book*'. The second is $27.95 (!) and includes a 3.5" disk (on what, I don't know). You would figure a 340 page manual should cover it!

masten@beta.lanl.gov *19 May 92*

Falcon 3.0 Air Combat Guidebook - Okay, I'm 144 pages into this new release (by Fighter pilot Pete Bonani) and I'm still waiting for it to tell me something that I didn't already know, or get from the games manual. Admittedly it starts with a lot of background info like WWII and later history, but lets get with it!

To this point, its rehashed the lessons included with F3, the HUD displays and gauges and what weapons do what. This was all adequately covered in the manual.

I've heard the BFM (dogfight) tactics are pretty much the same as in the manual. Also, like the manual, it apparently doesn't give any insight on when to use which formation.

It does include a command reference, and keyboard layout. Since I've played F3 about a kazillion hours, I don't need either. It includes some undocumented keys, like the pause,"t" which lets you change the time of day in Red Flag (I had already found this one).

There are some errors, like saying that 60% rpm is zero thrust. Maybe true in real life, but not the sim. Also says the digital readout of altitude is the same as the tape display. Nope, one is absolute, the other is AGL.

It is written fairly well with some humor. Also the political commentary is fairly even handed, though also fairly common wisdom.

So in summary, I'm still hopeful that there is some good insight. Especially hope (and expect) it covers ground attack missions better than the manual. But so far it's not money well spent.

u38339@uicvm.uic.edu *19 May 92*

I also purchased the book [Pete Bonani's *Falcon 3.0 Air Combat*]. In general, I agree with your comments. There are a few tactics (ground and air) that are not covered in the F3 manual and there are some neat insights by the authors, but in general there isn't much new. I was disappointed in that when to use what formation is not covered, HFR is not covered in much greater detail then the manual, and actual campaign tactics aren't much better either. There is a good section on configurations of F3 and one on victory conditions during a campaign, but these are NOT the major thrust of the book. In fact, I was amazed that several paragraphs are word for word identical between the F3 manual and this book! Also there are paragraphs that are almost word for word discussion that took place on CI$. I hope this book wasn't written with pirates in mind? I do like the templates included. I was hoping for MORE not more of the same. Where it does depart from the F3 manual it does a good job, it just isn't that much more detailed. A good section on campaign tactics for the various theaters, setting up flights to get through a mission, HFR radar, formation use, etc. are sorely missing and much needed. --- Having said this, I still enjoyed the book but I don't think I would buy it again.

bash@cbnewsd.cb.att.com *26 May 92*

Hello, I am one of the 30 or so Falcon 3.0 beta testers that begged SH to not release a buggy F3 when it did. I've been involved in testing and debugging of all the patches, and am currently writing an F3 related book for The Waite Group Press. FYI, the book will ship with a disk with extra RF missions, Latest release of Falcnr and F3maps.

masten@beta.lanl.gov *4 Jun 92*

I posted a prelim review of *Falcon 3.0 Air Combat* a while back. The gist was that halfway through the book, I found very little in there that wasn't obvious or already in the game's manual. The conclusion remains the same after finishing it.

As I said previously, there are some interesting anecdotes, and it is not a bad read. But don't buy it for inside secrets or great hints. In fact, I found that the recent tactics posted to this newsgroup by a SH employee were more worthwhile than the sum total in the book. There were some interesting (but sometimes confusing) comments about what it takes to win a campaign and specific mission types.

I'll list a few here that I had already figured out:

Undocumented commands:

Hit pause, then t to change the time of day of a mission. But it is buggy, you may still get the sky glare from the original sun direction.

Hit pause then d to get a debug mode which gives your coordinates and the frame rate. Looks like this is usually from 5 to 12 frames/sec on my 386/33.

Hit pause, tab, and t for "teleport". Apparently you can enter coordinates to teleport your F16. I noted this but never utilized it.

Recommended strike procedure: Fly low (500 ft) to avoid radar detection, begin shallow climb to 1000-2000 ft when five miles off target to visually acquire, slow dive (5-20 degrees) with crosshairs under target, then walk crosshairs up to target to lock, fire away. You can use "x" to break lock to make it easier to switch to another target. Similar for strafing. Bomb from 2-4k ft. Most other tactical info is along the lines of this.

