Grumman C-1A Trader

Addon for ARMA 2 OA
by NightIntruder

Based on the original addon for FSX/FS2004 by Milton Shupe
and Eagle Rotorcraft Simulations

C-1A TRADER
AGENDA

1. **DESCRIPTION**
2. **FEATURES OF THE ADDON**
3. **INSTALLATION**
4. **USAGE** (INCLUDING CHARACTERISTICS AND USAGE)
5. **KNOWN BUGS & TO DO**
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8. **NOTES FOR MISSION MAKERS**
9. **US NAVY SQUADRONS AND THEIR HISTORY**
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The Grumman C-1 Trader is a carrier onboard delivery (COD) variant of the Grumman S-2 Tracker. The C-1 was outfitted to carry nine passengers or 4,800 pounds (2,400 kg) of cargo and first flew in January 1955. Throughout the 1960s and 1970s the C-1 Trader carried mail and supplies to aircraft carriers on station in the Pacific Ocean during the Vietnam War and also served as a trainer for all-weather carrier operations. Over its production life 83 C-1 Traders were built. The last C-1 was retired from USN service in 1988. It was replaced by a similar version of the Northrop Grumman E-2 Hawkeye, the Grumman C-2 Greyhound.

In ARMA2 it can supplement other carrier-based aircrafts giving possibility to fly cargo/soldier transport missions from/to aircraft carrier or land bases. It might be used as a two-seater trainer in Navy pilot training or in a SP campaign. There is also static wreck included and the addon has numerous hide-type animations for cutscenes or MMs purposes.

I made this addon as I wanted to get some aircraft being able to transport cargo/soldiers to and from aircraft carrier for my missions.

- **Two flyable variants of the Trader and static one:**

  C-1A Trader (soldier tansport): crew of 2 – pilot+copilot, not armed, payload: 9 passangers
  C-1A Trader (cargo):   crew of 2 – pilot+copilot, not armed, payload: 4800 lb (2400 kg)
  C-1A Trader Wreck: empty, however can be filled with wounded soldies or bodies
  Please note, that crew members for above aircrafts are USMC_Pilot by default.

- **6 liveries of US Navy squadrons (+ its cargo versions and class names):**

Fleet Logistic Support Squadron VR-24	as in 1968	>> int73_c1a2
Fleet Logistic Support Squadron VR-24 (cargo)	as in 1968	>> int73_c1a2cargo
Fleet Logistic Support Squadron VR-24 DET	as in 1960, USS *Forrestal*	>> int73_c1a4
Fleet Logistic Support Squadron VR-24 DET (cargo)	as in 1960, USS *Forrestal*	>> int73_c1a4cargo
Fleet Logistic Support Squadron	as in 1964, USS *Oriskany*	>> int73_c1a5
Fleet Logistic Support Squadron (cargo)	as in 1964, USS *Oriskany*	>> int73_c1a5cargo
Fleet Logistic Support Squadron VR-30	as in 1965, NAS Alameda	>> int73_c1a3
Fleet Logistic Support Squadron VR-30 (cargo)	as in 1965, NAS Alameda	>> int73_c1a3cargo
Fleet Logistic Support Squadron	as in 1976, USS *America*	>> int73_c1a6
Fleet Logistic Support Squadron (cargo)	as in 1976, USS *America*	>> int73_c1a6cargo
Fleet Logistic Support Squadron	as in 1966, USS *Coral Sea*	>> int73_c1a7
Fleet Logistic Support Squadron (cargo)	as in 1966, USS *Coral Sea*	>> int73_c1a7cargo
Wreck of VR-24		>> int73_c1a_wreck

- **It can be find in category:**

  BLUESIDE >> US NAVY >> AVIATION >> C-1A Trader (different variants), or
  BLUESIDE >> US NAVY >> AVIATION >> C-1A Trader Cargo (different variants),
 EMPTY >> WRECKS >> C-1A Trader Wreck,

