

Team Superhornet 1.0

Add-On No. 1 for Jane's F/A-18 Superhornet Flight Simulator

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A. Introduction by Hornit

Welcome to Team Super Hornet! The team grew out of a desire to improve upon an already great flight sim. Jane's F/A-18 (JF-18) has emerged as one of the premier flight sims of the last few years. Out of the box it's an exceptional product. It's a complicated and accurate study of what the F-18E will add to the U.S. Navy in the years to come. The team's aim from the outset has been to enhance this already great simulation and to add extended playability and options for those who enjoy this sim. It has been remarkable what the community can do with a simulation once it has been abandoned by the developers. Falcon 4 has seen a true renaissance, if not a total rework, of its core thanks to talented members of the simulation community. Pulling together talent and expertise to improve these sims has become a hallmark of our genre. Witness what has been done to the likes of Red Baron, European Air War, And Falcon 4.0; and you will see why we have taken this road with JF-18.

It has been almost a year since Team Super Hornet began the painstaking task of enhancing JF-18. It has been slow and tough going from the start. As most of you who read this will know, we have not had access to the game's source code since the beginning. This is a major stumbling block to doing the things we would like to see, but it hasn't stopped us from improving the game. The Team has done some wonderful work

and there is much more to come as we open new doors almost every day. With this first release we add what will be the building blocks for the future and also true enhancements to the sim right now. What follows is a summary of the enhancements included with TSH 1.0.

The Team has developed an installer which can be used later as new and patched versions of existing files become available. It's an easy-to-use program allowing full flexibility to the end-user. Along with this installer, we have included the following enhancements to the game:

- Functioning cockpits for the A-10 and F-14 Tomcat. These include the views of your aircraft from inside the cockpit.*
- Many of the aircraft objects from Jane's F-15 simulation which were not included in the aircraft mix for JF-18. These will be accessed through the mission builder and have appropriate AI and weapons data and loadouts.*
- New 3D models of the following aircraft: A-10/A-6/AV-8B/B-1/B-2/C-5/F-35/P3C/ U-2/Dassault Rafale.*
- New database for aircraft and weapons to allow use of these add-on objects and correct loadouts*
- A wide-view or "fisheye" view from your cockpit, a very cool effect I might add!*
- High resolution options including 1280x960 and 1600x1200.*

Several other small items may, or may not, make it into this release. These include possible additions of new ships and subs. Many of the new aircraft can refuel accurately and act as tankers. The F-14 will also have the ability to use separate skins in multi-player missions visible to other players.

A note about the A-10 here is needed. We have a superior A-10 3D aircraft right now. Currently we cannot animate parts on the added aircraft to the game. This is a top priority for the team and will be the focus of the next release. Further enhancement of the add-on cockpits can be expected and is in-process. I have been advised that animated parts on add-on aircraft is do-able. Our goal for the A-10 will be a fully integrated and functioning aircraft. Almost a dedicated A-10 version of the game. My laundry list right now includes:

- *Moving flight control surfaces*
- *Working landing gear*
- *Working canopy*
- *Accurate sound package*
- *Loading screens specific to the A-10*
- *Dedicated missions for the Warthog*

As you can see, the goals are ambitious, but momentum is mounting and things are happening quickly as we learn more about how to do things in the sim and how different parts affect the whole. I cannot promise these things will come to fruition, but I have high confidence in our team members at this point.

Many have asked about the flight model issue. Right now it's an unknown. Some work is being done but it is painstakingly slow and tough work. I believe we will see some progress in this regard; but at this point I think the best we can hope for is a reasonable facsimile to allow it to be very convincing for other aircraft we choose to focus on.

In summary this is the building block for future additions and enhancements. My hopes are we spark some enthusiasm in the community and see some groundbreaking improvements to the core simulation. Down the road a bit comes new terrain and possibly new campaigns limited only by our imagination! As we go forward, new and better enhancements will be provided to the community. The goal for this and future additions is to make it easy for the user to modify his game and enjoy the fruits of talented contributors, as they become available.

From all of us at Team Super Hornet, we hope you enjoy this addition and look forward to your feedback and suggestions.

Jim "Hornit" Campisi

B. TSH Add-On Contents

Choose between two variations of the Team Superhornet add-on, based on the graphic processing power of your computer.

