

FALCON 4.0[®]

Realism Patch Group

Realism Patch v5.0 Installation Guide

Important Information

Falcon 4 is an U.S. registered trademark of Infogrames. Permission was obtained from G2 Interactive/Force 12 Studios to release this version of the Realism Patch with executable changes, and subsequent versions of the Realism Patch with only externally driven changes.

The contents of the Realism Patch have been made by the individual authors that comprise of the Realism Patch Group. The authors have given their permission for the contents to be released only as part of the Realism Patch installer, and no other modification packages for Falcon 4 or any derivatives of Falcon 4.

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Falcon 4.0 Realism Patch

Version 5.0 FINAL (US and UK)

August 6, 2001

Microprose Falcon 4.0 is a flight simulation game produced by Infogrames, to simulate the Block 50 F-16C in a fictitious Korean War. Falcon 4.0 is an U.S. registered trademark of Infogrames. The last supported patch release by Infogrames is version 1.08, available at the now defunct Microprose website, <http://www.falcon4.com>. Prior to the dismissal of the Falcon 4 development team in December 1999, an unofficial version of the v1.08 game executable modified by the Microprose developers was tested by a team of public beta testers under iBeta LLC, a Colorado based quality assurance company. This version was released with increased multiplayer stability, and has now become the most widely used executable, known as version 1.08i2. This version may be obtained at the major Falcon 4 sites. The rights to develop the Falcon 4 game was purchased by Force 12 Studios/G2 Interactive in May 2001.

The Falcon 4.0 Realism Patch is a community-based project that endeavors to improve the gameplay of Falcon 4.0 by enhancing its realism. This Realism Patch is "unofficial," and is not maintained by Infogrames. The Falcon 4.0 Realism Patch is supplied "as-is."

The Falcon 4.0 Realism Patch concept was begun by Executive Producer Eric "Snacko" Marlow with the support of iBeta LLC. The iBeta Realism Patch was released up to version 3.0 by iBeta. Eric and iBeta CEO Glenn "Sleepdoc" Kletzky have decided that iBeta cannot continue to provide corporate resources for further development. iBeta has ceased support of all previous versions of the Realism Patch, and has not been involved in the Realism Patch ever since.

The Realism Patch effort is carried forward by a dedicated team of flight simmers, many of who were the original members of the iBeta Realism Patch team. The Realism Patch Group (RPG) has expanded to include several new members of the F4 community who have been contributing to its development and growth, and has grown to even greater heights than its iBeta days. The members of the Realism Patch Group includes current and ex- service pilots and engineers, who brought with them many years of working experience and knowledge on military aviation. The Realism Patch effort has also expanded in scope, and is no longer a data only patch. Extensive executable changes are now made to make full use of the data changes, as well as improving weapons and AI behavior. The product that you have today is the result of close collaboration between the many members of RPG, scattered all over the world. The Realism Patch has taken more than 15,000 emails and thousands of man-hours of testing, research, and development to produce.

When the RPG was the iBeta Realism Patch Team, we received permission from Hasbro Interactive (now Infogrames) to develop externally driven changes to the Falcon 4.0 product. Permission was obtained from G2 Interactive to release this version of the Realism Patch with executable edits, and subsequent releases of the Realism Patch with only externally driven edits.

This user's guide is organized into three parts, namely the Quick Start Guide, the User's Guide, and Designer Notes. We suggest you read through the entire manual thoroughly. Many sections have been updated and re-written, and a lot of new material have been added. Most of your questions will be answered by the material contained within this manual, and you will also find the tips and tricks of making the most out of the Realism Patch.

USER SUPPORT

IMPORTANT NOTICE

The Realism Patch has been developed, and tested to function as design, using only the Falcon 4 version 1.08i2 executable. Falcon 4 is a very complex simulation, and the incorporation of the executable changes made in the Realism Patch into any other versions of the Falcon 4 executable **does not** imply compatibility with the Realism Patch, as the changes may not (and in many cases, do not) produce the same effects. This is true even for data edits. Unless the Realism Patch Group confirms the compatibility of the executable independently, any claims of compliance is without basis and the agreement of the Realism Patch Group, as the executable in concern has either not been tested at all, or has been tested and found not to perform as designed with the Realism Patch. The Realism Patch Group must emphasize that the product will only function as designed when used in its entirety, i.e. with the executable and data changes. The Realism Patch Group cannot and will not provide support for any other versions of the Falcon 4 executable, other than the one supplied as part of the Realism Patch. Should the user choose to install the Realism Patch over any other Falcon 4 executable, they should understand that they are doing so at their own risk, and the Realism Patch Group cannot be held responsible for any damage, data loss, or performance loss that may result. The material covered in this user's manual pertains only to the Falcon 4 executable provided as part of the Realism Patch, and do not reflect the performance of any other versions of the Falcon 4 executable.

On-line and Telephone Support:

On-line and telephone support are not offered.

Internet:

You can read the latest news and information about the Realism Patch on our World Wide Web page at <http://rpg.falcon40.com>. Questions, feedback, and ideas can be posted to official Falcon 4 forum, under the Realism Patch Group area, at <http://www.delphi.com/falcon4/start/>.

How to Get Help:

Please see the notice at the bottom of this page for support information. If you are having problems with the Realism Patch, we can best help you if you provide the following information:

- ➔ Your computer's processor and its speed.
- ➔ Total RAM installed on your computer.
- ➔ Version of DirectX and DirectX drivers.
- ➔ Video card brand and model name.
- ➔ Sound card brand and model name.
- ➔ Joystick brand and model name.
- ➔ Any error message or crash log.
- ➔ Detailed description of what you were doing when you experienced the problem, and if the problem is reproducible, the steps required to reproduce the problem.
- ➔ Any saved TE or campaign files that will cause the problem.
- ➔ Any ACMI files or screen shots that will illustrate the problem.

Other Localized Versions: If you have other localized version of Falcon 4.0 (German, Italian, etc) you may attempt to install these files, but you must install 1.08US as part of your upgrade. This may affect Falcon 4.0 adversely – if you choose to install 1.08US and the Realism Patch, you must do this at your own risk. You may attempt to install these files on a French version of Falcon 4.0. Unofficial support for French versions of Falcon 4 may be obtained at <http://www.checksix-fr.com>.

FOREWORD

Falcon 4.0 was first released in December 1998, after spending four years in development. Many bugs were resolved between the initial release of Falcon4 in December 1998 and the final official patch, version 1.08, which was released in December 1999. Falcon 4 finally became a game stable enough for meaningful play. However, the lay off of the entire Falcon 4 development team in December 1999 had effectively stopped any more official enhancement to this revolutionary flight simulation game. The efforts to improve and sustain this remarkable game was and is still being continued by a team of users from all over the world. A plethora of different patches, ranging from airplane skin textures, new cockpits, to a complete package such as the Realism Patch, have been made available after the cessation of official support by Infogrames.

The original concept of Falcon 4 as conceived by the chief designer, Gilman "Chopstick" Louie, was to simulate the experiences of a fighter pilot, by putting the player's head into the war, and not just into the plane. The genius of Falcon 4 is that the game creates a tactical environment that makes the player look inward, and develop real fighter pilot skills, in order to succeed. The ingenious design of the data files and the executable also made Falcon 4 one of the most extensible and customizable game. It is on the basis of the excellent game architecture that the Realism Patch is made possible.