Like the manual, there is no mention of when to use what formation. No more info on dog-fighting than already in the manual.

So if you are on a budget, save your bucks. Better yet, put them towards a copy of Shaw's '*Air Combat: Tactics and Maneuvering*'.

masten@beta.lanl.gov *6 Nov 92*

Books for those who wonder what a “high yo-yo”, and “vertical scissors” are. That is, what the hell are all these shit-hot-computer-flight-jocks (tm) talking about?

First, what is considered The Book (though an ex-F18 pilot told me he hadn’t heard of it):

Fighter Combat, Tactics and Maneuvering
Robert L. Shaw
Naval Institute Press, 1985
428 pages, $32.95

Shaw is a Commander in the Naval Reserve, and an F4, F14 pilot and consultant. This book is very technical, fairly dry, but is amazingly in depth. Has a fair number of drawings to help you along, but expect some slogging through. But if you want to know everything, this is the one you want.

Modern Air Combat
Bill Gunston, Mike Spick
Crescent Books (originally Salamander Books), 1983
224 pages, about $17

This is an incredible buy! Why? (1) Has the usual Gunston pretty photos, diagrams, and drawings of fighter/attack planes. Unfortunately it is too old to include the Su27 and Mig29 and Rafale. (2) Although it only covers 46 planes, this allows more in depth (and understandable) coverage than Jane’s. (3) Most importantly, a terrific 100+ pages of technical information, and opinions on subjects like design, aerodynamics, electronics, weapons, and of course, maneuvers. The discussion of ACM and maneuvers is nowhere near as in depth as Shaw, but gives you the basics and then some, with nice drawings and many great photos. Get this book! I’d love an updated version.

Most flight sims come with fine manuals, with varying levels of coverage of basic maneuvers. I think Chuck Yeager’s Air Combat covers the greatest number with nice drawings. Aces of the Pacific’s is decent, with about a dozen maneuvers discussed. Secret Weapons of the Luftwaffe concentrates more on tactics than actual maneuvers, with more info on intercept of bombers. Falcon 3.0 doesn’t cover the basic maneuvers, they basically recommend use the F16’s superior capability to out-turn the bogie. It does include worthwhile info on geometry of approach, wingman interaction, and weapons envelopes. I don’t think the companion “*Falcon 3.0 Air Combat*” guide adds enough to merit spending $19.95. Birds of Prey doesn’t cover maneuvers at all. OK, since you don’t need them in the game! Can’t comment on the other games I don’t have.

Last, a book that doesn't discuss maneuvers, but is a fairly up-to-date, nice picture/photo/ information book on fighters:

The World's Great Interceptor Aircraft
Gallery Books, 1989
248 pages, about $17

Covers 20 modern aircraft in depth, with photos, cutaway drawings, foldouts, and more text-like discussion of the histories of the aircraft. Similar info on the specific aircraft as Modern Air Combat, but includes the Mig29, and info on more recent variants of most planes. I give this one a mild recommendation.

I think you'll have to special order all these books through your local bookseller.

8.2 Mailing Lists

These two mailing lists are where many of the the articles in this document have come from. Initially, all postings came from USENET news groups. It wasn't until later when these mailing lists were formed that much of the discussion moved off of USENET news and into these lists. Currently the fs mailing list is fairly quiet while the falcon3 maling list was digestified earlier in the year to reduce volume problems.

8.2.1 76004.2144@compuserve.com

While not exactly a mailing list, this Internet electronic mail address gives you direct access to Spectrum Holobyte. It is listed in the front of the Falcon 3 manual along with addresses on other specific information systems.

If you have questions, comments, or bug reports, this would be a good place where you could send them.

8.2.2 fs@ssg.com

rick@ssg.com *25 Jun 92*

Welcome aboard!

INTRODUCTION TO "FS" FLIGHT SIMULATION MAIL LIST
fs@ssg.com
fs-request@ssg.com

The Flight Simulation mail list is for the discussion of various computer flight simulations, both recreational (e.g., Chuck Yeager's Air Combat) and instructional (FAAapproved or not). Discussion of technical issues such as memory management, monitors, joy sticks, etc. as long as they pertain directly to flight sims. This applies equally to the discussion of various aircraft; the thread should apply to a flight sim not just debate the virtues of the Storch verus the Pilatus Porter, for example. There is no restriction to platforms (e.g., PC's, Amiga's, Crays).