- **Included switchable and customizable (via included paintkits in *.psd format):**
  72 real crew memers tags (of those NAVY crew members who died, had been lost at sea or MIA)
- **Custom sound of real radial engines**
- **Compatible with ACE2**
- **Compatible with JDOG's USS Nimitz /works with catapults, arresting gear, elevators, refuelling etc./**
- **Compatible with UNSUNG Mod**
- **Animations and effects**
  Landing gear with doors and dampers
  Flaps, ailerons, elevators, ruder, airbrakes
  Tail hook /working only with JDOG's Nimitz ver. 0.93 for A2OA placed on a map/
  Throttle, hook, gear, flaps and folding wings levers
  Side cargo doors
  Visual effects of raining
  NAV lights, landing light, night instrument backlighting
  Wings folding
  Vapours and wing trails effects
  Stall effects
- **Primary flight instruments work**
- **Paint kit for crew names tags**
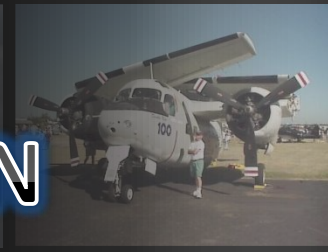
The drill is as always: unpack the package with WinRAR, WinZip or other archive software. **READ the whole C1ATRADER_readme.pdf!** You will find there a useful information ie. „how to", procedures of start, landing, usage of the aircraft and other stuff which might be helpful for mission makers and regular players.

Copy folder **@C1A** into main folder of the ARMA2 OA game, ie. X:\Arma2\ and add
–mod:@C1A; into shortcut from which you start the game.

Hosted by *Aerial Visuals*

Max speed:	320 kph
Min speed:	110 kph
Landing speed:	130 kph
Stall speed (clean configuration):	130 kph
Stall speed (half flaps):	120 kph
Stall speed (full flaps):	100 kph
Take-off speed (clean configuration):	130 kph
Take-off speed (half flaps):	120 kph
Take-off speed (full flaps):	110 kph
Max flight duration:	50 min
Min flight duration:	36 min
Fuel capacity:	800 l
Armament & Equipment:	none

C-1A Trader is COD (Carrier-Onboard-Delivery) aircraft which means that it may be flown for non-combat missions only, ie.:
 - delivery of cargo / supplies
 - transport of soldiers/crew/VIPs
 - CASEVAC
 - training of pilots

Flying into combat zone requires fighter and/or SEAD escort as the aircraft is not equipped with armament and self defence measures, including flares/chaffs. As a general rule of thumb, you should avoid such missions as much as possible.

CAT launch procedure:
- Line up with catapult
- Instruct the passangers and crew how to act in case of plane was destroyed (messages->short delay->explo)
- Unfold wings
- Use action „Lower launch bar"
- Set flaps at full position
- Get permission to start from ATC / Trouble shooter
- Throttle 100 %
- Use action „Salute"
- Approx. at half of the deck lenght gentle pull the yoke (not following this may cause damage to the plane)