In a flight simulator as complex as Falcon 4, compromises have to be made. As we developed the Realism Patch series, we have stuck faithfully to the original intent of the designers, and spared no efforts in improving the tactical environment in Falcon 4. All the changes are geared towards providing a realistic battlefield to the player, where real life tactics can be put into practice to help the player survive and succeed. While the changes may not be academically correct in the strictest sense (who cares about where a third order fit is better than a fifth order fit anyway?), the changes in the Realism Patch have been made to produce realistic effects and to simulate the intricacies of a modern air campaign.

We have improved the environment to the point where you will need to develop real fighter pilot instincts, and understand the strengths and limitations of your equipment. You will be faced with different scenarios of conflicting needs, similar to those faced by real fighter pilots. For example, you will realize the fear of not being able to positively identify targets; the limitations of electronic counter-measures; the limitations of your weapons; and the need for meticulous mission planning, amongst others.

With the release of version 5 of the Realism Patch, we have finally completed the process of modeling the full effects of electronic warfare on modern air campaign. With an integrated air defense system, stand-off jammers, and other electronic support and counter-measures, Falcon 4 with the Realism Patch is now the most complete simulation of a modern air war ever made available in the PC flight simulation industry. The physics and engineering behind every change in the Realism Patch have been thoroughly and painstakingly researched, and put together as an integrated whole.

We hope that you will enjoy the Realism Patch, as much as we have enjoyed developing and testing it. This user's manual is part of the Realism Patch experience, and complements the Realism Patch. We thank you for your interest in the Realism Patch, and wish you clear skies, calm winds, and a MiG at your twelve o'clock !

The Realism Patch Group

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EXECUTIVE PRODUCER'S NOTES – REALISM PATCH

VERSION 5.0

The Realism Patch Group has not been working really hard since the release of Realism Patch version 4.1. More enhancements have been made, and more weapons are being added to the Realism Patch to reflect the updated ORBAT of the forces in the Korean theatre, as well as support the needs of other theatres. Realism Patch version 5.0 is the most extensive and comprehensive release of the RP series ever, and completes our quest to model the modern air battle in the highest fidelity possible.

Here are some of the highlights of RP5.0:

- *NCTR (Non Cooperative Target Recognition) has been totally revamped. You will no longer see the friendly/hostile bar, but instead, you will see the actual target ID, depending on the target aspect.*
- *The RWR has been fixed. Contacts will now be dropped after 6 seconds if the emitter fails to repaint the target. The audio tone of the emitter will also be played when the emitter actually repaints the target. You will no longer find that the emitter appearing on your RWR if you are outside its radar gimbal limits, although the RWR will wait for 6 seconds before purging an existing symbol.*
- *The RWR symbology library has been expanded and extensively modified. Additional symbols have been added to reflect the capabilities of the most modern RWR systems such as the ALR-56M. The symbol set now allows for both high and low-end RWR systems to be modeled.*
- *Dogfight mode HUD symbology has been de-cluttered. The flight path marker, pitch ladder, altitude, and airspeed scales have been removed to reflect the actual symbologies of the Block 50 HUD in dogfight mode.*
- *RPM symbology has been removed from the HUD. The actual HUD display does not show RPM on the F-16, and pilots rely on the engine RPM gauge for this information.*
- *The default bomb spacing is now 125 feet, and is the most common bomb spacing used by operational F-16 pilots. The ripple spacing is also adjusted for release altitude, just as in the actual fire control computer.*
- *The ballistics of low drag bombs, cluster bombs, and laser guided bombs have been adjusted to reflect the actual ballistics of their real world counterparts.*
- *Laser guided bombs must now be guided all the way until impact. If the LANTIRN targeting pod breaks lock prior to impact for whatever reason, the laser guided bombs will miss. The miss distance is dependent on the range at which the targeting pod breaks lock, and is higher for Paveway II bombs (GBU-10, GBU-12, GBU-28) than Paveway III bombs (GBU-24).*
- *The LANTIRN pod will now inhibit its laser designator from firing above an altitude of 25,000 feet. LGBs released above this altitude will miss even when the targeting pod is locked onto the target. This simulates the actual LANTIRN pod behavior and the limitations of its xenon lamp laser designator.*
- *The radar elevation scan volume has been fixed. In all versions of Falcon 4, the radar elevation scan volume is less than that shown on the radar cursors. This is now fixed. The radar elevation scan volume in RWS and TWS mode have also been corrected to match the actual APG-68 radar.*
- *The radar detection performance is now dependent on the target aspect. This captures the variation in the radar cross section of a target, as well as the differences in the doppler velocities in tail-on and head-on scenarios. Head-on detection ranges are higher than tail-on detection ranges.*

- *Anti-radiation missiles can now be fired at search radars.*
- *Warhead arming time delay has now been implemented for missiles. If you fire a missile inside its minimum range, the warhead will not detonate.*
- *Variable firing rates have been implemented for different guns in the Realism Patch. You will get firing rates ranging from a few hundred rounds per minute on the 23 mm AAA guns, to 6,000 rounds per minute on the M61 Vulcan cannon.*
- *Variable minimum engagement altitudes for SAMs have been implemented. The minimum altitude will no longer be 1,500 feet for all SAMs, but will vary from 50 feet AGL for MANPADS, to over 4,000 feet AGL for the high altitude SA-5.*
- *The flight formations have been adjusted to reflect actual tactical formations used in real life.*
- *The AAA Flak effectiveness is now dependent on the skills of the AAA battalion.*
- *Search radars (such as GCI and EW radar sites) will now show up on the RWR and the HTS. Destruction of these radars will have a detrimental effect on EW radar coverage, and will affect enemy GCI/AWACS capability.*
- *The GCI/AWACS environment has been completed revised in 2D and 3D. If an aircraft is detected by any component of the IADS, enemy fighters will be vectored to intercept if they are within range. Low level tactics can now be used to evade detection.*
- *The radar coverage in the planning map is now dynamic, and shows the current radar coverage. As enemy radars are destroyed, the effect on radar coverage is reflected.*
- *Threat circles can now be shown only for detected units (SAM units, AAA, and ground combat units). The threat circles will show for any unit that is capable of posing a threat to aircraft, such as tank units with ADA support.*
- *Stand-off Jammers have been implemented. As long as a package is protected by the jammer aircraft, it will jam enemy IADS assets (SAM/AAA sites, EW/GCI radars, and AWACS) and delay their detection of the package.*
- *The 2D map display now shows the details of the flights, in a pseudo AWACS mode. Together with the IADS implementation, the 2D map can now be used as an AWACS module.*
- *Destruction of enemy power stations and nuclear plants will now affect the industrial production capacity. This affects the rate of resupply in the campaign.*
- *A new communications command to request the AI wingman for weapons check has been implemented.*
- *The AI now bombs accurately. Bombing accuracy decreases with altitude, and is dependent on the skills of the AI pilots.*
- *When bombing objectives, the AI flight will automatically select the features of importance, and will no longer bomb unimportant features such as taxi signs.*
- *The AI will now release all the air-to-ground ordnance of the same type in a single pass. This reduces the frequency of multiple passes over highly defended targets. The AI will also initiate tighter turns away from the target after attacking them, to avoid entering MANPADS/AAA engagement envelopes. The AI will also dispense one flare and two chaff packets after every attack pass over the target.*
- *The AI will now expend all their air-to-ground ordnance against ground targets when task for BAI, strike, or interdiction missions, or when carrying A/G missiles, before returning home. The AI lead will also not order the wingmen to rejoin when the flight is committed to ground attack.*
- *The AI flight will no longer stay in trail formation after attacking ground targets. They will now assume the wedge formation for egress, and this improves the AI survivability on A/G missions. The AI will also follow the steerpoints and return to base after bombing.*
- *The AI will now obey the "Rejoin" command and abort its attack on ground targets immediately, and the player can reassign another target to the AI.*