- **TSHv1H** (Hi-Res) is the installer for new high resolution game objects and cockpits. New higher video resolutions (1280x960, 1600x1200) will also be available in the driver section of the game's options\graphics page. Be forewarned that text in the MDI, HUD and other switches will shrink in size in higher resolutions and MAY NOT be readable, depending on the capabilities of your computer's monitor and video accelerator. The high-resolution package *may* result in lower video frame generation rates on some computers. This add-on's new high resolution objects are recommended only for systems with newer video graphics accelerator cards supporting textures above 256x256, for example TNT series, GeForce series, Voodoo 5, ATI 7500/8500.
- **TSHv1L** (Low-Res) is the installer for new game (low-res) objects and cockpits, as well as the higher video resolutions above 1024x768. Textures of 256x256 and lower are supported. Those with older graphic accelerator cards can install this add-on and still enjoy the new objects, cockpits, and higher video resolutions, to the extent of the computer's video capabilities.

So the quest continues. What we have been able to provide is

- New aircraft and ground objects
- New higher resolution graphics
- Substantially completed cockpits for 2 additional aircraft.
- New wide-view cockpit.
- Updated textures for many game objects.
- Database Errors Fix

New Aircraft:

Air Force One	A-6 Intruder	A-10 Warthog	AC-130 Gunship	AH-64A Apache
AV-8B Harrier	AV-8B PLUS Harrier	B-1B Lancer	B-2 Spirit	C-160F Gabriel
C-5A Galaxy	EF-111 Raven	F-4G Wild Weasel	F-4G Weasel (Desert)	F-5 Tiger
F-5 Tiger (Desert)	F-14A Tomcat (Iran)	F-14B Tomcat (USN)	F-14D Tomcat (VX4)	F-14D Tomcat (USN)
F-14A Tomcat (MOD1)	F-14A Tomcat (MOD2)	F-14D Tomcat (MOD3)	F-14D Tomcat (MOD4)	F-111 Aardvark
F-35 JSF	Jaguar	Jaguar (Desert)	KC-135 Stratotanker	MH-53J Pave Low III

Mi-8 Hip	Mig-21 Fishbed (Desert)	Mig-23 Flogger	Mig-23 Flogger (Desert)	Mig-25 Foxbat
Mig-25 Foxbat (Desert)	Mig-28 (Top Gun)	Mig-35 Super Fulcrum	Mirage F1	Mirage (Desert)
P-3 Orion	Rafale	SU-22 Fitter	SU-22 Fitter Desert)	Tornado(Desert)
TU-22 Blinder (Iraq)		U-2S		UH-60 Blackhawk

Bold Text denotes aircraft optimized for human pilots. Mission developers should use the F-14A and F-14D (mods 1-4) for human-controlled aircraft, as the graphic model will reflect the correct wing-sweep position, depending on landing gear position. Use the other F-14's for AI-controlled aircraft. These other F-14 models have functioning air refueling and fuel dumping.

New Ground Objects:

BRDM1	BMP-1	BTR50	Camel
Los Angeles Class SSN	Roland	T-62	

New high resolution game graphics: 1024x768, 1280x960 and 1600x1200.

New Cockpits: Meticulously reproduced for the 3D environment, the A-10 Warthog and the F-14D Tomcat.

Wide-View: Similar to a photographer's "fisheye" lens, this new view is like that available in Falcon 4.0, EF2000, F22ADF and TAW.

Database errors: In multi-player mode, different 3D graphic objects between the two players triggered "database warnings" in the game. TSHv1 corrects these unnecessary "database" error warnings.

We hope everyone enjoys the added immersion and game-play variety afforded by this add-on. We also invite anyone with programming skill who can assist us with further enhancements to this great flight simulator to JOIN THE TEAM!

C. TSHv1 Set-UP

- Download file TSHv1H.exe or TSHv1L.exe to a folder of your choice.

- In Windows Explorer locate the downloaded TSH file. Double-click it and follow the set-up program's instructions.

D. Using the Installer

The installer is the foundation for future releases. It is designed to be flexible, upgradeable and easy-to-use. The TSHv1H menu screen lists the following mod packages:

- TSH A-10 Cockpit Ver. 1.2
- TSH Wide-view Patch 1.2
- TSH F-14D Cockpit Ver 1.2
- TSH Objects Package Part 1 Ver1.2
- TSH Objects Package Part 2 Ver1.2
- TSH HI-RES Patch 1.2
- TSH Test Missions and Loadouts 1.2
- TSH Switchable Cockpit Ver1.2
- TSH Hi-Res 1.2 + TSH Wide-view 1.2

The TSHv1L package is the same, except for lacking the TSH HI-RES Patch 1.2.