----------------------------------------------------------------------*

Net Protocol.

FS is not moderated. It passes through a private system and the administrator (and system owner) reserves the right to edit blatantly offensive or illegal material. The administrator reserves the right to remove subscribers from the list for repeated offensive articles or due to technical considerations (e.g., bounce a 1,000 messages and see what happens <g>).

Although discussion is encouraged on FS, please be considerate of others on the list and send *personal* messages directly to the intended recipient --not the list. Of course, if you feel your message might be of interest to everyone, go ahead and post it.

FS can be used as a place to announce flight simulation related events such as electronic "fly-ins" as well as software and hardware. A single article to the list saying "I put XYZ in SIMTEL-20 for ftp" is sufficient; please resist the urge to duplicate ten times over, "hey, XYZ is in SIMTEL-20!" Due to network delays and outages some postings (especially long ones) may take several hours (or even days !) to reach everyone. Keep this in mind when posting updates that are highly time-critical. For fastest delivery, it is recommended that you subscribe to the list using your Internet address (if you have one). Network addresses can be very difficult (if not impossible) to reconstruct from messages sent through various gateways. Please include your return address on all messages. Mail is distributed to the list as messages are received. Due to network problems or mailer problems it may be necessary at times to remove problem subscribers from the lists without prior notice. If you have not received mail from the list in several days you might want to send mail to fs-request@ssg.com for assistance.

----------------------------------------------------------------------*

Where to send things.

To send mail to the entire list, address the mail to:

fs@ssg.com

You may request to subscribe, unsubscribe or ask any list management related questions by sending mail to:

fs-request@ssg.com

----------------------------------------------------------------------*

If you have any questions or comments about the fs list, please send them to the address below, or fs-request@ssg.com. Thank you for your interest in the fs list.

Rick Emerson Flight sim mail list administrator

8.2.3 falcon3@onion.rain.com

jeff@onion.rain.com *21 Sep 92*

Also, as a side note, there are 117 addresses on the falcon3 mailing list.

jeff@onion.rain.com *21 Sep 92*

I'm not manually monitoring the falcon3-request line any more. I've installed the "Majordomo" list server. I've attached the help message below, but here's the basic commands:

echo "subscribe falcon3" | mail listserv@onion.rain.com echo "unsubscribe falcon3" | mail listserv@onion.rain.com

Submissions should still be sent to falcon3@onion.rain.com. I'm still manually filtering out the requests that are sent to that address.

The majordomo list server (listserv@onin.rain.com) understands the following commands:

subscribe <list> [<address>] Subscribe yourself (or <address> if specified) to the named <list>.

unsubscribe <list> [<address>] Unsubscribe yourself (or <address> if specified) from the named <list>.

which [<address>] Find out which lists you (or <address> if specified) are on.

who <list> Find out who is on the named <list>.

info <list> Retrieve the general introductory information for the named <list>.

lists Show the lists served by this Majordomo server.

help Retrieve this message.

end Stop processing commands (useful if your mailer adds a signature).

Commands should be sent in the body of an email message to "listserv@onion.rain.com".

Commands in the “Subject:” line NOT processed.

If you have any questions or problems, please contact “listserv-owner@onion.rain.com”.

8.3 USENET News Groups

The following comes from John Quarterman’s book *The Matrix - Computer Networks and Conferencing Systems Worldwide*:

> USENET began in 1979 and is thus one of the oldest cooperative networks [Daniel et al. 1980; Emerson 1983; Tokuda et al. 1986]. It is also one of the largest networks by almost any measure, having about 265,000 users and 9,700 hosts on five continents, as shown in Figure 10.1, and ranging from individuals to people at the largest corporations and universities. In fact, one of its key distinguishing features is that essentially anyone and any organization can join. Its name is usually taken to mean “User’s Network.” This network is unusual in a number of ways, most remarkably because it supports one basic service, *news*, a distributed conferencing service, and does not support electronic mail (the closely associated network *UUCP* supports mail but not news).

Many of the articles and postings in this document have come from USENET news groups. Initially, all discussion on Falcon 3 was over these groups. With the creation of the mailing lists, much of it has moved off.