- *AI SEAD strikes and SEAD escorts will prioritize radiating targets over non-radiating targets, and will no longer launch a volley of anti-radiation missiles at the same target. They will also engage targets of opportunity, and will query the loadout of each flight member to prevent repeated attacks on the same target.*
- *The ground attack altitudes for various ordnance types have been totally revamped to improve AI survivability, and their targeting effectiveness. This also brings the AI's behavior in conformance with typical doctrines. Low drag bombs are now delivered from 11,000 feet; high drag bombs are delivered from 1,000 feet; Durandals are delivered from 250 feet; air-to-ground missiles are delivered from 4,000 feet; rockets and gun strafe attacks will commence at 7,000 feet; and laser guided bombs are delivered from 13,000 feet.*
- *The AI's accuracy with rocket delivery has now been improved. AI helicopters and aircraft can now hit their targets with rockets, and the kills will be displayed on the debriefing screen after the flight.*
- *Helicopters will now fire rockets, ATGMs, and air-to-air missiles. The helicopters will also descend to the lowest possible altitude during the attack, and are capable of executing ATGM attacks from masked positions behind terrain.*
- *Airplanes will now fire rockets and score reasonably accurate hits against their targets.*
- *Helmet mounted sights have been implemented for the AI. The AI will employ the AA-11 at high off-boresight angles, and is also more capable of employing IR missiles with smaller seeker gimbal limits more intelligently.*
- *The ATO will now only task stealth aircraft for night operations. Aircraft that are not night capable may also be tasked for night missions only if their morale is not broken. This allows them to perform night intercepts and bombing.*
- *New airplanes have been added. The PLAAF now has the Chengdu J-7 III, and the formidable multi-role Su-30MKK fighter. The DPRK forces now have the J-5, and the Russians are now equipped with the MiG-29C Fulcrum.*
- *Flight models have been adjusted. For aircraft without afterburners, engaging the afterburner will not result in an increase in engine thrust and fuel flow.*
- *New air-to-air missiles have been added. This includes the highly capable AIM-9X Sidewinder that entered low rate initial production in January 2001, as well as the fearsome Rafael Python 4, which is in service with the Israeli Air Force and several other air forces. Both missiles have been added to support other theatres.*
- *New air-to-ground weapons have been added. This includes the AGM-84E SLAM, AGM-130A, AGM-142A Have Nap, AS-17 Krypton hypersonic ARM, AS-18 stand-off missile, Mk-83 bomb, GBU-16 LGB, and the Russian ZAB-500 incendiary bomb.*
- *New SAMs have been added, including the Matra Mistral, SA-4, SA-16, and the formidable SA-10d (S-300PMU1) "Grumble" for the PLA.*
- *Helmet mounted sights are now implemented for the player. When the player flies the MiG-29A/C, Su-27, or the Su-30, the IR missiles can be slaved to the player's line-of-sight in the Padlock view, and a missile aiming reticle will be displayed.*
- *New guns have been added, and the guns are no longer shared. Guns that have been added include the 30 mm Gsh-N-30, 20 mm M39-2, 7.62 mm M134, 30 mm NR-30-3, and more. The characteristics of each gun are now modeled.*
- *New 3D models have been included. This includes the F-4E, F-4G, J-7 III, MiG-31, Su-30MKK, AGM-84E, AGM-142, AS-12, AS-17, AS-18, AIM-9P, AIM-9M, AIM-120, Chun-Ma, SA-9, PL-7, and more.*
- *The list of units for TE, and the ATO generation table is now exported to a text file for editing externally.*
- *The infamous "Nuke" bug has been fixed.*

- *The infamous “Mid-air Maverick explosion” bug has been fixed.*
- *The “aircraft taxiing to destination” bug has been fixed.*
- *The ILS localizer and glidescope deviation bug at various airfields has been fixed.*

KNOWN ISSUES WITH REALISM PATCH 5.0

- ◆ If you have created/saved missions in TE under a previous RP or v1.08US file set, they may not function properly under the most recent RP. We have found a workaround – if you must go back to 1.08US after installing the Realism Patch, you must de-install your Falcon 4.0 game completely and reinstall from the CD, re-apply the 1.08US patch, and re-apply the “i2” EXE. Similarly, if you wish to attempt to use a TE created under a previous RP then we recommend you select edit after highlighting the TE, change the mission clock by one minute (doesn’t matter if you move it earlier or later), and resave the mission. These attempts to ‘save’ favorite TEs are not always effective. The scope and quantity of the changes made make it impossible to maintain total compatibility.
- ◆ We do not recommend using the –Gx command on your EXE command line. This may increase significantly the number of objects in the F4 world and radically increase CPU loading. You will see very significant decreases in frame rates near high activity areas (FLOT) in a campaign. When the CPU is loaded down so significantly that the frame rate drops below about 10, you will see missiles stop fusing and pass-through targets.
- ◆ The MiG-29 will now choose to carry AA-2R's for radar guided missiles in the Dogfight module. Those wishing to practice BVR in dogfight should choose the Su-27 that now carries the AA-12.
- ◆ When using Sylvain's patches and the combat autopilot your own aircraft will not fire medium range missiles if your radar is set to RWS (the default). This problem is solved by switching the radar mode to TWS.
- ◆ If you load the aircraft asymmetrically, for example with CBU-58 on one side of the wing, and CBU-87 on the opposing side of the wing, or AGM-65B on one side of the wing and AGM-65D on the other, the AI pilot will become confused, as Falcon 4 assumes a loadout that is normally symmetric. This can produce unpredictable AI behavior, such as flying orbits over the target area without dropping its ordnance. Asymmetric loadouts are rare and hardly used in war.
- ◆ If SAM units are placed too close to buildings, this will inhibit the SAMs from firing. Falcon 4 will inhibit the SAMs from firing due to collision detection. This problem affects all SAM types, especially SA-2, SA-3, SA-5, SA-10, and the Patriot. You should move the SAM unit further away from buildings, or the city that it is defending, to prevent such problems from occurring.
- ◆ When the S-24 rocket is carried, the graphics will be that of the LAU-3/A rocket pod. All unguided rockets are placed in “containers” such as the LAU-3/A. The actual 3D model of the S-24 rocket will not be visible until the rocket is fired. This is hardcoded in the executable, and cannot be changed. All rocket pods will share the same graphics, i.e. the LAU-3/A model.
- ◆ The AI wingman will always follow the flight lead’s waypoints. This is not unrealistic as in real life, the flight lead is responsible for the entire flight. If you set the DED waypoint to another waypoint that you are not flying towards, for example, you are landing at an airbase and have your waypoint set to the divert airfield, the AI wingman may land at the divert airfield instead. This is a behavior of the AI since the first release of Falcon 4.
- Due to the way Falcon 4 computes the drag of bombs (i.e physically incorrect by assuming a linear reduction), the ballistics of bombs when released at high and low altitudes may not correspond exactly to the ballistic tables supplied in this manual. Some data scatter is expected.

