United States Navy Supercarrier - CVN-68

USS Nimitz

by JDog

Version 0.93 BETA - August 2011

Bohemia Interactive Forums Thread: http://forums.bistudio.com/showthread.php?
p=1862876#post1862876

Author Contact: JDog on BI Forums

Addon Requirements:
Community Base Addons

Table of Contents

1. Credits & License

Most everything in this addon created by **JDog**.

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2. File Contents

The archive you downloaded should contain the following:
- JDG_carrier.pbo
- JDG_carrier.pbo.JDG.bisign
- JDG.bikey
- nimitzTest.utes (mission folder for editor)
- NimitzGuide.pdf
- editor (folder containing templates for mission-makers)

3. Version Log

0.93 BETA - 08/2011 (Almost there!)
- Fixed: Issue where dropped gear on the Nimitz/nearby water would multiply over time until the server ultimately crashed (thanks to ZZEZ again for this).
- Added: Systems for refueling, rearming, and repairing aircraft. Read new sections of this guide regarding these features. This includes many scripts, actions for players, and a new weapons storage room deep below decks.
- Added: Davits for the launching and retrieval of Zodiac CRRCs.
- Added: Steam effect during catapult launches.
- Added: A few new ordnance container objects that can be placed in the editor. More to come later perhaps.
- Improved: Catapult launches now have a short but random delay between your salute and your launch.
- Improved: Arrester cables will now simulate being caught by the tailhook of an aircraft and be pulled out.
- Improved: Tailhook options now also accessible from a wider angle, allowing more time to set up a landing approach
- Changed: Certain high-priority carrier actions have been color-coded and placed at the top of the action menu (whether this stays depends on how many find it annoying).
- Updated: Test mission to reflect setPosASL requirement (instead of setPos) and to show an ammo-loaded towing tractor, as well as position a jet properly for fuel.

0.87 BETA - 08/2011
- Fixed: Players/vehicles should no longer fall through the deck of the Nimitz now when joining a multiplayer game (thanks to ZZEZ's recommendation).
- Fixed: Previously, only aircraft within 10km of the Nimitz at mission start would get the IFLOLS/Tailhook actions. Now, all planes will recieve the action, including those spawned mid-mission.
- (**READ**)Changed: Using setPos for placement of items on the carrier may no longer work, switch over to using setPosASL.
- Changed: "Raise Tailhook" and "Lower Tailhook" now read as "Tailhook Up" and "Tailhook "Down".
- Improved: Tailhook options now accessible from 5km out, rather than 3.5km.

0.86 BETA - 07/2011
- Fixed: Double "Tailhook" option when landing with Meatball's F/A-18. One action will now properly control the tailhook animaton as well as the ability to be arrested on the deck.
- Fixed: Sometimes improper landings would instantly bring planes to a halt, but still activate the arrestor system which would only set you free all the way down the runway, which was difficult to get to. Now raising your tailhook anywhere on the deck will detach you from the cables.
- Improved: In real life, you can see the lights of the IFLOLS regardless of how fast you're moving. The speed requirement for the IFLOLS action has been removed and you can use it to help your approach from farther off now (3.5km).
- Added: USS Nimitz to BLUFOR > US Navy > Ship.

0.85 BETA - 07/2011
- Fixed: Distance no longer displays in middle of screen when on or looking at the carrier (thanks to ANZACSAS Steve for help with this)
- Fixed: IFLOLS action menu item now properly disappears after being used
- Fixed: You can no longer see the silhouette of the staircase inside the superstructure from outside of the island (thanks to [APS]Gnat for help with this)
- Improved: Scripts for IFLOLS and Arresting systems have been downsized and made more efficient, arrests should now be much more reliable in multiplayer
- Added: Players must now make use of a "Lower Tailhook" option to enable their plane to be arrested on the deck, and must then "Raise Tailhook" to detach from the cables. The Lower Tailhook action menu item will appear at the same time the "IFLOLS" item does when on a proper approach for landing (See Section 4C: IFLOLS and Arrested Landings)
- Added: Control panels on flight deck and inside hangar bay walls to allow for remote operation of elevators.

0.8 BETA - 02/2011
- Inital release to community

4. For Players

The USS Nimitz is meant to be a static ship in the game, it is not drivable. Due to the amount of parts that make it up, it is also currently indestructible. This will most likely change in a future release.