Installing Package(s):

- Set-Up adds a TSHv1 icon to your desktop and adds a folder to your start menu. Launch the TSH Installer by double-clicking on the shortcut icon.
- A menu screen with the TSH Package options opens. Check the TSH package(s) title boxes desired for installation. To obtain additional information about a particular TSH Package, click on the package title TEXT (not the checkbox); and a window will pop up. To close the pop-up window, click the "OK" button.
- Click "Apply" to install the selected packages.

Uninstall Package(s):

- Launch the TSH Installer
- Uncheck the appropriate TSH package
- Click the "Apply" button and the uninstall will occur.

Note that the TSH objects are provided in 2 parts to make certain future updates easier. BOTH parts should be installed. In general, the TSH Installer will not allow loading of incompatible mods, 2 cockpit mods, for example. Be aware that if you have installed one mod, say the A-10 pit, then decide to replace it with the F-14D pit, make certain that the TSH Objects Packages Parts 1 and 2 are also checked on the second installation, or the TSH objects will be uninstalled. When installing the F-14D pit the A-10 pit will automatically uninstall.

To obtain high resolution video graphics in the program, do the following:

1. We recommend first starting JF-18 and setting the game resolution to 640x480 in the Driver section of the game's Options\Graphics page before installing the hi-res package.
2. Using the TSH installer, load the objects and the cockpit of your choice.
3. Go to the windows control panel\display applet to set the windows resolution at the desired level (1024x768, 1280x960 or 1600x1200) for the game.
4. Start Jane's F/A-18 and enter the options\graphics page.
5. In the Drivers section select the same resolution as your windows display.
6. Start the game and enjoy hi-res. Who needs FSAA, anyway!

NO-CD: Installing a TSH package replaces the F18.exe file. The new TSH F18.exe was developed from a NO-CD version of the executable; therefore, following installation of a TSH package, the JF-18 CD will no longer be required to be on the CD drive to start or play the sim.

Adding new packages. As new add-on packages are developed for JF-18, they can be added to the Installer menu screen:

- Launch TSH Installer.
- Click on the "Package" button.
- Browse to the file folder containing the desired TSH package (an archive .zip file). Click on the package file name and click the "Open" button. The TSH Installer will automatically install the new TSH Package.

Deleting add-on package(s):

- Launch the TSH Installer.
- Click on the TSH package title TEXT (not the checkbox), to be deleted. A pop-up window will open.
- Click the "Delete Package" button at the lower left corner of the pop-up window.

Once deleted, a package can no longer be installed. A deleted package can be added back to the Installer menu screen by following the "Adding New Packages" procedures described above.

E. 3D Cockpits

This first release features two cockpits, the Grumman F-14D Tomcat and the Fairchild A-10 Warthog, in which the sim community has expressed strong interest. Each cockpit has been painstakingly crafted to provide the highest fidelity sim experience currently within our grasp; however, due the constraints of developing these enhancements without benefit of the source code, each new cockpit currently has a limited number of operational components, indicators and switches. Moreover, team members have not yet discovered how to alter the existing F/A-18E flight model or the airframe weapons stations. The A-10 Warthog is impacted most by this shortcoming; however, to partially overcome this deficiency for the Hog drivers, we have developed some control tweaks to approximate the A-10 flight model.

Procedures are described below for switching cockpits in the game on-the-fly. Many testers have found it useful, when using the more limited A-10 cockpit, for example, to temporarily switch to the F/A-18E cockpit for the purpose of engaging various cockpit instruments and switches. Realistic or not, the radar altimeter can be engaged in this way, for example.

F-14D Operational Cockpit Components:

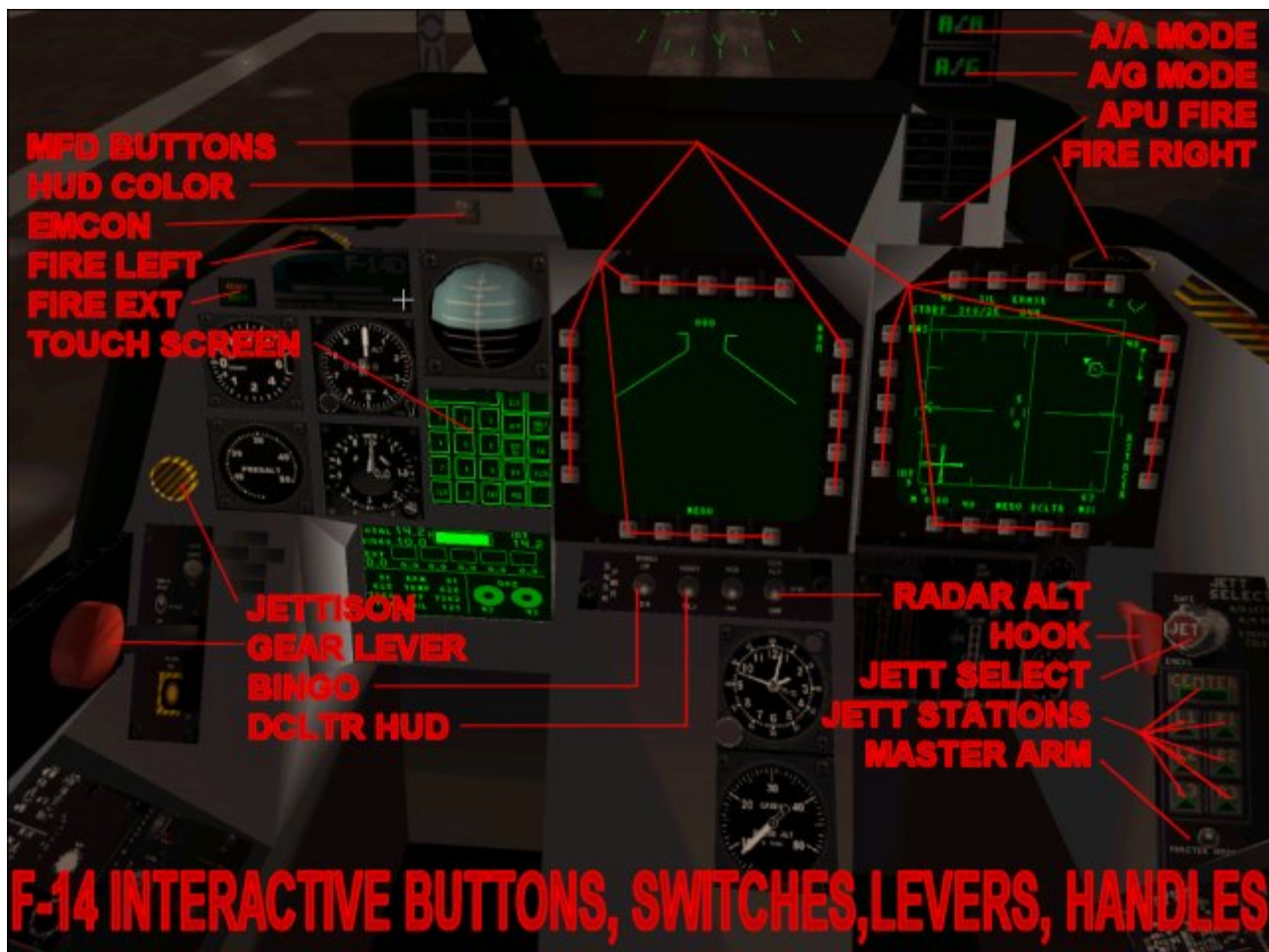


Fig. 1. F-14D Cockpit Active Switches

The TSHv1 does not implement a RIO for the F-14; however a RIO APPROXIMATION can be obtained by activating Speech Navigation and Targeting Cues, as well as Casual Voice Warnings on the program's Options\Gameplay\Cheats page. The "RIO" will then provide navigation and targeting voice cues. (Hehe – I love this game!)

A-10 Operational Cockpit Components:

- All MDI menu functions available on the F/A-18E, including radar (we are ahead of our time), are available in the A-10 cockpit. Navigate to these MDI pages - SMS, BIT and SA pages for example - by clicking the UFC MDI button, then clicking on the menu button. Note that HSI function changes activated in this manner are mirrored in the (button-less) static HSI display on the center console.
- Maverick/LGB employment: Activate A-G mode. Navigate to the SMS page through the UFC MDI button, as described above, and select mavericks (or LGB's). Now you can use the Maverick SMS page for targeting or navigate to the ATFLIR (assuming one is loaded) through the UFC. The ATFLIR functions in the normal manner. Mavericks can be targeted in boresight mode by flying the

flightpath marker (FPM) onto the target. When in-range the target can be locked in the normal manner. Alternatively, the target can be designated by clicking in the HUD. The Maverick will slave to the HUD designator.