REALISM PATCH DESIGN PHILOSOPHY

“Hex Editing” started as a grass roots effort with players modifying the files of Falcon 4.0 to get more enjoyment from their gameplay experience. Fortunately, the designers of Falcon 4.0 created a scheme that allowed much of the inner workings of the simulation to be accessed by modifying the text and binary files that came with the game. Now, thanks to the innovative and creative discoveries made by those who explored the depths of Falcon 4.0, we have the ability to bring additional immersion to the Falcon 4.0 world.

In most cases, F4 Hex Editing started out as a way to have some fun with the weapons by making them bigger and more plentiful than Falcon allows. However it has become increasingly difficult to sort through the various modifications and collect the ones that you would like to include. For many players, “realism” is the most important thing. Having a set of files that increased realism while maintaining gameplay expanded the scope of Falcon 4.0 beyond what was initially delivered. This “realism patch” is the outcome of this philosophy.

During our modifications, we discovered many inaccuracies, oversights, and just plain wrong information in the files. Our realism patch attempts to correct many of these issues. We also wanted to increase the realism by adding objects, weapons and capabilities that would exist in the real world.

We had several guiding principles in developing this patch. They are listed as follows:

- The changes should not add any additional instability to Falcon 4.0.
- The changes must reflect “real world values” - real world values must be supported by actual military or civilian documentation.
- The changes will not adversely affect gameplay.

As we dealt more with the data files in Falcon 4.0, we uncovered errors inside the executable, and the limitations posed by the original implementation proved to be a hindrance in the quest for realism. Starting with version 4 of the Realism Patch, we have started to add new data to various records in the hex files. These additions grow functionality beyond the design of the original Falcon 4.0 data files and we have added new patch code to the game executable to take advantage this new data. We have also made numerous changes to the executable to improve the modeling of real world tactics and doctrines. The hex files are now intimately and inextricably tied to the executable modifications that we have made.

The “real world” in Falcon 4.0 terms is a hypothetical battlefield in the present or near future, which involves the US, ROK, DPRK, Chinese, and Russian forces. All modifications to the objects and capabilities of Falcon 4.0 will be made with these force capabilities in mind. Although the F-16 has additional capabilities beyond those that the USAF employs, we tended to keep to strict USAF specifications. The design of the avionics and weapons mechanization is also from the perspective of the USAF F-16, even though it is possible to fly other airplanes in the Falcon 4 world.

One of our most sacred guiding principles is to support our changes with verifiable military and civilian sources. While complete and accurate information is sometimes difficult to come by, we feel strongly that as a matter of principle all changes made in RP must be backed by verifiable real world sources. By doing this, we will avoid getting pulled into lengthy speculative debates over capabilities and performance characteristics of the items we are attempting to modify. The information sources that the RP has used included actual USAF technical manuals for the Viper, as well as correlated material from individuals who have worked on the Viper and other military aircraft. Many of the members of the RPG have served, and some are still serving, as fighter pilots and engineers in the military aerospace sector, and brought along with them a wealth of experience and knowledge on technical and doctrinal issues.

The Realism Patch Group takes a very serious stand not to use any information from military sources that has not been de-classified for public use, including unclassified information that is meant for official use only. The lives and safety of the servicemen and servicewomen in the armed forces depend on such information being protected, and we recognize the sacrifices made by them to protect our freedom and our way of life. While we want to achieve the ultimate realism in simulation, we take a very dim view of people who compromise military information and use them in gaming.

Our vision for Falcon 4 is to create the most tactically and strategically realistic F-16 simulation available. Part of that vision has always included the universal axiom of "Do No Harm." All the while there has been the tacit recognition that realistic numbers do not always produce realistic effects in the game. The process of thinking things and thorough debate has allowed us to produce truly remarkable advances in Falcon 4, including realistic missile kinematics, true-blue BVR detection, fully functional ECM, unique IR signatures for every aircraft, and literally over one hundred others changes.

More important than what these data and executable edits do is what they do *not* do. Each and every one of the data and executable changes produced catastrophic side effects in the game in their early incarnations. This taught us important lessons such as having humility in the face of code that is not fully understood, and the tenacity to look at data and executable edits from all perspectives. This approach extends beyond the sake of methodology alone, but includes detailed measurements, assessments, and everyone asking all the necessary questions such as "How does the AI handle this edit (i.e.; ECM, gimbal limits, Visual canopy restrictions, etc), "how does the campaign ATO deal with the change we have made?" and "what are the side effects other than the intended effect of the edit we have created." The principle of making sure that the edits not only work *but also work properly and without untoward effect*, has made the RP Series what it is today. The *Law of Unintended Consequences* was learned by all successful members of the RPG.

The level of testing, combined with the research required to get it there, and the axiom of not changing anything that will tilt the gameplay and balance adversely, has often increased the developmental time of each successive Realism Patch release. We deem this approach necessary for quality assurance, and it is this approach that has ensured the playability and accuracy of the Realism Patch.

REALISM PATCH VERSION 5 TEAM COMPOSITION

These are individuals who have contributed their free time and energy towards the development of the Realism Patch, for no other reward than to be able to play the end results and share it with others. The members of the team are from all over the world, spread across four continents. The list is organized according to tasks, and some names will appear more than once.

Air Combat Tactics

John "NavlAV8r" Simon
Paul Stewart
"Hoola"

Air to Ground Combat Tactics

Alex Easton
Jeffrey "Rhino" Babineau
Leonardo "Apollo11" Rogic

Aircraft Loadout Research

Lloyd "Hunter" Cole

Artificial Intelligence

Alex Easton
Paul Stewart

Avionics

Barry "Baz" Puttee
John "NavlAV8r" Simon
"Hoola"

Blast and Damage Models

Jeffrey "Rhino" Babineau

Bubble Effects

Alex Easton
Kurt "Froglips" Giesselman

1.08i2 Executable Modifications

Marco Formato
Miran "Warlord" Klemenc
Sylvain Gagnon

Communications

Marco Formato
Thomas McCauley
Manfred "Schumi" Nelles

Ground Units

Jeffrey "Rhino" Babineau

Integrated Air Defense System

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CREDITS

The EXE-meisters get a medal this round for their modifications to the Falcon 4.0 EXE. The addition of many new EXE modifications have definitively opened up F4 like it has never been opened before. Sylvain Gagnon, Marco Formato, and Miran Klemenc have been instrumental in helping us make the most out of the many of the data enhancements that form the RP. In particular, Sylvain's tireless efforts have been instrumental in making the RP perform as what it is today. The monumental efforts that the EXE-meisters put in to squash bugs and CTDs in the last hours preceding the release of Realism Patch 5 simply exceeds descriptions. We all owe them a tremendous amount of gratitude.