Landing on deck procedure (see typical landing pattern on the next slide):
- Approach with speed greater then 160 kph (critical to get access to „tailhook" action)
- Use action „Tailhook down" as soon as it shown up (it shows up within 3 mile radius of an aircraft carrier)
- Drop gear and full flaps
- Get permission to land from ATC / Call the ball
- On final maintain speed between 125 and 135 kph as well as appropriate AOA
- On touchdown push throttle forward for possible BOLTER (another approach caused by missing all trap wires)
- In case of BOLTER/WAVEOFF, go around , communicate with ATC and follow the procedure again,
- Being halted by arresting gear, pull the throttle back, use action „Tailhook Up"
- Fold the wings
- Gentle operate a throttle and rudder to move to a designated parking spot, follow deck crew marks/directions
- Do not forget to open side door after full stop
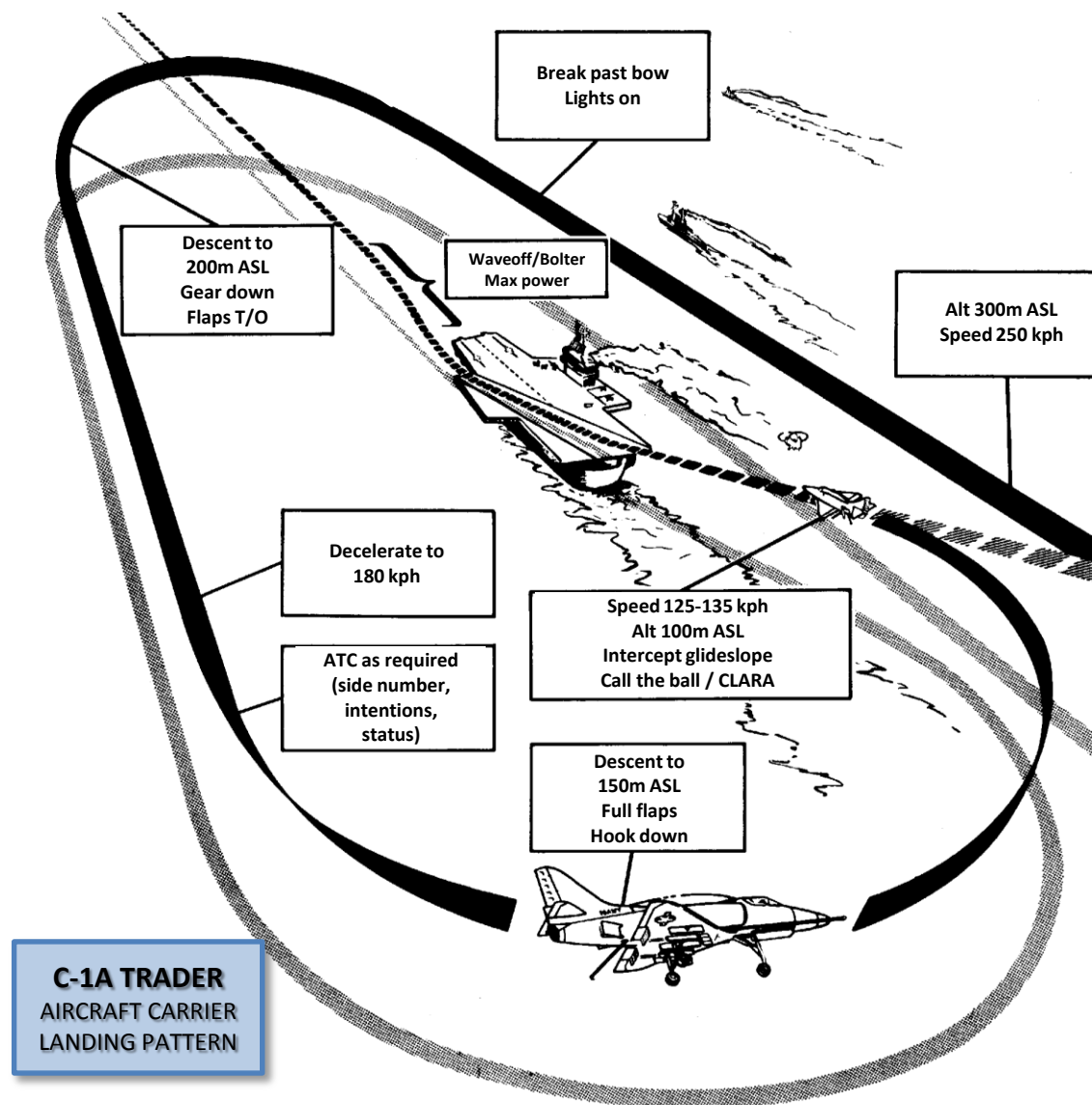- Shut the engines down

Break past bow
Lights on

Descent to
200m ASL
Gear down
Flaps T/O

Waveoff/Bolter
Max power

Alt 300m ASL
Speed 250 kph

Decelerate to
180 kph

Speed 125-135 kph
Alt 100m ASL
Intercept glideslope
Call the ball / CLARA

ATC as required
(side number,
intentions,
status)

Descent to
150m ASL
Full flaps
Hook down

C-1A TRADER
AIRCRAFT CARRIER
LANDING PATTERN

Usage of elevator:
- Move to spot on elevator carefully,
- Position the aircraft towards hangar door, having the aircraft's tail outside the elevator/carrier edge
- If you are alone onboard, get out from aircraft, move to elevator control panel, use „Send elevator" action
- (You may get access to „Send elevator" action from the cockpit as well)
- Go back to pilot's seat (and fold wings if it have not been done yet)
- In case of gravity errors (the aircraft's turning along its longitudal axis), start the engines and switch them off
- When the elevator is on its bottom/up position, start the engines and slowly move to the hangar/deck