8.3.1 rec.games.misc

If I remember correctly, this was the original news group where Falcon discussions were held. At some point the volume of messages in the group was so high that a vote was taken to split off the IBM PC games discussions into a separate group. This passed and most of the discussion moved on to the new group comp.sys.ibm.pc.games. However, you will still occaisionally find PC game related postings in this news group.

8.3.2 comp.sys.ibm.pc.games

When the volume of messages in rec.games.misc grew to approximately 100 messages a day, it became necessary to split the group into PC and non-PC related games. PC related game discussions ended up in this news group. However, the volume didn’t slack off much and eventually, two flight simulator mailing lists were formed.

8.3.3 rec.aviation.simulators

The rec.aviation news group has been having growing pains as well. They recently split into several news groups, one of which was rec.aviation.simulators. You will find some discussion of computer flight simulation in here as well as the other news groups.

8.4 Information Systems

I have very little information on GEnie and Compuserve as I don't use these information systems.

8.4.1 GEnie

You will find a few references to GEnie within the text of this document. One noteworthy mention is that GEnie has a multi-user real-time flight simulator called Air Warrior. However, many people have warned that you need lots of money to play this as it is very addicting.

I believe Spectrum Holobyte maintains a presence on this information system.

8.4.2 Compuserve

Compuserve offers the flight simulator forum (FSFORUM). There are numerous (~17?) sub-groups in here, ranging from flyins and hangar talk to modern air combat. F3 players accumulate in modern air combat, along with f15III hopeful's and other games. There's an active message base and a library full of utilities and fun stuff in each sub-group. FSFORUM is noted for f3 players. It has a lot of obviously experienced f3 pilots, as well as SH reps, and the authors of F3MAPS and FALCNR. It's well worth visiting.

You will find references to CIS and CI$ in the text of this document. These refer to Compuserve Information Service.

8.4.3 WAIS

Many of you probably don't know about WAIS, so a little explanation is in order before we get into the discussion. WAIS is a Wide Area Information Service. More specifically, it is a network service which allows users to do document search and retrieval over the network. In this particular case, it allows users with wais software to query my collection of Falcon articles on whatever topic interests them and retrieve the article which contains that topic.

knutson@mcc.com *30 Sep 92*

In preparing for writing my guide to Falcon 3, I made a wais database of all the Falcon 3 stuff I have collected. Then I thought that this might be useful to everyone else as well, so...

If you have a wais client, try the server info listed below. I don't know if I'll maintain this permanently. It depends on how useful it is and how much trouble it is. Comments are welcome.

If there is enough interest, I may index my entire collection of flight simulator messages.

```
(:source
```

```
 :version 3
 :database-name "/mcc/test/src/wais/wais-8-b5/wais-sources/falcon3"
 :ip-name "urbino.mcc.com"
 :tcp-port 8000
 :update-time (:time-interval :interval :daily)
 :cost 0.00
 :cost-unit :free
 :maintainer "knutson@urbino.mcc.com"
 :description "Server created with WAIS release 8 b5 on Sep 30 15:33:02
1992 by knutson@urbino.mcc.com

This is a collection of most of the mail and news traffic I have seen on
Falcon 3 since Feb. 1992. This database should be considered temporary
and was setup to help me write "The USENET Guide to Falcon 3." I haven't
decided whether or not to continue maintaining it indefinitely.

For maximum effect, be sure to increase the default maximum number of
results returned from 40 to something larger.

The files of type mail used in the index were:
 /home/knutson/mail/Falcon
"
)
```

8.4.4 Archives

This section discusses where repositories of information and software related to Falcon 3 may be found.

- wuarchive.wustl.edu

  Most of the patches to Falcon end up getting uploaded to this host using FTP. The directory where they are usually placed is /pub/MSDOS_UPLOADS. However, files don't tend to last long here.

- onion.rain.com

  This is the "official" Falcon 3 Internet repository host. However, Spectrum Holobyte does not maintain this area and much of the software that does end up here actually was picked up form Compuserve first.

- Compuserve

  I believe that this is Spectrum Holobytes "official" repository althought that has not been stated.

jeff@onion.rain.com *21 Sep 92*

> 1) Is there a FAQ file for this mailing list?