Thanks must to MadMax, Bengs, Duck Holiday, Paradox, Nemesis, Shawn Agne, Metal, RAD, and others not mentioned specifically here for their contributions to the F4 hex editing community. Their pioneering efforts have started the long and arduous hex editing process and brought the Falcon 4 community to where we are today.

Many thanks need to be offered to the entire Falcon 4.0 iBeta Public Sector team for their long hours and attention to detail. These have made Falcon 4.0 version 1.08US and 1.08i2 a possibility, and a stable base upon which the Realism Patch is built.

Many thanks also to Paul Stewart, who was the prime mover behind the efforts to improve the AI. His keen observations and understanding has made the AI what it is today, and he has ensured that all the changes in the Realism Patch do not cripple the AI. His tireless efforts in testing and designing the RP has cost him a painful back injury, and we wish him a speedy recovery.

Many thanks to Mark Doran and Dave "Killer" Morrison, who took time off to proof read the Realism Patch user's manual.

This patch would not be possible if it were not for the efforts of Leonardo Rogic and Jeff Babineau. They bore the brunt of labor on this version, as much work had to be done just to correct the underlying Falcon 4.0 data files to get them in shape for subsequent changes.

INSTALLATION INSTRUCTIONS

The Realism Patch has come a long way since its first release. The changes that are being wrought go much deeper into the functioning of the simulation than many of us had ever thought would be possible. We have begun to understand much of the complexity of this simulation both from the AI and the player's point of view. However it has been possible in RP5 to make tremendous improvements to Falcon 4 without serious impact on overall game performance. The more intelligent AI and electronic warfare changes were coded to be as efficient as possible. The frame rate degradation depends on your PC configuration and the graphics settings you have chosen for Falcon 4.0. In our benchmarking tests using Papadoc's benchmarking TE¹, the deterioration in FPS between the RP5 executable and the 1.08i2 executable was found to be less than 1% on average. However, we believe that the march forward of the Falcon 4.0 development has necessitated a change to the minimum computer configuration recommended by Microprose over three years ago.

The new recommended minimum configuration for Falcon 4.0 RP5 will permit realistic AI and OOB in the simulation. It does not support high graphics configuration settings and indeed we recommend all graphics sliders at a setting of 1 or 2 with this minimum configuration.

Minimum recommended configuration:

Pentium II or Celeron processor 300 MHz
System bus at 66 MHz
128 MB minimum of system RAM
3D graphics card with 12 MB video RAM
Hard drive with at least 100 MB free (required for installation and the minimum virtual memory)
Sound card

The recommended configuration:

Pentium III or Celeron processor 600 MHz
System bus at 100 MHz
256 MB minimum of system RAM
3D graphics card with 32 MB video RAM
Hard drive with 100 MB free (required for installation and the minimum virtual memory)
Sound card

The recommended configuration will permit full realism settings (Object Density=6, Bubble Slider=3) with most graphics sliders at 4 or higher. We recommend the use of F4Turbo v3.0 for D3D based graphics cards (all nVIDIA based cards, all ATI based cards). You should note that installing F4Turbo will disable the devCreateSurface/CTD (fixes the CTD problems) created by Sylvain Gagnon, and included as an optional patch in RP5. 3Dfx based cards should be run in Glide for best performance.

The second cost necessitated by the ongoing improvements in Falcon 4.0 is in the installation procedure. The changes that we have incorporated into RP5 are so complex and interwoven that we must modify our installation practices. We have long held that providing our users with the highest degree of flexibility in installing different patches and add-ons was the key to engaging a large audience for the Realism Patch. Unfortunately this is no longer possible. The data and exe patches in RP5 are now so tightly intertwined separating them can cause totally unpredictable results including CTDs, total unplayability off or online, and random campaign behavior. There are also additional data records inserted into many files, and brand new 3D models added.

The patch that you have downloaded includes a new exe that has been pre-patched with all the new and improved AI, ECM, and campaign modifications that are described in this manual. Third party

¹ The benchmarking tactical engagement used can be obtained from Papadoc's website at <http://www.papadoc.net>.

cockpits, explosion graphics, and most user interface and cockpit display modifications can be applied and will still function.

We recommend you uninstall Falcon 4.0 and perform an 'clean' install followed by the 1.08US update. We have included a procedure for you to backup your Falcon 4 files, in case you need to restore them. You do not need to install the iBeta 1.08i2 exe. The RP5 installer will place a patched version of a new exe in your Falcon 4 directory named `Falcon4_RP5.exe`.

We have tested this RP as extensively as our small group can. We cannot accommodate a wide range of variations in installations because we must accommodate a wide range of hardware and software.

REALISM PATCH 5.0 DISTRIBUTION FILES AND CONTENTS

The Realism Patch version 5.0 is distributed as a two part download: the Realism Patch v5.0 Installer, and the Realism Patch v5.0 User Documentation. The Realism Patch is only available as an installer, and will not be available as part of the regular F4Patch distribution. The contents of the distribution files are as follows:

`F4_RealismPatch_v50.zip`

This distribution archive contains the Realism Patch v5.0 installer `F4_RP_v50_Installer.exe`, and the installation instructions `F4_RP_v50_Install_ReadMe.pdf` (this document).

`F4_RealismPatch_v50_User_Manual.zip`

This distribution archive contains the Realism Patch v5.0 User Manual `F4_RP5_User_Manual.pdf`, and an accompanying Microsoft Excel 97 spreadsheet `RP_Sensor_Properties.xls`. The latter contains information and data that will be useful during mission planning and threat assessment.

PREPARING FOR REALISM PATCH 5.0 INSTALLATION

The installation instructions pertain to the US and UK versions of Falcon 4.0. This will prepare a backup copy of the critical files of your Falcon 4 installation, so that you can revert to the default Microprose installation quickly should you need to do so. To prepare for the installation of Realism Patch v5.0 on your computer, first turn on your computer and wait until you see the Windows desktop. If your computer is already turned on, make sure you reboot the computer. Once it is completed, follow the instructions below:

1. Backup all your existing pilot data and log book, TEs, campaigns, ACMIs, and multiplayer connection phone book, if you wish. The pilot data and log books are found in the `Falcon4\config` directory (all the files with the `lbk`, `pop`, and `plc` file extension), while the TEs and saved campaigns are found in the directory `Falcon4\campaign\save` directory. The ACMIs are found in the `Falcon4\acmibin` directory, and the multiplayer connection phone book is the file named `phonebk.dat` in the root Falcon4 directory.
2. Uninstall Falcon 4.0 from your computer. After uninstallation, manually delete the Falcon4 directory using Windows Explorer if the directory is not removed. Then, reboot the computer.
3. After the computer has successfully rebooted, re-install a fresh copy of Falcon 4.0 from the original CD. After you have installed Falcon 4.0, reboot the computer again.
4. Once the computer has rebooted, backup the tactical reference file, `tacrddata.zip`, found in the `Falcon4\zips` directory. The installer of Falcon 4.0 v1.08US patch is buggy, and will delete this file during the patching process.

5. Then, install the Falcon 4.0 v1.08US patch. This is available for download at the Realism Patch Group website, hosted at <http://rpg.falcon40.com>, and other Falcon 4 websites. The patch is included in the CD for newer production batches of Falcon 4.0.