Repairing/Maintenance:
- The aircraft must be in the hangar
- The engines must be shut downed
- Maintenance starts automatically, with information window about its progress showing in right upper corner

Rearming:
- The aircraft must be on the deck
- A houler have to be near the aircraft
- Use „Rearm ordannance" action available under mouse scroll wheel

Refuelling:
- The aircraft must be on the deck, between 1st and 2nd elevator, heading towards bow of the carrier
- The right part of the fuselage, near cockpit, must be close to endpoint of the refuelling hose
- Use „Start refuelling" action available under mouse scroll wheel
- Refuelling will starts, with information window about its progress showing in right upper corner
- Stop the refuelling by using „Stop refuelling" action, move to designated parking spot or CAT

NOTES:
1) do not exceed 20 kph during taxiing while turning the aircraft as it may get its landing gear damaged. Always pull rudders gentle while taxiing at airbase/deck
2) Do not exceed 35 kph at carrier deck as wings starts unfolding themselves at the speed
3) Always determine the current plane's status after being hit by AAA/MANPADs – do not trust the status indicator on the left of the screen
4) The aircraft is nose-heavy which means that in stright and level flight it lost its altitude, consider using flaps all the time as the regular flight procedur

- **BUGS:**
  - blurred rotor textures are visible all the time
  - the aircraft can fly with folded wings
  - the aircraft starts with gear retracted, it deploys it in 4.5 secs whenever it starts on ground/deck

- **TO DO LIST:**
  - to improve textures (high-res)
  - to add more squadrons liveries
  - to cause the aircraft not exceeding 25 kph whenever its wings are folded OR cause its crash just after takeoff
  - to improve sound
  - to make custom damage system

The addon was made by me through conversion of FSX model by Milton Shupe as well as work of others (two additional camouflages of the model). The addon was created for use in Arma 2 OA game only and is provided "as-is", however it should also work on vanilla A2OA and UNSUNG mod. It is compatible with ACE mod as well.

The model, sounds and textures of the addon are released under CC BY-NC-ND 3.0 license:

The addon's config and scripts are covered by CC BY-NC-SA 3.0 license:

The description of these licenses are here: http://creativecommons.org/licenses/

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CREDITS & THANKS

- Milton Shupe for original model and given permission for conversion (thanks!)
- Slideroy – script of raining effects
- OFrP – script of vapour and wing trails effects
- JDOG – USS Nimitz and his great functionality
- eggbeast, hcpookie, Sav, sv5000, Wolfgang Wapler, Claudio Coscia – for motivating me to work on this addon and help
- Ared – script of „life after life”
- UNSUNG, P85 and CWR2 mods developer teams as the addon is in support of their magnificent work
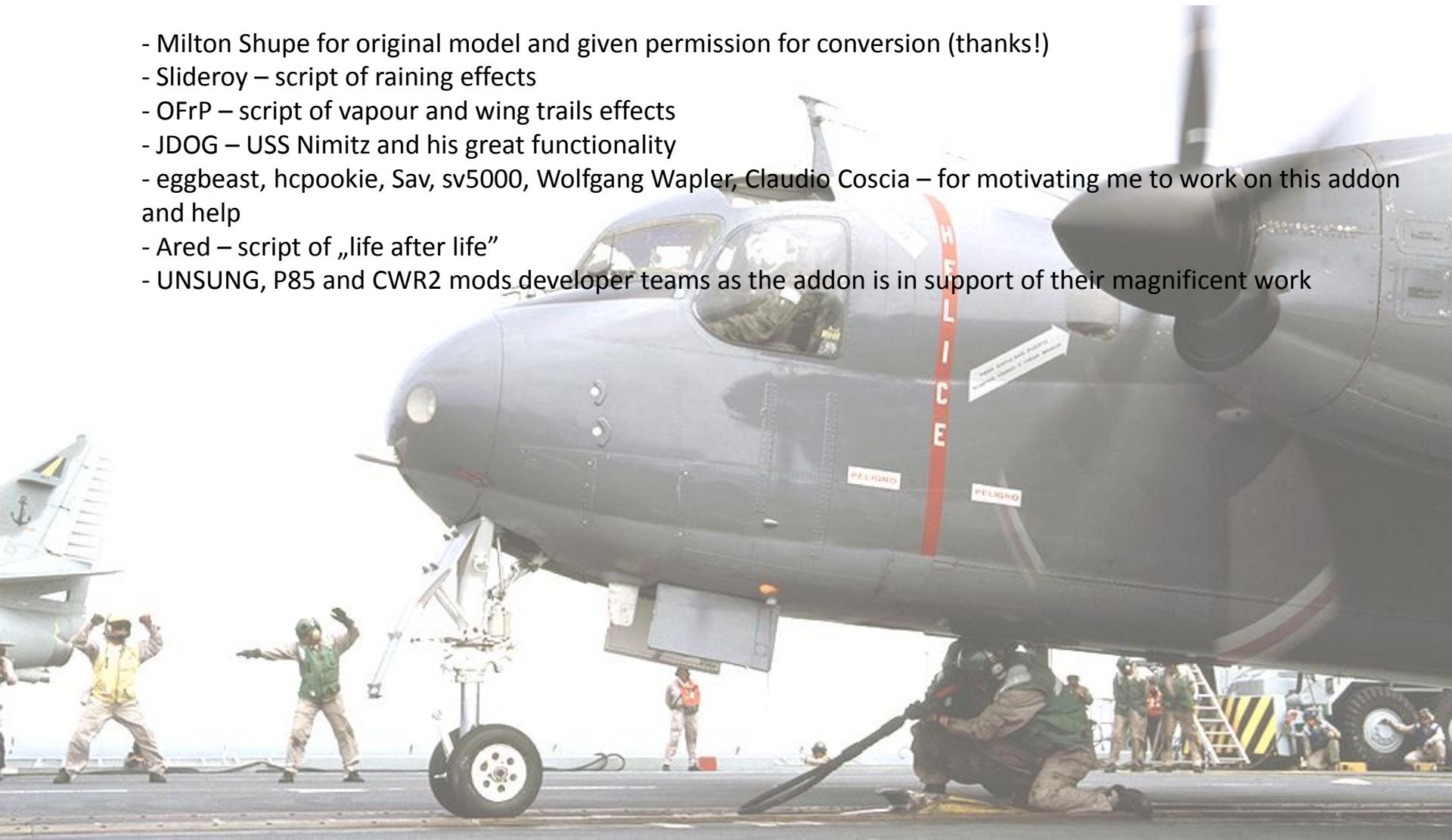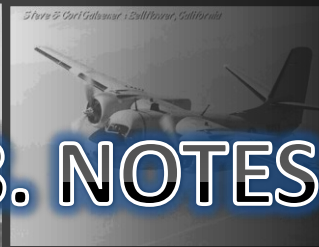
CHANGING OF PILOT AND COPILOT NAMES

There is possibility of changing of pilot / copilot names on their tags just below canopy frame. For now, pilot name by default is CDR Boulton and his copilot's name is LT Bartholomew. To change their names, put following commands into the aircraft's init field:

```
this setObjectTexture [9, "\int73_c1a\tex\crew\nav\xxxxx_xx.xxx"];     - pilot's name tag
this setObjectTexture [10, "\int73_c1a\tex\crew\pil\xxxxx_xx.xxx"];    - copilot's name tag
```

where xxxxx_xx.xxx is name of the texture with crew member's name. There are following choices possible:

COPILOTS	COPILOTS	PILOTS	PILOTS
aldrich_ca.paa	martin_ca.paa	bell_ca.paa	mckee_ca.paa
bartholomew_ca.paa	mergl_ca.paa	best_ca.paa	miller_ca.paa
beverly_ca.paa	miller_ca.paa	boulton_ca.paa	moore_ca.paa
bockenhauer_ca.paa	parker_ca.paa	brown_ca.paa	pies_ca.paa
campbell_ca.paa	patterson_ca.paa	chaffee_ca.paa	quinn_ca.paa
carman_ca.paa	prevost_ca.paa	christophersen_ca.paa	reardon_ca.paa
chapman_ca.paa	reader_ca.paa	decker_ca.paa	thompson_ca.paa
faulkner_ca.paa	roberts_ca.paa	ebers_ca.paa	walls_ca.paa
frazee_ca.paa	schillinger_ca.paa	glasson_ca.paa	weigle_ca.paa
gordon_ca.paa	smith_ca.paa	grady_ca.paa	
grane_ca.paa	young_ca.paa	jordon_ca.paa	
hunt_ca.paa		lackey_ca.paa	
laird_ca.paa		lea_ca.paa	
levine_ca.paa		lilleboe_ca.paa	
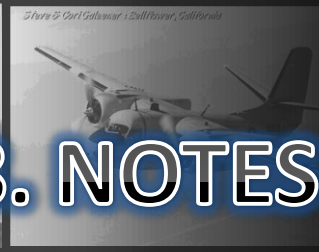
USING ANIMATIONS FOR CUT-SCENES AND IN-GAME