Not yet, but I'd be more than willing to supply it to folks along with the archives if someone else writes it. :)

Also, as a side note, the Falcon3 patch D is available along with the falcon3 mailing list archive on onion.rain.com [147.28.0.161] in ~ftp/pub/falcon3/programs/f3fixd.zip

If some kind soul would ftp the Falcon editor, or any other interesting missions, I'd appreciate it. (in ~ftp/pub/falcon3/incoming) If you send a mission, either send a README, or drop me a note in email.

jlong@uhunix.uhcc.hawaii.edu *13 Oct 92*

Information regarding Falcon3's controversial "debug mode" is available by anonymous ftp to onion.rain.com in the directory /pub/falcon3/incoming

[[Moved to /pub/falcon3/hints/debug-mode -- Jeff]]

8.4.5 User Groups

t901580@mp.cs.niu.edu *10 Oct 92*

#: 115545 S8/Modern Air Combat
02-Oct-92 23:36:08
Sb: ATTN all F3 pilots!!!
Fm: Tom "KC" Basham 73760,1251
To: all

All falcon 3.0 pilots interested in forming squadrons and competing in nationwide H2H contests read on:

Mike Drake, in conjunction with several fighter pilots (including Bonanni) is trying to form a nationwide network of F3 pilots, organized in squadrons, to compete in regular H2H battles.

I don't have all the details, but from what I understand, all squadrons will be formed and administrated according to exact Air Force procedures and Jargon. Activities would include intra-squad training H2H hops and inter-squad competitions. Mike is trying to form the largest pool of people possible to generate the most fun. Mike is looking for both willing pilots and squadron COs.

If you're at all interested, give Mike a call. He has set up an 800 number to promote this thing at 1-800-AIR-ACES (247-2237). This number routes to his home, so you will get his personal answer machine. Just tell him that you read the post from KC Basham on CIS and want more info. He'll call you back with details. As far as I know, there's no $$ associated, this is just to get people together to have fun.

Mike is currently a regional coordinator for the SIMCAP/Intercept Magazine F3 competition. Mike is also hoping to provide network play on BBS systems. He asked me to help spread the word. Whether your interested or not, please refer this message to any/all other F3 pilots you may know. The larger the pilot base, the more flying we can get in.

9.0 Suggestions for the Future

dbr@ocf.berkeley.edu *25 May 92*

This is a list of suggestions I sent to SH. I thought y'all might be interested and might offer further suggestions.

1. The rudder should always be available (not just when wheels are extended); its effectiveness decreasing with speed. Otherwise several ACM's in books such as Shaw's "Fighter Combat" cannot be executed.
2. It would be nice if auto-pilots would land along with leader.
3. For night missions, AGM65D's should load automatically on wing men.
4. The AWACs should do what AWACs really do and provide threat information. For example, they could warn about various threats (to ground installations, yours and other flights) and provide intercept vectors. Most importantly, with this feature, one wouldn't have to broadcast their location by doing 360 degree radar sweeps to assess the threat environment.
5. Be able to tell wing men to turn off their radars to run silent. Works well with AWAC's possibilities.
6. A "copy waypoints" option to coordinate ESCORT flights with others.
7. The "select pilots" screen should show the actual formation and perhaps allow one to move the F-16 icons and set their own spacing and position. It would need a side, front and top-down view. Pilots could be assigned on a side chart numbered for the number of F-16's.

Most important:

8. We felt there needed to be a different way to design flights. Because some missions involve getting several flights to the same place at the same time (and not always from the same place) it would be useful if a time-based waypoint were available. For example:

The user puts the waypoint marker on the desired point and fills in the "game" time the flight should be there, e.g. 18:30. The computer automatically calculates the distance between the waypoints and fills in the necessary speed. If it is too fast or slow, the computer prompts for a different time. Then in the flight, the autopilot will set the necessary speed. Here's where the current system fails: Currently, if a flight gets into some bogey action, it'll stay and fight, then resume at the set speed, arriving at the target later than planned. With the time based system, the autopilot would recalculate and set the necessary speed to get the flight to the next waypoint on time (maximum speed if necessary). If it is too far behind, it would go to max. speed, but request permission to return to base. This would allow the game-user (or "human" for lack of a better word) to decide if the flight were still usable.

renns@fraser.sfu.ca *25 May 92*

I agree fully about the need for a waypoint ETA and synching mechanism. It is very difficult and tedious to have your forces arrive at the same time (and as you say, impossible, if bogeys are met along the way).

jlong@uhunix.uhcc.hawaii.edu *3 Jul 92*

Not to flame, tho. Maybe SH could make the number of enemy aircraft user configurable. Say, you set the enemy skill level on 'trainee' and you don't get too much opposition, while if you set it on 'ace', you get (lots of rookies) || (a FEW aces) ... IOW, have 'enemy skill level' set both the level of the individual enemy pilots, and the number of them, too. Just an Idea.