Cautionary Note on Windows 98 Second Edition

The version of the "msvcrt.dll" file included with the Falcon 4 CD is dated August 5, 1997. This can be found in the root Falcon4 directory. You should delete this file before installing v1.08US patch, if you are using Windows 98 Second Edition. Failure to do so may prevent the 1.08US patch from installing all the necessary files required for the RP5 installer to function properly. A newer version of the "msvcrt.dll" file will be installed with the 1.08US patch.

6. When you have successfully installed the Falcon 4 v1.08US patch, reboot the computer.
7. When the computer has rebooted, restore the file `tacrdta.zip` into the `Falcon4\zips` directory.
8. Backup all the following files. You will need approximately 75 MB of free disk space if you back up each file individually. If you choose to backup into a compressed zip archive, you will need approximately 30 MB of free disk space. If you wish to revert back to Falcon 4 v1.08US, you should copy all the files back into their original directory. This will prevent another re-installation of Falcon 4 should anything go wrong, or should you upgrade to any future versions of the Realism Patch.

Falcon4 directory:	<code>falcon4.exe</code>
Falcon4\art\main directory:	<code>lcktxtrc.irc</code>
Falcon4\art\ckptart directory:	<code>menu.dat</code>
Falcon4\campaign\save directory:	<code>attrit.pri</code> <code>cas.pri</code> <code>defense.pri</code> <code>falcon4.aii</code> <code>falcon4.tt</code> <code>intdict.pri</code> <code>offense.pri</code> <code>strings.idx</code> <code>strings.wch</code> <code>support.b</code> <code>validac.act</code>
Falcon4\sounds directory:	<code>c130.wav</code> <code>commFile.bin</code> <code>fragFile.bin</code> <code>evalFile.bin</code> <code>growl.wav</code>
Falcon4\terrdata\objects directory:	<code>falcon4.acd</code> <code>falcon4.ct</code> <code>falcon4.fcd</code> <code>falcon4.fed</code> <code>falcon4.icd</code> <code>falcon4.ini</code>

falcon4.oed
falcon4.pd
falcon4.phd
falcon4.rcd
falcon4.rwd
falcon4.ssd
falcon4.swd
falcon4.ucd
falcon4.vcd
falcon4.vsd
falcon4.wcd
falcon4.wld
KoreaObj.HDR
KoreaObj.LOD
KoreaObj.TEX

Falcon4\zips directory: simdata.zip

9. You are now ready to install Realism Patch v5.0!

INSTALLING REALISM PATCH 5.0

1. Place the RP5.0 installation zip archive in a convenient directory on your computer. Unzip the installer zip archive. You will find the RP5.0 installer named `F4_RP_v50_Installer.exe`. You will also find a copy of this document, named `F4_RP_v50_Install_Readme.pdf`. Place the RP5.0 installer in the root directory of the Falcon 4 installation on your computer.
2. Open up Windows Explorer and double click on the RP5.0 installer icon.
3. The installer will display a window showing that it is uncompressing and unpacking the files, and will search for your Falcon 4 installation directory. You should see then the following dialog box. You should note that the path of the executable will depend on your Falcon4 installation, but this does not matter as long as the installer is placed in the root directory of your Falcon 4 installation.

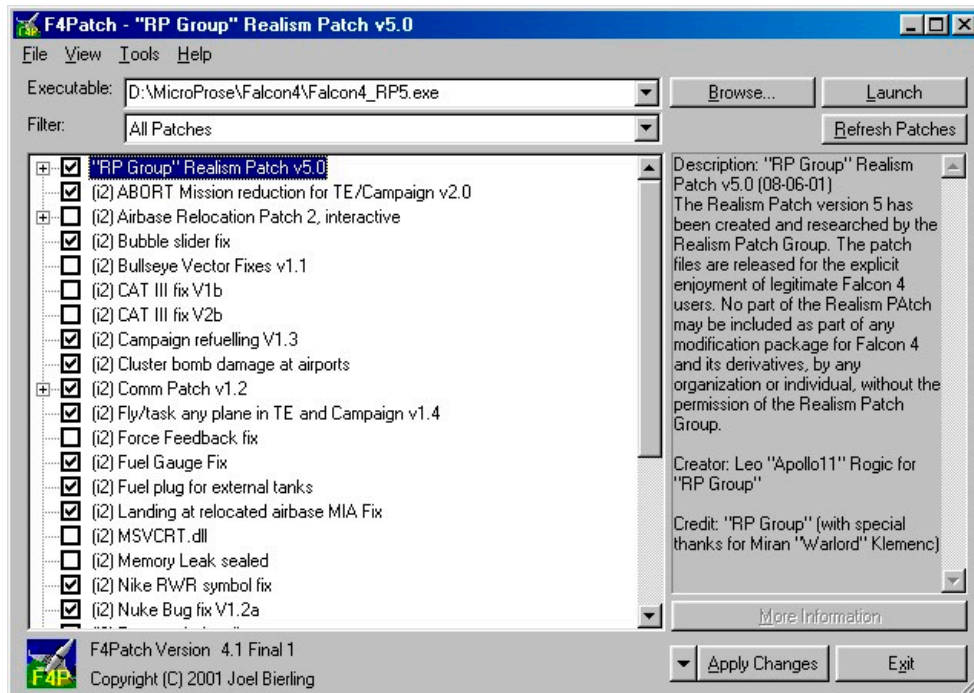


4. Select the "Apply Patch" option, and the installer will automatically install RP5 pre-patched executable and data files for you, and it will then quit. *Do not select the "Advanced" option yet. You will be able to install the optional patches at a later stage.* Do note that the installation procedure does not include the addition of new 3D models. Installation of 3D models can only be accomplished using the "Advanced" option, as the process is complicated.
5. The new RP5 Falcon 4 executable will be named `Falcon4_RP5.exe`, and may be found in your root Falcon 4 directory. You may wish to create a shortcut for it on your desktop or in the Windows start menu. You have now successfully completed the installation of the basic Realism Patch version 5 distribution.

INSTALLING OPTIONAL PATCHES IN THE REALISM PATCH 5.0

The Realism Patch version 5 installer contains several patches that are not installed automatically. These patches are included in the Realism Patch as a convenience to the users, and the Realism Patch Group is of the opinion that these optional patches enhance the realism and/or gameplay value of the Realism Patch, but are not essential for the functionality of the Realism Patch. For a detailed description of all the executable and data patches included in RP4, please see the next sub-section, titled "Realism Patch 5.0 Executable And Data Patch Contents".

1. Open up Windows Explorer and double click on the RP5.0 installer icon.
2. Select the "Advanced" option by clicking on the button, and you will be presented with the advanced installer user interface.



Caution

You should disable all anti-virus software, as well as any non-essential programs, before applying the 3D models included in the Realism Patch. Application of the 3D models require a lot of system resources. The system may also appear to hang, but this is normal as the installation process of 3D models is very CPU intensive. The time required to complete the installation increases dramatically if you have any anti-virus scanner running in the background, and you may also end up with a corrupted installation. If you experience any problems with the installation of the 3D models, please refer to the section titled "*Installation Problems With 3D Models*".

3. Select and deselect the individual patches by clicking on the check-boxes next to the patch options. The basic components of the Realism Patch will have their corresponding check boxes ticked, and you should not deselect them. Please see the next section for the description of the patches available as options. If you choose to install the new 3D models, do

note that this process may require up to 10 minutes or more, depending on the hardware configuration of your computer. Aborting the installation process prior to its completion will corrupt your Falcon 4 installation!