A. Carrier Basics

i. Terminology to Know
Bow - the front of the ship
Stern - the rear of the ship
Port - the left side of the ship
Starboard - the right side of the ship
Fore - towards the bow
Aft - towards the stern

Hull - the "body" of the ship
Flight deck - the top of the carrier, where aircraft operations take place
Hangar bay - the large interior cargo bay which stores and maintains aircraft
Bridge - the room from where the ship is commanded
Island - the large superstructure on the deck which houses the bridge

Elevators - large lifts that transport cargo between the flight deck and hangar bay
Catapults - steam-powered device used to launch aircraft from a carrier
Jet Blast Deflector - safety device that redirects the exhaust from aircraft
Arrestor Cables - mechanical systems used to rapidly decelerate an aircraft as it lands

ii. Getting Around
There are multiple paths to get to any spot on/in the carrier. From the flight deck you may   access to lower levels via the stairwell in the island or entrances on either side at the   stern of the ship. You may also use the elevators, however they may sometimes be a   slower method. To use any of the Elevators linking the hangar bay to the flight deck,   simply stand on them and use the "Elevator Up" or "Elevator Down" action that appears, or use the nearby control panel.
(Please see Known Issues regarding elevators and vehicles).

B. Catapult launches
To use any of the four catapults on the fight deck:

○ Taxi your aircraft up past the jet blast deflector (marked with a yellow square around its border),
○ You will be locked into the catapult. Lower your flaps fully, wait for the Jet Blast Deflector to raise, and push the throttle to full
○ Use the "Salute" action and you will be launched from the deck in moments.
○ Catapults take 15 seconds to reset for another launch

C. IFLOLS & Arrested landings

The Nimitz is able to arrest the landing of fixed-wing CTOL aircraft. Pilots have a 120-foot span of the flight deck in which they are able to catch one of four cables. Setting the plane down low enough anywhere in that area will bring your aircraft to a stop down the deck. To enable the options for landing, such as IFLOLS assistance and lowering your tailhook, you must:

1) Be coming in at the proper landing angle to the ship (see below)
2) Speed must be below 350, altitude below 250 (any speed for IFLOLS)
3) Within 5km of the carrier (3.5km for IFLOLS)

Upon entering a landing path for the Nimitz you will have the option "IFLOLS" in your actions. Activating this will bring up the Improved Fresnel Lens Optical Landing System. In-game, this is simply a display on your HUD that will guide you onto the correct glide slope for landing. Ideally you will come in to the runway at a **3.5-degree angle**. If you are on this glide slope, the center amber light, the "*meatball*," will be aligned with the green row of "*datum*" lights. If you are too high, the meatball will be above the center row of lights, and below if you are coming in too low. Red "*wave-off*" lights mean you are dangerously low and should come around to attempt another landing. If the green "*cut lights*" at the top of the display light up, you are just over the deck and should cut your engines to bring yourself onto the cables.
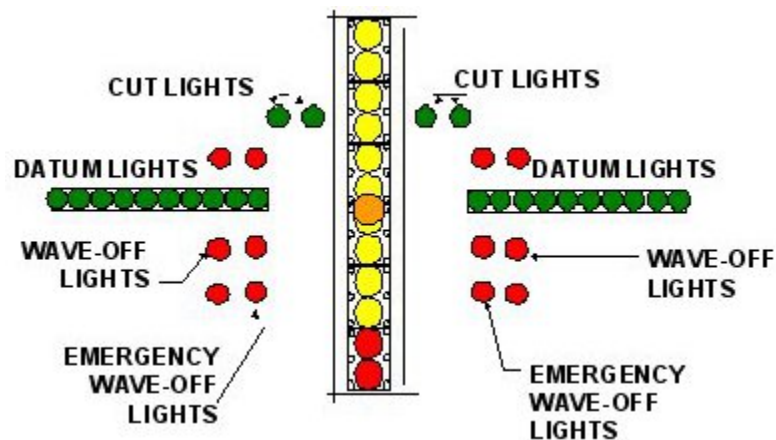
IMMEDIATELY after touching down on the deck, push your throttle back to full in case you miss the wires, so that you will have enough speed to make it back off of the deck. This is referred to as a "*bolter*."

The arresting system takes 25 seconds to reset after its cables release from an arrested aircraft.