Another way it could be user-configured is via the 'unlimited weapons' switch. With it on, you get lots of targets to shoot. That way the shootem up guys could keep blasting those AIM-120's.

masten@beta.lanl.gov *14 Aug 92*

Some other small things I'd like to see:

Time based option to waypoints.

Copy ordnance to other planes. (in RF missions)

SAM mode get independently adjustable range.

Enemy tracking off all planes in ACMI, not just the ones the computer decides are close enough to you.

A quick key to repeat the same mission.

ptran@watserv1.uwaterloo.ca *13 Sep 92*

> Yes, the anti-air and SAMs fly, but your base never launches any other planes. Nor does it inform you that the base is under attack, so you could reverse course and help out. One possible solution would be to always assign a CAP-Loiter around your base. This is nice for when you come back from a mission and may be out of ordnance. But its a pain to set up each time. And what if you want to use all 8 on your mission? Or don't want to waste all the fuel on an endless CAP-loiter flight? This sounds like a fairly easy thing for SH to implement.

Your base launching planes... that sounds non-trivial to implement. If all you want is to see a plane pop onto the runway and take off, then it can be done easily, but I think we Falconers would not put up with such hocus-pocus. Instead, we would want to see planes taxi from the hangers/parking spots, onto the runway, and then take off.

AWACS/advanced warning info could be easily improved to give us better situation awareness, though.

shanks@saifr00.cfsat.honeywell.com *14 Sep 92*

For realism, S.H. should implement a screen blanker under high G onset rates - that would fix some of you armchair jet jockeys! [Refer to the GLOC discussion on page 37.]

gt3017a@prism.gatech.edu *15 Sep 92*

> Now having more data from the AWACS would be nice. Especially when your trying to defend it... :)

I couldn't agree more! Last night, (yes, pitch black night... THANK YOU SH!), I was doing CAP around an AWACS plane in the Kuriles, deep inside friendly territory, and knocking bandits out of the sky like little flies. It would have been nice, however, to know that the AWACS had been shot down, or at least was threatened by planes which I wasn't chasing.

9.1 Controlling wingmen

knutson@mcc.com *20 Feb 92*

It would seem to me that the formation being used ought to be able to be varied from waypoint to waypoint depending on what you need from the mission at that point (i.e. radar avoidance inbound, best ground attack coverage over target, etc.). Better yet, the formations could be changed via command in much the same way as wingman command is done.

masten@navier.stanford.edu *21 Feb 92*

They should have a 'return to base' command so you can continue the fight when he is low on fuel or damaged and you're ok.

opus@cbnewsc.cb.att.com *4 Aug 92*

> Is there a way to get you wingmen somewhat interested in defending themselves when one a NOTHING or LAND waypoint? The book says they will defend themselves if attacked, but I've watched a MIG-19 sidle up on my wingman's 6 and gun him down. Then he went to the next, etc. I couldn't do anything since I was dead empty on all weapons. I haven't tried a "return to previous waypoint" yet; maybe this will help.

You might try using CAP instead of NOTHING, and putting a CAP waypoint right next to your airbase for the return trip.

dbr@ocf.berkeley.edu *15 Aug 92*

One should be able to tell the wing-men to TURN OFF their radars to run silent. This works well with the AWAC's possibilities. Currently, even though you're trying to sneak up on someone, your wingman is squaking "target, target," with his radar painting everything in the sky. DAMN this pisses me off.

steven.baldassarra@canrem.com *27 Sep 92*

> I wish they had a CAP waypoint command that would force the CAP flight to cover you if you diverged from original settings. Or if I could issue a command to the other flights (instead of just to my own).