4. Apply the optional patches by clicking on the “Apply Changes” button.
5. If you select the “File → Expand Package” option from the menu, the RP5.0 installer will extract all the individual patches, the RP5 executable, as well as a copy of the F4Patch executable, into the directory within which the installer is placed. The RP5 executable and the individual patches will be contained in the sub-directory named `F4Patch`. You may wish to move the copy of the RP5 executable from the F4Patch sub-directory into the main Falcon 4 directory (and overwrite the copy of the RP5 executable installed in the previous section).

REALISM PATCH 5.0 EXECUTABLE AND DATA PATCH CONTENTS

The Realism Patch installer includes the following executable and data. The mandatory patches required to maintain full RP5.0 functionality are listed in **bold**, and are installed automatically. Deselecting any of these patches will invalidate the Realism Patch installation. The optional patches that are not installed by automatically are listed in *italics*. The patches that are installed by default are listed in normal roman lettering.

1. “RP Group” Realism Patch v5.0

- *3D Models Parent Patch*
 - ❖ *3D Models*
 - *370 gal External Wing Tank*
 - *AA-1 and texture*
 - *AA-10 and textures for AA-10A, AA-10B, and AA-10C*
 - *AA-11 v2.0*
 - *AA-12 and texture*
 - *AA-2 v2.0 and texture*
 - *AA-6 v2.0*
 - *AA-7 and texture*
 - *AA-9 and texture*
 - *AGM-142*
 - *AGM-84E*
 - *AGM-88 and texture*
 - *AIM-120 and texture for AIM-120/Python-4*
 - *AIM-9M and texture for AIM-9M/P*
 - *AIM-9P*
 - *AIM-9X with Dark and Gray Texture*
 - *AS-11*
 - *AS-12*
 - *AS-14*
 - *AS-17*
 - *AS-18 and texture*
 - *CBU-52/58 and texture*
 - *CBU-87/97 and texture v2.0*
 - *Chun-Ma*
 - *GBU's v2.0*
 - *J-5/Mig-17 and J-5 texture*
 - *J-7III with Pylon Data*
 - *KAB-1500L*
 - *KAB-500L*
 - *MiG-31 with Pylon Data and Texture*
 - *Mk-20 v2.1*

- *Mk-77 v2.0*
- *PL-7*
- *PL-8*
- *Python-4*
- *S-24*
- *SA-10 TEL and texture*
- *SA-9 TEL and texture*
- *SU-30MKK with Pylon Data and Texture*
- *Sorbtsiya*
- *All ".CT" Edits 3D Compatible v2.0*
- *RP v5.0 Beta Patches*
 - *2D Flight Altitude Fix v1.0*
 - *CTRL → CNTL Fix for MFDs v1.0*
 - *Hi-Resolution Cockpit Support v1.0*
 - *Objective Repair Fix v1.0*
 - *SEAD Escort Radio Call Fix v1.2a*
 - *UI Division Memory Leak Sealed v1.0*
 - *Weapons Check Radio Call v1.2*
 - *Wingman Radio Fixes v1.0*
- **RP v5.0 Bubble Settings**
- **RP v5.0 Comm Menus**
- **RP v5.0 Exported Data Files**
 - **RP v5.0 ATO Table Data Exported**
 - **RP v5.0 TE Aircraft Data Exported**
 - **RP v5.0 TE Ground Units Data Exported**
- **RP v5.0 Sounds**
- **RP v5.0 Strings**
- **RP v5.0 Voice/Sound/Comm Patch**
 - *RP v5.0 All BVR A/C IDs Disabled*
- 2. Abort Mission Reduction for TE/Campaign v2.0**
- 3. Airbase Relocation Patch 2, Interactive**
 - *Airbase Relocation Fix v1.4*
- 4. Bubble Slider Fix**
- 5. Bullseye Vector Fix v1.1**
- 6. CAT III Fix v1b**
- 7. CAT III Fix v2b**
- 8. Campaign Refueling v1.3**
- 9. Cluster Bomb Damage at Airports**
- 10. Comm Patch v1.2**
 - **Comm Patch v1.2 – Voice Data File Modifications**
- 11. Fly/Task Any Plane in TE and Campaign v1.4**
- 12. Force Feedback Fix**
- 13. Fuel Gauge Fix**
- 14. Fuel Plug for External Tanks**
- 15. Landing at Relocated Airbase MIA Fix**
- 16. MSVCRT.DLL**
- 17. Memory Leak Sealed**
- 18. Nike RWR Symbol Fix**
- 19. Nuke Bug Fix v1.2a**
- 20. Recon Window Fix**
- 21. Yellow DED Display**
- 22. devCreateSurface/CTD Fix**
- 23. BARCAP Extensions**
 - **BARCAP Patch 30 miles**
- 24. G-LOC**

- G-LOC Patch v1.1
- 25. New Stellar Data Patch for Korea 1.0
- 26. *No Player Play in Campaign*
 - *No Player Play v1.2 (12 hours)*
 - *No Player Play v1.2 (4 hours)*
 - *No Player Play v1.2 (6 hours)*
 - *No Player Play v1.2 (8 hours)*
- 27. *Padlock*
 - *Attack Padlocked Object v1.0*
 - *Bigger Padlock Colored Box*
 - *No Padlock red box v1.1*
 - *No Slow Panning v1.1*
- 28. Training Mission #29 Fix
- 29. Zoom Enhancements
 - Maverick & GBU 4x zoom fix

Before you choose to install any of the optional patches listed in the list, or any of the patches listed in the “RP v5.0 Beta Patches” folder, please review the installation notes in the next two sub-sections.

NOTES ON REALISM PATCH v5.0 BETA PATCHES

Note

The Realism Patch Group was given the deadline of releasing Realism Patch version 5.0 on the August 6, 2001. The main thrust of the testing efforts in the three weeks leading up to the release date was to improve the stability of the game in single and multi-player mode, and to eliminate AI bugs. These patches were created late in the testing stage of RP5, and did not undergo extensive testing. These patches do improve the gameplay experience. You may install these patches at your discretion, bearing in mind the beta status of these patches.

2D Flight Altitude Fix v1.0

This patch fixes the 2D flight's altitude code, such that it always uses the altitude above sea level, and inverts the altitude to a negative number, which is consistent with how Falcon 4 uses altitudes (the executable uses negative number for altitude internally). The default 1.08US also mixes up AGL and MSL altitudes, and this patch resolves the conflict internally.

CTRL → CNTL Fix for MFDs v1.0

This patch changes the label of OSB 5 on the MFD (the top right most OSB), from “CTRL” to “CNTL”, which is the correct spelling of the mnemonic on the F-16.

Hi-Resolution Cockpit Support v1.0

This patch enables Falcon 4 1.08i2 executable to support high resolution cockpits of 1280x1024 and 1600x1280 size.

Objective Repair Fix v1.0

This patch fixes the objective repair time. Falcon 4 adds one hour by default, to time required for objectives to be repaired. This patch removes the timing. Application of this patch **will** result in the runway and airbase repair timing in Realism Patch 5 being inaccurate, and the repair time will deviate from our design conditions.