To release/retract landing gear:
>   **this animate ["int73c1a_gear_trigger",1];**
>   **this animate ["int73c1a_gear_trigger",0];**

To open/close side doors of the aircraft:
>   **this animate ["int73c1a_door_trigger",1];**
>   **this animate ["int73c1a_door_trigger",0];**

To hide cargo boxes in cargo compartmet:
>   **this animate ["int73c1a_skrzynia1",1]; this animate ["int73c1a_skrzynia2",1]; this animate ["int73c1a_skrzynia3",1];**
>   **this animate ["int73c1a_skrzynia4",1];**

To unhide the boxes: copy all and change the red numbers for 0.

To fold wings:
>   **this animate ["int73c1a_wing_left",1]; this animate ["int73c1a_wing_right",1]; this animate**
>   **["int73c1a_zawias_left",1]; this animate ["int73c1a_zawias_right",1]; this animate**
>   **["int73c1a_popychacz_left_gorny",1]; this animate ["int73c1a_popychacz_right_gorny",1]; this animate**
>   **["int73c1a_popychacz_left_dolny",1]; this animate ["int73c1a_popychacz_right_dolny",1]; this say "c1awing_fold";**

To unfold wings: copy all and change the red numbers for 0.

OTHER NOTES

Please note that paintkits of names of crew members and serial numbers have been added to the package for you convience, for example to make pilot's and navigator's tags of the members of gamers clan you are belongs to. You can find them in \Documents folder in the package where you found this manual.
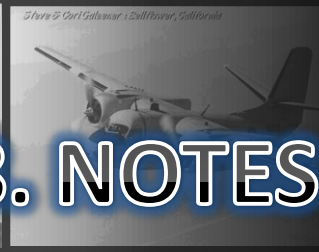
USING ANIMATIONS FOR CUT-SCENES AND IN-GAME

There are numerous hide-type animations for cutscene purposes. Also, it is possible to animate single parts of the aircraft to desired extent (just remove „hide" part from a name of an animation listed below), ie.:
this animate ["int73c1a_rudder",1];   - this command will animate rudder

```
this animate ["int73c1a_hide_wingleft",1];
this animate ["int73c1a_hide_wingright",1];
this animate ["int73c1a_hide_elevright",1];
this animate ["int73c1a_hide_elevleft",1];
this animate ["int73c1a_hide_aileronleft",1];
this animate ["int73c1a_hide_aileronright",1];
this animate ["int73c1a_hide_flapleft",1];
this animate ["int73c1a_hide_flapright",1];
this animate ["int73c1a_hide_rudder",1];
this animate ["int73c1a_hide_door",1];
this animate ["int73c1a_hide_gearnose",1];
this animate ["int73c1a_hide_gearnose1",1];
this animate ["int73c1a_hide_gearnose2",1];
this animate ["int73c1a_hide_gearnose3",1];
this animate ["int73c1a_hide_gearnose4",1];
this animate ["int73c1a_hide_gearnose5",1];
this animate ["int73c1a_hide_gearnose6",1];
this animate ["int73c1a_hide_gearnose7",1];
```
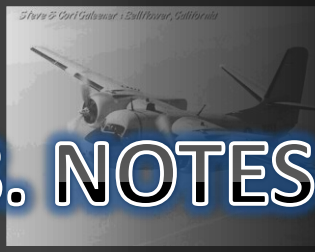
```
this animate [" int73c1a_hide_gearleft ",1];
this animate [" int73c1a_hide_gearleft1 ",1];
this animate [" int73c1a_hide_gearleft2 ",1];
this animate [" int73c1a_hide_gearleft3 ",1];
this animate [" int73c1a_hide_gearleft4 ",1];
this animate [" int73c1a_hide_gearleft5 ",1];
this animate [" int73c1a_hide_gearleft6 ",1];
this animate [" int73c1a_hide_gearleft7 ",1];
this animate [" int73c1a_hide_gearleft8 ",1];
this animate [" int73c1a_hide_gearright ",1];
this animate [" int73c1a_hide_gearright1 ",1];
this animate [" int73c1a_hide_gearright2 ",1];
this animate [" int73c1a_hide_gearright3 ",1];
this animate [" int73c1a_hide_gearright4 ",1];
this animate [" int73c1a_hide_gearright5 ",1];
this animate [" int73c1a_hide_gearright6 ",1];
this animate [" int73c1a_hide_gearright7 ",1];
this animate [" int73c1a_hide_gearright8",1];
this animate [" int73c1a_hide_tailhook",1];
this animate [" int73c1a_hide_canopy",1];
```