In 3.01, you can give two commands to your second flight (flight 2 of 2) leader if he's your number two. That is, if you assigned a second flight of F-16s as your fighter-escort and you have no wingman in your flight or all your wingmen in your flight have gone down.

9.2 Aerial Refueling

knutson@mcc.com *20 Feb 92*

It would be nice to have aerial refueling for those long haul missions. It would eliminate the need to carry external tanks and free up hardpoints and weight for carrying more ordinance. Night refueling could be a real thrill as well.

9.3 Flight Planning

9.3.1 Waypoint Copy

dbr@ocf.berkeley.edu *15 Aug 92*

Edit Waypoints should have a copy waypoints option to coordinate ESCORT flights or multiple bombing flights w/o having to create each one. [patch D]

9.3.2 Waypoint Arrival Time

dbr@ocf.berkeley.edu *15 Aug 92*

Time-base waypoints are a MUST!! This relying on fixed speeds is stupid.

Here's a method I've thought of:

The user puts the waypoint marker on the desired point and fills in the "game" time the flight should be there, e.g. 18:30. The computer automatically calculates an estimated speed for the distance and fills in the necessary speed.If it is too fast or slow, the computer prompts for a different time. Then in the flight, the autopilot will set the necessary speed.

The current system fails like this: If a flight gets into some bogey or ground action, it'll stay and fight, then resume at the set speed, arriving at the target later than planned. With the time based system, the autopilot would recalculate and set the necessary speed to get the flight to the next waypoint on time (AB5 if necessary). If it is too far behind to catch up, it would go to max. speed, but would request permission to return to base. This would allow the human to decide if the flight is still usable.

9.3.3 Fuel Estimation

knutson@mcc.com *20 Feb 92*

Falcon itself does not provide any help in estimating your fuel usage when planning your mission. The OFT manual does give you a method for estimating this. No mention is made of whether or not this pertains to all flight models. See also Section 4.1.5 "Fuel Usage" on page 59.

9.3.4 Pilot Selection

dbr@ocf.berkeley.edu *15 Aug 92*

The "select pilots" screen should show the actual formation and perhaps allow one to move the F-16 icons and set their own spacing and position. It would need a side, front and top-down view. The icons could be small with a number on it corresponding to a side chart numbered for the pilots' names.

9.4 AWACS support

chuck.price@eng.sun.com *6 Oct 92*

> I *like* that tadpole radar! I don't care if it isn't realistic, it *should* be! About time for the DoD to catch up?

I like it too. I'd like to believe this is what the AWACS would be beaming to me if I was using their radar instead of my own. If any SH types are listening, why not provide a passive-feed-from-AWACS option which gives a presentation like SAD mode, but doesn't cause my own plane to emit radar energy? And if the AWACS gets shot down, I lose the feed and am on my own.

9.5 View Manipulation

jlong@uhunix.uhcc.hawaii.edu *4 Jul 92*

> How about foot pedals? The left pedal would look to the left; the right pedal would scroll the view to the right; and both pedals would look up. Releasing the pedals would change the view back to the front. If the pedals were analog (like joysticks), they could be used to smoothly scroll the view in any direction a pilot could look. No hands!

What if you wanted to look down? And what would be happening with the rudder all this time? Actually, that isn't such a bad method for those of us who have foot pedals (tho I'm still not too sure how well it would work on landing, where you tend to use a lot of rudder and want to be looking ahead...)...).....

The old Sub-Logic sim that I had for the amiga used the arrow keys to good effect.

View manipulation is one of the most important aspects of FS design, and is one area where Falcon could be improved. There is little use of the keypad, especially considering that almost all of the keypad keys are duplicated on the other row of numbers on the kbd.

Another thing I would like to see is some key, say kp5 to mean 'return to previous view'; each time the view is changed, the settings are stored in some variable, and when kp5 is hit, the view is restored to those settings.

Still another thing I would like to see is a key that means 'swap the next 2 keys' like found on a certain text editor I use. With this key, you could remap the keyboard to any config you wanted. If all fsims had this feature, well, they won't... maybe a tsr? vectors reset? sigh...

In falcon, I never use that weird padlock view, except to ID a bogey, if I'm curious. The 'track' (9) view is much more useful for me even if it is a little strange to coordinate with it. I just recently got the 'aha' of it, and it has made a tremendous difference in close-up fights.. y'know, those "oops! I'm overshoooooting him!" situations.