Fig. 2 A-10A Active Cockpit Switches

F. A-10 Flight Model

Naturally, Warthog flight characteristics differ vastly from those of the F/A-18E; but, as discussed above, we have not yet broken the JF-18 flight model program code. Eventually we will overcome this obstacle, but for now we suggest the following procedure to approximate an A-10 flight model:

- Go to the JF-18 options\controls\joystick settings page.
- Click on the “Mil Thrust” button. Set your throttle or (joystick throttle slider) to 100% of its throw (to the stops). Click “OK”. This action effectively eliminates the afterburner in the game.
- Now go to the “ROLL” settings

- Set the sliders to start at 45 on the left with the intermediate sliders graduated up to about 60 on the right, in a linear fashion.
- Set the dead band at about 30.
- Leave Pitch and Yaw at default slider values, but set dead band for pitch to 11 and yaw to 20.
- During mission planning, load at least two 480-gallon drop tanks on the A-10, ensuring take-off weight exceeds 50,000 lbs. This simulates the endurance of the A-10 and adds “mass” to the aircraft flight characteristics.

These control modifications result in a sluggish flight model with a max speed of around 425-450 kts. indicated, depending on the load. Roll-rates are reduced dramatically and pitch authority is reduced a bit, as well. Admittedly this is a clumsy work-around, but it's not that bad. Anyway, for now there is no better choice.

G. Wide-View Cockpit

This TSH Package provides a pilot view from about 3 feet further back in the cockpit, similar to a “fisheye” or more panoramic view. Be forewarned that text in the MDI, HUD and other switches WILL NOT be readable in wide-view. On the other hand, the view encompasses a much larger portion of the cockpit, and all the cockpit equipment functions normally.

To activate wide-view the TEXTURE_TRANSITION function must be assigned to a key combination of your choice in the JF-18 Options\Controls keymapping applet, Graphics section. Pressing the assigned key combination in the game toggles the wide cockpit view on and off. Note that actual game Texture Transition is also toggled every time the assigned key is pressed. Texture Transition was selected for this function as the least obtrusive graphics option.

H. Switchable Cockpit

This TSH Package provides the player the ability to switch, on-the-fly, among the cockpits from three different aircraft: F/A-18E, F-14D, and A-10. The switching capability has been implemented by remapping the JF-18 options\graphics\cockpit detail levels. The A-10 cockpit is mapped to the “LOW” setting, the F-14D cockpit to the “MEDIUM” detail setting; and the F/A-18E cockpit is mapped to the “HIGH” detail setting. These cockpits can be switched on-the-fly in the game by pressing the key combination (“ALT + \” keys by default) assigned to the VR_CKPIT_DETAIL function in the JF-18

Options\Controls keymapping applet, Graphics section.

I. High-Resolution Switchable + Wide-View Cockpit

This TSH Package, available only in hi-res, implements both the Switchable and the Wide-View cockpits, providing the player the three aircraft cockpits, each available in standard or wide-view, on-the-fly! As described above, activate these cockpits/views using the assigned key combinations for TEXTURE_TRANSITION and VR_CKPIT_DETAIL.

J. New Missions and Loadouts

TSHv1 includes new missions, designed primarily for testing purposes, and some sample loadouts for the F-14D.

K. Known Issues

Installation:

- When the HI-RES cockpits are installed and the cockpit is subsequently changed to HI-RES Switchable or HI-RES Switchable and Wide-View, the F-14D cockpit does not switch properly and takes up both the medium and high cockpit detail settings (so the F/A-18E pit is unavailable). The solution is to copy the original JF-18 1.01 .dat files, located in the Team Superhornet\Replace folder, to the JF-18 Data folder and copy seven cockpit .3dg files, located in the Team Superhornet\Replace folder, to the JF-18 Ncape\Objects folder. The .3dg files that must be copied are:

F18Eout9.3dg
F18EoutL.3dg
F18Eoutx.3dg
Virbalm5.3dg
Virlow06.3dg
Virmed05.3dg
Virlow06.3dg

- If, after installing HI-RES; HI-RES Wide-View; or HI-RES Switchable and Wide-View cockpits, the three new high resolution options do not appear in the driver section of the program's Options\Graphics page, manually replace the wrapper.dll file in the main JF-18 program folder with the TSH wrapper.dll file in the Team

Superhornet\New Higher Resolutions folder.