SEAD Escort Radio Call Fix v1.2a

The AI on SEAD escort mission may call out the identity of an active radar when it detects it. This patch inhibits the identity of the radar from being called out, and the AI will simply state that it has detected an active radar at a specific Bullseye location.

UI Division Memory Leak Sealed v1.0

This patch seals an apparent memory leak associated with divisional units.

Weapons Check Radio Call v1.2

This patch enables the communications menu option of "Weapons Check", and allows the player to command the wingman to perform a weapons check.

Wingman Radio Fixes v1.0

This patch enables the communications menu option to command the AI wingman to break left/right; increment/decrement relative altitudes; hold position; and to swap the formation from the left to the right. The calls to and made by the wingman in response to these commands have not been implemented, and you will not hear any radio calls being transmitted or received.

NOTES ON OPTIONAL PATCHES

3D Model Parents Patch

This patch contains changes to the 3D models to correct errors in the original Falcon 4 distribution, such as hardpoint errors. It is required for the installation of new 3D models.

3D Model

This patch will automatically install all the 3D models included as part of the Realism Patch installer.

All ".CT" Edits 3D Compatible v2.0

This patch is used to perform all the relevant data linking during 3D model installation. You should not select or deselect it manually. Installation and deinstallation of this patch is performed automatically when you install/uninstall the 3D models. ***You should leave this patch alone!***

Airbase Relocation Patch 2, Interactive

This patch enables airbase relocation, as well as scramble missions. Installation of this patch enables the user to selectively disable airbase relocation from the Falcon 4 user interface. Activation of the airbase relocation patch will increase the memory requirements during gameplay. You should ensure that the patch is enabled or disabled on every computer in a multi-player environment to improve gaming stability.

Airbase Relocation Fix v1.4

This patch fixes the airbase relocation, but inhibiting the squadrons from relocating and operating instantaneously at the new location. The squadrons will be removed for one day to simulate their transit to the new airbase. This patch requires the Airbase Relocation Patch v2 to function.

Bullseye Vector Fix v1.1

This patch enables the AWACS to give bandit calls in Bullseye format. Some users have experienced communications problems with this patch on occasions.

CAT III Fix v1b and CAT III Fix v2b

These two patches are mutually exclusive. CAT III Fix 2b requires a compatible 3rd party cockpit that supports the activation of the CAT I/III Stores Configuration switch. If you are unsure of your cockpit compatibility, you should install CAT III Fix v1b. The latest cockpits from Xis and Paul Wilson are compatible with CAT III Fix v2b.

Force Feedback Fix

This patch enables force feedback on joysticks that are capable of force feedback.

Memory Leak Sealed

This patch improves stability in the single player mode. It may however result in the server or the client crashing when used in the multi-player mode.

devCreateSurface/CTD Fix

If you have also installed F4Turbo, or intend to install the F4Turbo fix (available as part of the F4Patch distribution), this will automatically disable the functionality of the devCreateSurface patch, even though the patch will stay installed.

No Player Play in Campaign v1.2

You are advised to ensure that the “No Player Play” exe patches used are the same for all players in a multiplayer environment to avoid any problems with CTDs or strange campaign behavior. The patches will affect the time between missions that the player has to fly in order to exert influence over the campaign. The default F4 time-between-missions is 2 hours, after which the player’s effect on the campaign will “wear off”. The optional patches allow this to be extended to 4, 6, 8, or 12 hours.

Padlock Patches

Attack Padlocked Object v1.0

This patch allows you to direct the AI to attack the target that you have padlocked.

Bigger Padlock Colored Box

This patch increases the size of the padlock box

No Slow Panning v1.1

This patch disables the slow panning of the padlock view to straight ahead, when the padlock is broken or the padlock target is lost.

No Padlock Red Box v1.1

This patch disables the red box around the target in padlock view.

REALISM PATCH VERSION 5.0 INSTALLER AND F4PATCH DISTRIBUTION

The Realism Patch Group has only tested the set of patches supplied within the RP 5.0 installer, and verified that these patches do not affect the stability and performance of Falcon 4.0. RP 5.0 is released as is, and the Realism Patch Group cannot be responsible for the performance and stability of RP5.0 if the user chooses to install any other patches not included in the installer.

Should you choose to use F4Patch for installation of add-ons such as cockpits, skins, and sounds, you may do so by expanding the F4Patch package into the Falcon 4 sub-directory, over the Realism Patch installation. You will first need to use the “Expand Package” option in the RP5 installer to create the F4Patch sub-directory in your Falcon 4 installation directory. The Realism Patch Group does not provide support for F4Patch.

If you choose to install another version of the Falcon 4 executable over the Realism Patch, please understand that you are doing so at your own risk. The Realism Patch Group does not support any other versions of the Falcon 4 executable, other than the version provided with the Realism Patch installer. We cannot be held responsible for any corrupted installations, loss of data, loss of performance, and software bugs that may result from such installation setups.

INSTALLATION PROBLEMS WITH 3D MODELS

While we have tested the installation procedures of Realism Patch v5.0 as extensive as we can within our small group, we cannot guarantee that the installation process will be trouble free for every single user. The most common installation problem we have seen is usually related to the addition of 3D models.

If the installation process of the 3D model is interrupted at any point, the `KoreaObj.LOD` file will be corrupted, and F4Patch will not be able to undo the 3D models already installed automatically. Addition of 3D models requires modifications to be made to the `FALCON4.CT` data file, as well as additional data to be appended to the `KoreaObj.LOD` data file. The LODAppender plugin (used to modify and add the 3D models) will create a history file to keep track of the data linking automatically, and ensure that the 3D models are assigned to the correct entries within the data files.

If you experience any problems during the installation of the 3D models, you should first uninstall the Realism Patch totally. You should then restore your Falcon 4 installation to the basic v1.08US by restoring the files that you have backed up earlier (see the section titled "*Preparing For Realism Patch 5.0 Installation*"). This ensures that you have a pristine copy of the `FALCON4.CT` data file, as well as `KoreaObj.LOD` file, to repeat the installation. You should also delete the `F4P_LODappender.HST` file, found in the `F4Patch\Persist` directory. The installation of 3D models *cannot* proceed even with a pristine copy of 1.08US files, *unless* this history file is deleted, as this file contains the data to allow the LODAppender plugin to track the installation history of 3D models. In a failed installation, the history file is not update properly, and as such, even if the corrupted data files have been replaced, the LODAppender plugin will still think that the models have been installed.

UNINSTALLING REALISM PATCH 5.0

To uninstall Realism Patch v5.0 on your computer, first turn on your computer and wait until you see the Windows 95/98/ME desktop. If your computer is already turned on, be sure that you exit all programs and restart your computer. Once this is completed, follow the instructions below:

1. Start up F4Patch.
2. Uncheck the check box next to the "RP Group Realism Patch v5.0" option, and uncheck every check box next to the individual patches inside the Realism Patch v5.0 folder.
3. Click on the option "Apply Changes", and RP5.0 will be uninstalled.
4. Should you experience any problems with uninstallation, you can restore your Falcon 4 back to the v1.08US state by copying all the files that you have backed up (see the previous section titled "*Preparing For Realism Patch 5.0 Installation*") into their original directories.