You can also hit 't' for 'change target' while in the track view mode.

The best part of the padlock view besides the target info (which is merely academic, anyway) is that it gives you a feel for what way to turn your head to the target, but only when you switch targets. The view otherwise is confusing. All I really want to know is "which way?", and I need that *fast*. A little pointer that moves, say like a stick on a ball in the middle of a sphere (with you in the center of the sphere) would do the trick. And put it on the radar screen, not on a whole view. (I know, "that isn't falcon....". Yeah, that HFR radar is pretty sacred isn't it you SH doodz? :^)

I can do better against aces (patch 'd') with the easiest radar setting than trainees using the hardest radar setting. That's how important it is to have a full area of view. That's how poorly I use HFR...

One thing I don't like (in Falcon) is the way the f3 and f3 keys work. They are supposed to mean 'pan', and they do in some modes but why not in the forward view mode? And again, why not use the arrow keys for that?

Also, the pan setting is lost when you leave the view for another. When you go back, you have to hassle with getting it right again.

When I'm really having fun, meaning in a close dogfight, I usually switch back and forth between the forward and track views. I notice that when I go to forward view, something happens on the hard disk. What? Yeah, what about a tsr to let us config our own keys?

9.5.1 Padlock View

knutson@mcc.com *20 Feb 92*

Also, padlock view needs a target search type. One case would be to look for SAM launches. Then it would be trivial to roll upside down or sideways, and start looking for what SAMs I need to avoid. Search type would also come in handy when landing. Then I could lock the view on the runway rather than have it swing around to my wingman. What's worse, sometimes I can padlock on the runway and sometimes I can't.

9.6 Engine restart

knutson@mcc.com *20 Feb 92*

There was a suggestion that computer pilots don't bailout of their plane after experiencing a flameout. While I don't believe this is necessarily true, it would make an interesting addition and would add extra adrenaline pumping while trying to decide whether or not you should get out while the getting is good or continue to try restarts. A restart would only be possible if the engine wasn't too damaged (unknown by the pilot), and you had enough airspeed to spool the engine. Of course, a damaged fuel system could cause an explosion/fire if a restart was attempted.

9.7 Mission Debrief

knutson@mcc.com *20 Feb 92*

I sure would like to know more about the criteria for a successful mission. In some of the interdiction missions, my guess for mission failure was that they started closer to the area than I did. I couldn't get there in time (even at full AB) to even get a MRM missile lock before they entered the area. I did down the AC, but it didn't matter any more once they penetrated.

There is also an intercept mission where you are protecting a bridge from inbound AC detected by an AWACS. However, you don't get a vector to the bogeys, so you fly this weird mission profile which takes you deep into enemy territory (Panama Campaign).

sekullbe@athena.mit.edu *21 Feb 92*

Mission debrief SUCKS. It ends randomly, I have no clue how it figures out if you were successful or not, and it misses things. Often it will say 3-4 times how some pilot downed some plane. This part just loses. I wish it would tell you exactly what you killed and what you lost.

9.8 Number of Enemy

masten@beta.lanl.gov *1 Jul 92*

> is there any chance that the next patch will revise the campaign back to reasonable levels?
>
> Is anyone in a position to pass this one to S-H? Basically, all I'm suggesting is that (since people seem to think the D patch is too tough) the best revision would be to make the campaigns realistic, rather than making the enemy pilots stupid again. This would make the game both playable and plausible. It just astonishes me that a simulator with so much realism in everything else would have campaign force levels that make so little sense.

Bravo. I couldn't have said it better myself. I've mentioned this to SH twice, and in this newsgroup a couple of times. The SH rep, no. 19 (Marisa Ong) said they had no plans to do anything about this. I suggest you, and all others who are tired of this, write them. They can be reached at compuserve from Usenet by writing to: 76004.2144@compuserve.com

10.0 Credits

I would like to thank all the article authors and Spectrum Holobyte for making all this information available to so many people. I would also like to thank that thousands of people who keep USENET news and electronic mail flowing. Without them, this would be a very deaf and dumb planet. Lastly, I would like to thank Simon Garton for reviewing this document.

A

Z