Important notes about landing on the carrier for the safety of yourself and others:
1) Do not come in to landing on the ship down its length (straight from stern to bow), but rather angled a
2) Maximum speed when touching down should be no greater than 135 knots (250 kph). Going faster th
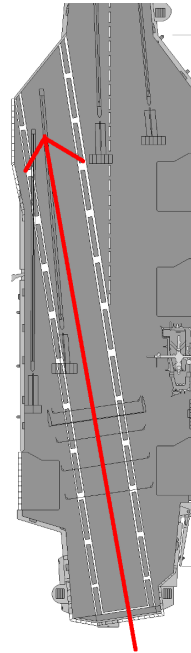
WRONG   CORRECT
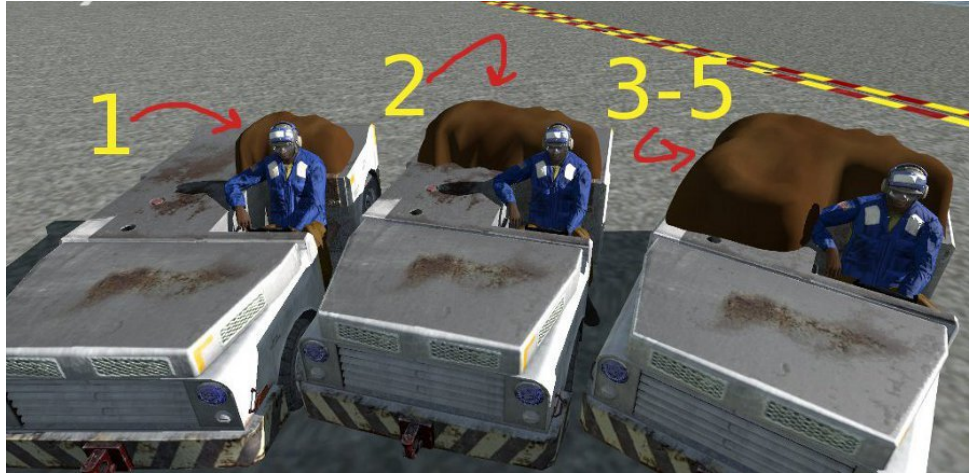
D. Aircraft Maintenance
Refueling
To refuel on the Nimitz, find the black fuel hoses between the 1 and 2 elevators on the deck. Pull up close to one, facing the same general direction as the ship so that the hose is on your right side. You will get an action to "Begin Fuel Transfer". Your fuel levels will slowly fill and automatically stop at 100%, though you are free to cancel the fuel transfer at anytime.

Rearming
Rearming on the Nimitz is a bit more involved. To do so, find a towing tractor (if one is placed in your mission) that is carrying ordnance to resupply aircraft. You can visually tell if a tractor has ordnance if it has brown covers on top of it. The size of the covers is an indicator as to how many planes the tractor can resupply, as shown in the picture below. If a tractor is available but does not have ordnance, a player must take it below decks to the storage room and refill its load. Once you begin rearming, it will take approximately 20-30 seconds, and cannot be stopped.

To refill the ammo load of a tractor, use the weapons elevator (the small elevator between the 1 and 2 elevators) to head down to the storage room. Once there, between the bomb racks and missiles you will get an action to resupply the tractor. Simply do so and take the tractor back to the deck.

Repairing

Repairing is the least user-involved maintenance operation on the Nimitz. If you feel your aircraft has sustained a moral blow, injury, or some form of metallic dismemberment, take it down the the hangar bay for a nice hot cup of J-B Weld. Any aircraft inside the hangar bay **with its engine turned off** will be repaired at a rate of 15% every 5 seconds.

E. Zodiac Deployment

The Nimitz is equipped with davits to launch and retrieve CRRCs. This room is located starboard of the ship on the hangar bay level, beside the staircase leading up to the island. There is a clipboard pinned on the wall that you may use to requisition a new Zodiac for yourself, provided that the davits are not already in operation.

5. For Mission-Makers

A. The Editor Icon & Carrier Placement

        To place the carrier in the map, simply select it under

        Empty > Ship > USS Nimitz   or   *BLUFOR > US Navy > Ship > USS Nimitz*

        Selecting the *Empty* version will allow you to see the colored version of the icon. Note that the ship is not controllable and selecting Player for control will do nothing.