Graphics:

- The desktop display resolution MUST be set to the new high resolution you intend to use in the game PRIOR to resetting the resolution in the driver section of the game's Options\Graphics page. Failure to follow this procedure will result in CTD! For convenience, most graphic accelerator card manufacturers provide a desktop utility for this function.
- A white block displays at bottom of the screen in hi-res and wide-view while on the runway or carrier deck. This is a hard one. We're working on it.
- Using HI-RES Switchable and Wide-View cockpits, when alternating between the Wide-View to the standard cockpit view, the view of the cockpit will remain somewhat wider than normal.
- When using HI-RES Switchable and Wide-View cockpits and then enabling the MAP, the textures will be cut by one-third. Second, if using HI-RES Switchable and Wide-View cockpits, when alternating between the Wide-View and the standard cockpit view, the view of the cockpit will remain somewhat wider or narrower than normal. This occurs when using resolutions other than 1024x768 (wider if > 10x7, narrower if < 10x7). A work-around for both is to carry an ATFLIR or FLIR and switch it on and off. Expect a fix for this one very soon.

Cockpit Interface:

- F-14D: The EW screen can be somewhat difficult to read, due to its small size. The fix is to move the EW to one of the MDI's. When in A/A mode with the AIM-54C selected, the workaround is to select another A/A ordnance station and then cycle to the EW display through the "MENU" button. Finally, cycle the weapon selection back to AIM-54C.
- F-14D: Usage of ATFLIR in either A/A or A/G mode basically entails moving the RDR page to the center the MDI and then moving the ATFLIR to the remaining MDI or vice versa.
- F-14D: To set BINGO Up/Down, RDR ALT, or DCLTR HUD in the dark, switch to the F/A-18E cockpit. Alternatively, pause the game and temporarily change the time of day by depressing the appropriate key combination (*SHIFT + Page Up or Down*, in the default keymap). For online play, use the first option.
- A-10: If the ATFLIR is too small, you can either depress the "ZOOM MPCD" key

combination (*SHIFT* + *F6* in the default keymap) or temporarily switch to the F/A-18E cockpit.

- A-10: Switching temporarily to another cockpit to set or verify the mode of operation for a given weapon may be necessary. The NAVFLIR is particularly helpful when flying the A-10.

F-14:

- Navigation lights function. Formation lights do not.
- When in the F-14pit and using HI-RES Wide-View combo, message text in the upper left corner becomes unreadable when reverting back to HI-RES from Wide-View, as the canopy blocks them. If you switch back and forth or change to another view, the text becomes viewable.

A-10:

- Uses the PGU-28 gun, and the F/A-18E gun position. Fixing this is a high priority.
- Landing gear, flaps, and navigation lights are not currently operational.

New Aircraft:

- No moving parts, due to the current lack of animation ability.
- Navigation lights do not work.
- Most do have proper loadouts.
- No individual aircraft damage models.
- Cannot land, but can take off.
- Rear view of the U2 shows a hollow fuselage.

Jane's F-15E Imported Objects:

- Hi-res skins (larger than 256x256) are not available.
- The original national flag textures appear to blink.
- Cannot land, but can take off.

- AH-64A Apache will not engage ground forces, but will engage A/A threats.
- AC-130 Gunship will not engage ground forces, but will engage A/A threats.
- FAC's identify T-62 objects as mobile AAA. The T-62 also fires green tracer rounds, similar to the ZSU-23, and moves too fast.

Skin Artists:

- The TSH add-on textures have an individual palette, so Jane's F-15E objects can be imported to JF-18.
- When creating new textures/skins, you *must* use the OBJPAL.PCX of the TSH add-on, since *all* the textures have been adjusted in the TSH add-on. If you need to change textures, choose the texture and open it up in your graphics program. Change color mode to RGB, then return to 256 Index color mode. Save textures with palette OBJPAL.PCX.
- Some older skins will no longer have a correct appearance with TSHv1 installed.

L. Credits

Jim "Hornit" Campisi	Artwork and Hammer
Slider	Cockpits
Boomer	3D Models
Grumpy	3D Models
Azman	Hex and hacking
Grep	Cockpits
Ben	Database
Frontier21	3D Models
Ragondin	3D Models
Lologramme	3D Models
BlueKnight	Artwork
TheGipp	Hex and hacking
Gavin Bennett	Documentation
Datajack	Programming
Bimo	Programming
Habu	Documentation

ADDITIONAL BETA TESTERS:

195TH_Doc

BeachAV8R

Blitz_25

Cenkog

The Chief

Crash

Tomcat_TSH

Franny

Recluse

Singer high

THAT'S ALL, FOLKS. HAVE A BLAST!

Team Superhornet