Fleet Logistics Support Squadron 30 (VRC-30) „Providers"

Fleet Logistics Support Squadron 30 (VRC-30), also known as the "Providers", is a United States Navy Fleet Logistics Support squadron based at Naval Air Station North Island consisting of 5 detachments. Fleet Logistics Support Squadron Three Zero (VRC-30), traces its ancestry to Air Transport Squadron Five (VR-5) which was established on 24 June 1943 at Naval Air Station Seattle. In 1950, VR-5 moved its base of operations from NAS Seattle to NAS Moffett Field, California. Detachments were established in Seattle and at NAS North Island, California. VR-5 was decommissioned 15 July 1957 and became VR-21, with detachments at NAF Atsugi, Japan and NAS North Island. VR-21 was the first squadron to fly dedicated Carrier Onboard Delivery (COD) aircraft, the TBM-3Rs, transport version of the TBM-3E the General Motors version of the World War II Grumman Avenger torpedo bomber.

On 26 June 26 1958, VR-21 NAS North Island Detachment made the first COD with the Grumman C-1A Trader aircraft to the USS Yorktown (CV-10). The Detachment relocated to NAS Alameda in 1960. VR-21 was also at NAS Barbers Point, Hawaii, flying C-118B Liftmasters into the early 1970's. The Atsugi Detachment VRC-50, and the Alameda Detachment was commissioned as Fleet Tactical Support Squadron Three Zero (VR-30) equipped with Convair C-131 Samaritans and C-1A Trader aircraft. VR-30's mission included logistics support for Commander in Chief U.S. Pacific Fleet units. The squadron was awarded the Meritorious Unit Commendation for exemplary service from 1 January to 30 November 1967. From 1968 to 1973, VR-30 COD detachments operated aboard various carriers in support of recovery operations for Apollo X, XI, XII, and XVI.

In 1969, squadron C-1A's and crews operated from Danang, Republic of Vietnam, in support of CTF-77. VRC-30 retired the 6 C-1A Trader Aircraft and transitioned to the C-2A Greyhound in late 1985 by accepting deliveries of five C-2A Greyhounds, the squadron operates a newer re-procured version of the aircraft today, the C-2A(r)

Fleet Logistics Support Squadron 40 (VRC-40) „Rawhides"

Fleet Logistics Support Squadron 40 (VRC-40) was commissioned on 1 July 1960 and is tasked with providing Carrier Onboard Delivery (COD) services to the U.S. Navy's Second, Fifth, and Sixth Fleets. VRC-40, homeported at Naval Station, Norfolk, Virginia (USA), operates the Grumman C-2A Greyhound and reports to Commander, Airborne Early Warning Wing, U.S. Atlantic Fleet. Maintaining and flying the squadron's 14 aircraft are nearly 320 enlisted personnel and 42 officers. Unlike most squadrons, VRC-40 does not deploy as a unit. Instead, it prepares five separate sea going detachments with a two-plane complement while maintaining a shore "Homeguard" to support local operational commitments. Based at remote forward logistics sites, the deployed detachments support multiple Carrier Strike Groups that operate in the Second, Fourth, Fifth, and Sixth Fleets aboard deployed aircraft carriers providing continuous fleet support. VRC-40 supports the fleet from ships and bases as far north as Norway, down the Eastern Seaboard and Gulf Coast, throughout the Caribbean, in Central and South America, and all over the Mediterranean and Middle Eastern theaters.