        The Editor Icon was made for your convenience in placing objects and vehicles. When it appears you will instantly recognize the outline of the ship's deck in black, along with major features of the deck: catapult lines, JBDs, cables and the runway path, as well as where the elevators are. The elevators default position when the ship spawns is level with the deck, never the hangar bay.
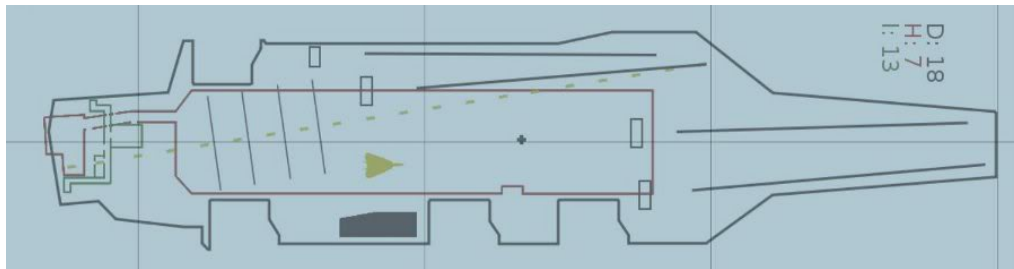
        In red is the outline of the interior hangar bay, so that you can accurately place vehicles inside. Again in green are the stern interior hallways on the second level. You will also notice, to the left of the bow, 3 numbers. These numbers represent the height at which you should spawn your objects (via setPosASL) for each level. Deck: 13, Hangar: 7, Interior: 13. Remember, setPosASL, NOT setPos.

        *WARNING: Attempting to setPos the carrier itself may cause a game freeze/crash, as this is already done via the spawning script to spawn it properly at sea level.

B. Classnames

        Carrier Classnames

        Due to game limitations and modeling convenience, the Nimitz is composed of nearly 30 seperate models. Because of this, it is recommended to place the carrier via the editor. However should you wish to dynamically spawn the carrier mid-mission, do so using the following class: **JDG_carrier_Spawner** . This class will run a script that assembles the entire ship and activates all needed scripts (catapults, arrestors, etc).

        Other Classnames

        There are some objects included that are not placed by default but may be used as props or for other purposes, they are:

Object	Classname	Editor Location
Phoenix Dolley	JDG_phoenix	Empty > Ammo
Mk82 Rack	JDG_mk82	Empty > Ammo
Mk82 Rack (covered)	JDG_mk82covered	Empty > Ammo
Flight Marker (Green)	JDG_flightMarkerGreen	Empty > Targets
Flight Marker (Blue)	JDG_flightMarkerBlue	Empty > Targets
Flight Marker (Red)	JDG_flightMarkerRed	Empty > Targets
Flight Marker (Yellow)	JDG_flightMarkerYellow	Empty > Targets

C. "Regarding Holes"

Again due to game limitations, as well as the massive size of an aircraft carrier in the game, it is possible for "holes" to happen with the geometry of the model, resulting in the possibility of being able to fall through it in some spots. Though I am 99% sure this will not happen with the Nimitz, if it does, simply move or rotate the ship slightly to resolve the issue.

D. Actions & Animations List

The following image shows the numbers corresponding to each elevator/catapult, and will help with the scripts detailed below:
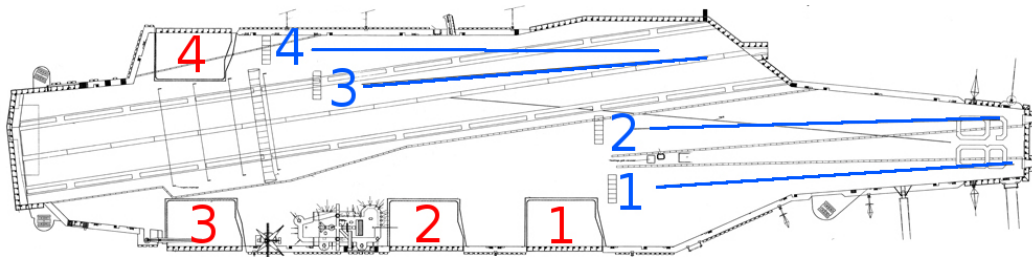
Jet Blast Deflectors

Because each JBD is made of multiple panels, the easiest way to animate them and play their associated sound is by executing the following script:

[X,Y]execVM "\JDG_carrier\scr\sys_catapult_jbd.sqf";

Where "X" is the number of the catapult the JBD covers (1-4) and "Y" denotes up (1) or down (0). Example, the following will raise the JBDs behind the #3 catapult:

[3,1]execVM "\JDG_carrier\scr\sys_catapult_jbd.sqf";

To lower the #1 JBDs:

[1,0]execVM "\JDG_carrier\scr\sys_catapult_jbd.sqf";

Catapult Placement/Alignment

To easily place and align an aircraft (or whatever vehicle) in preparation for a scripted take-off, use the following script call, the two values being the name of the object to be moved/aligned and also the number of the catapult to align with:

[objectName, catNum]execVM "\JDG_carrier\scr\nim_cat.sqf";

Catapult Launches

Included is a script which simulates the acceleration from a catapult launch. Note that this script will work anywhere for anything, not just for aircraft on the catapult lines.

[objectName]execVM "\JDG_carrier\scr\nim_catlaunch.sqf";

Elevators

Like the JBDs, each elevator movement is made of multiple animations (guard railings being raised and lowered, in addition to the elevator itself and a script that kick vehicles' physics into waking up). A script has been made purely to easily automate all of this. The two variables are the elevator number (1-4) and the action of lowering (1) or raising (0).

[elevatorNumber, action]execVM "\JDG_carrier\scr\elevatorAction.sqf";

Adding Ordnance to Tractors

Adding an ordnance load to a tractor so that it may resupply aircraft is simple. Enter the following in the tractor's init field:

this setVariable ["ordnanceLoad", #];

Where # is a number from 1-5, which is the number of planes it will be able to resupply. This number cannot exceed 5, doing so will only revert it back to 5.

E. The Briefing Room

A briefing room has been created for mission-makers who may want to enhance their missions with pictures, document, or battle plans drawn on a map. The room is composed of nine different elements that you may create custom textures for and implement into your mission:

- 1 "folder" position
- 5 equally sized "papers" (2 positioned angled on top of others)
- a whiteboard
- a projector screen
- a map

Custom textures are set using the command setObjectTexture in the following format. The first value is the component number, the second being the path to your custom texture (relative to the mission folder).

nimHang4 setObjectTexture [#,"customTexture.paa"];

The following image shows the component number for each customizable object.
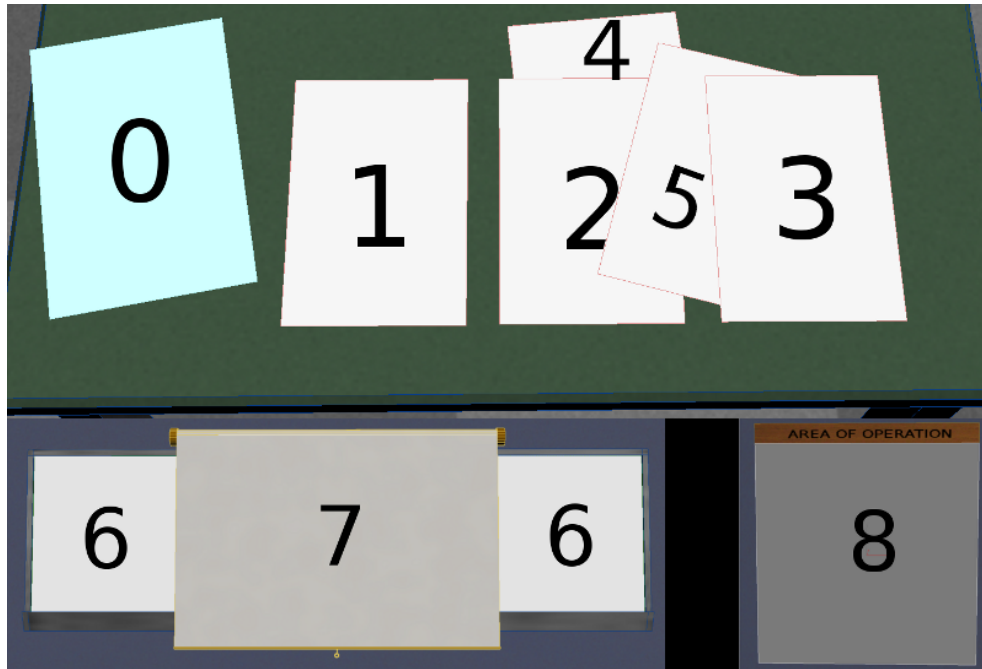
So for example, to set a custom battle map located in the root of your mission folder onto the map prop, you would use:

nimHang4 setObjectTexture [8,"battleMap.paa"];

To Create Textures

Within this download you should also have an "editor" folder. This folder includes template textures for you to use, so that your textures align properly with the UV-mapping of the props and are not offset/stretched/etc. They are in .tga format. I personally use GIMP to create textures. Be warned though when you create .tga textures, you must make sure to turn off "RLE Compression" when saving, otherwise TexView 2 will not be able to open it to convert it into .paa format.