After flying the Grumman C-1A Trader aircraft for over 26 years, VRC-40 completed a transition to the C-2A in 1986, marking the end of the reciprocating engine era in Naval Aviation history. VRC-40's continuing mission is the efficient transportation of passengers, mail, and cargo to and from carriers at sea.

While speed and efficiency are requisite to completion of the squadron's mission, safety is of paramount importance. Among VRC-40's many achievements and accomplishments, the "Rawhides" recently reached one of the highest honors in Aviation Safety by successfully completing 25 years of class "A" mishap free flying. Every year, VRC-40 carries over three million pounds of mail and cargo and effects over 1,000 arrested landings.

Fleet Logistics Support Squadron 50 (VRC-50)

Fleet Tactical Support Squadron FIFTY (VRC-5O) was established 1 October 1966 at Naval Air Station, Atsugi, Japan. Prior to establishment, VRC-5O was an Atsugi based VR-21 detachment. The newly formed squadron initially operated the C-1A "Trader" aircraft for Carrier Onboard Delivery (COD) The introduction of the C-2A "Greyhound", 6 December 1966, marked the beginning of C-2A COD service to the fleet. Seven months later, on 11 July 1967. the CT-39E "Sabreliner" (light transport jet) arrived and an additional phase of operations commenced. The CT-39E aircraft cruised at 450 knots at a maximum altitude of 45,000 feet, providing rapid transportation between Western Pacific military and civilian airports.

In September 1968, a permanent VRC-50 detachment was established at Naval Air Station, Cubi Point, Republic of the Philippines. VRC-5O operated 10 C-2As in direct support of SEVENTH Fleet carriers operating in the Tonkin Gulf, Philippine Sea, and South China Sea. In recognition of VRC-50's efforts and contributions in the Far East, The squadron was awarded the National Defense Transportation Award in 1968, 1978, 1982 and 1993 for sustained outstanding performance in military transportation.

In June 1969 three C-130F "Hercules" transports were assigned to the squadron. Then in February 1971, VRC-50 received orders to change its homeport from Atsugi, Japan to NAS North Island at San Diego, California. [Authorized By: CNO, DTG R171535Z Feb 71] As part of this move, the C-130 aircraft were transferred to VR-21 in Barber's Point, Hawaii, while the CT39Es, C-1As, and five C-2As were transferred to VRC-50 Detachment Cubi Point, Republic of the Philippines on a six-month rotational basis. In December 1971, the squadron established a C-1A detachment at Danang Air Base, Republic of Vietnam, and assumed responsibility for Yankee Station Carrier Onboard Delivery. A further change of homeport,from Naval Air Station, North Island to Naval Air Station, Cubi Point Republic of the Philippines occurred in July 1972. [Authorized By: CNO, DTG 281950Z Jun 72]The Danang Detachment following the homeport change, was phased out seven months later allowing the squadron to operate as a unit for the first time in 4 1/2 years.

In April 1976, VRC-50 was redesignated "Fleet Logistics Support Squadron FIFTY. The return of the C130 aircraft in March 1977 brought the aircraft inventory to six C-1As, seven C-2As, two CT-39Es and three C-130Fs. With additional use of the C-1A and expanded use of the C-2A aircraft, VRC-5O again provided Carrier Onboard Delivery (COD) support to SEVENTH Fleet units operating in the Western Pacific and Indian Ocean until calendar year 1981.
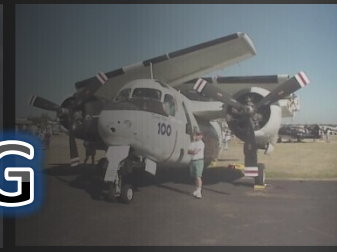
0.6 BETA

CHANGED:
- added working landing gear dampers
- „ejection" script removed
- exaust smoke removed
- rain effect sounds removed
- LandContact LOD points has been changed
- you can put cargo/ammo boxes to C-1 CARGO variant only

FIXED:
- lack of catapult steam during CAT launch on Nimitz
- missing textures/sounds call
- lack of partial compatibility with ACE2 has been fixed

0.5 BETA

- FIRST BETA RELEASE