F. The Armory

Across the hall from the briefing room is a small, simple, empty room in which you may place weapon/ammo crates to supply the player during your mission. In the future I may create more props (weapon boxes/lockers) for you to use and place here, until then, you will have to deal with standard BIS boxes.

G. Nimitz Personnel

Retextured deck hands have been included with the addon to help create a more realistic

environment. They can all be found under US Navy > Men, and represent real roles on an aircraft carrier based on their shirt color. Shirt color and jobs are as follow:

PURPLE	Aviation Fuels
BLUE	Aircraft Elevator Operators Tractor Drivers
GREEN	Catapult & Arresting Gear Crews, Air Wing Maintenance Crews, Cargo-Handling Personnel, Helicopter Landing Signal Personnel
YELLOW	Aircraft Handling Operators, Catapult and Arresting Gear Officers, Plane Directors
RED	Ordnance Handlers, Crash and Salvage Crews, E.O.D.
BROWN	Air Wing Plane Captains
WHITE	Squadron Plane Inspectors, Landing Signal Officers, Safety Observers, Medical Personnel

Classnames are as follow:

JDG_Nimitz_Crew_Purple
JDG_Nimitz_Crew_Blue
JDG_Nimitz_Crew_Green
JDG_Nimitz_Crew_Yellow
JDG_Nimitz_Crew_Red
JDG_Nimitz_Crew_Brown
JDG_Nimitz_Crew_White

Shooter Animations

Custom animations have been made for catapult launch officers, though are not yet fully supported or optimized (or even correctly configured, for that matter). However they do work and a knowledgeable scripter can use commands such as enableSimulation to get it to appear correct for now. Please do not ask for support with these, I will try to get them to work better and provide better usage info on the next update. For now, the animation names are as follow:

nimitz_cat1   /   nimitz_cat2

6. For Addon-Makers

Certain systems/scripts are in place with the Nimitz to allow for more realistic effects on aircraft. These are fueling hoses and arrester cables. They rely on specifically-named memory points being in the aircraft model.

For your tailhook to simulate catching the cables, place a memory point right in the "seat" of the hook (where a cable would rest) and name it "**tailhook**".

For fuel hoses to appear as if they are attached to your plane while refueling, define a memory point called "**pointFuel**" where it should attach on the airframe. Though it may be anywhere, please place it on the right/starboard side of the aircraft.

7. Known Issues

1. Elevators: Some vehicles may start to roll a bit when the elevator is in motion. Also, if a vehicle is still for too long while the elevator moves, its physics sort of "turn off" and it might stay in place in space - sinking thru or rising above the elevator. Just shoot it once to kick the physics back in.
2. The interior of the island may have missing/stretched textures. This is because it is still a WIP and is only accessible so you may stand upstairs for a different view of the deck.
3. Some of the sounds (especially the JBDs) can be heard from much farther than they should be able to. This may be an inconvenience but not as bad as having no sounds at all.
4. Ammo container objects do not have shadow LODs or lower quality resolution LODs yet.
5. Ammo load on tractor is only diminished for the person who used it (tractor can rearm each player 5 times, instead of 5 times split between everyone).

8. Special Thanks

This USS Nimitz is my first-started/second-released addon for ArmA 2. I am very grateful to everyone who has helped me with it in any amount. Also thanks to the posters on the WIP and Release threads who make putting the time into this through my busy schedule make it seem worth it, knowing people are looking forward to it.

Special thanks to:
- [APS]Gnat - for generously helping me through this addon at various points through it's development, especially the beginning, without which this addon would never have come to fruition.
- [GLT]Myke - for helping me understand hiddenSelections, which made the Briefing Room and other smaller features of the Nimitz possible, as well as for allowing me to use his fantastic missilebox ordnance models in the carrier.
- ryguy - for making a fantastic base texture for the deck of the carrier, allowing me to toss out the ugly texture I had previously made for it.
- Kylania, NouberNou, BDKS, and any others who have helped me figure out where I was going wrong with or how to make my scripts work better.
- ZZEZ - for providing multiple small fixes to multiplayer-specific issues.
- Meatball0311 - for being very cooperative in making his F18 more compatible with the Nimitz, making things such as arrester cable and fuel hose animations possible.

And of course thanks to Bohemia Interactive for making such a great game that the community can contribute to and build upon.

9. Disclaimer

This is NOT an official ArmA 2 addon, and is far from the work of a professional.

Use at your own risk.