

## **FSX Douglas C-117D Skytrooper (Super DC-3, R4D-8) V.1 Beta**

The C-117D Skytrooper or Super DC-3 was a medium-range transport serving with the U.S. Navy and Marines. The package includes a VC adapted from the Basler BT-67. New model features include a realistic slow radial engine start, a fuel and payload manager, and built-in engine stress and battery failures. Sound is aliased to the default DC-3 (replacement sound pack recommended in the readme). Historical research by John Detrick, models by Manfred Jahn, flight dynamics by Alexander M. Metzger, gauges, animations, and failure conditions by Hansjoerg Naegele. Watch those failure conditions!

In the official Flight Manual, the C-117D is described as "a medium-range, low-wing land aircraft designed for use as a diversified cargo, personnel, or ambulance transport." Originally intended as a DC-3 replacement, the Super 3 had a stretched fuselage, more powerful engines, a retractable tail wheel, square-tipped slightly swept wings, and an enlarged fin and tailplane. While it could carry significantly more payload at faster speeds, it proved no match for new-generation aircraft such as the Convair 240. Only three Super 3s were commercially operated by Capital Airlines based in Washington DC. However, one hundred U.S. Navy and Marines Skytroopers did see extended service all over the world under the designations R4D-8 (early years) and C-117D (1962 onwards). The last Marines C-117D was withdrawn from use in June 1982.

Minimum system-requirements: FSX SP2. Recommended: FSX Gold Edition or Acceleration.

### **INSTALLATION**

- (1) Extract the zip to a temporary folder or open it in Windows Explorer.
- (2) You should see three subfolders: Effects, Simobjects, and Sound. You should be able to copy these three folders directly to your main "Flight Simulator X" folder using "merge" or "integrate folders" mode when asked (do NOT use "replace"). Should you have any misgivings about this procedure play it safe -- enter the source subfolders individually and copy the files to the appropriate FSX target folders.
- (3) The single aircraft provided in this version will show up as "Douglas C-117D" in the Flight Simulator's aircraft selection menu.

### **SOUND ADD-ON RECOMMENDATION**

For a replacement sound pack we are recommending Gary Jones's excellent FS2004 "Pratt & Whitney radial engine sound set for the Douglas DC-3". On our systems it works perfectly fine in FSX. It is available at [www.avsim.com](http://www.avsim.com) under file name `douglas_dc-3_c-47_sounds.zip` (22 MB).

### **FSX OPERATION NOTES**

- (1) Important: Fly this aircraft gently following the checklist. If you don't you will sooner or later experience a failure condition from which it may be difficult to recover. The checklist is accessible via the usual Shift-F10 keypress. You can also click on the pilot's clipboard to get an abbreviated list without FSX-specific tips (for experienced pilots).

- (2) **Control Panel.** While this model has no 2D panel, you can activate a two-page Control Panel popup via Shift-2 (page 1) and Shift-3 (page 2). The default size of these pages have been adjusted for 16:9 monitors. If the pages appear squashed you can temporarily drag their edges for a better display. Alternatively, use Notepad to edit the panel.cfg, which allows settings for 4:3 and 16:10 ratio screens to be used.

Page 1 has a payload and fuel manager (aircraft needs to be on ground with parking brakes set for it to work). Select Total Payload and Total Fuel options "EMPTY" to put the aircraft into a "cold and dark" state.

Page 2 is a tabular display of all major settings and readouts including failure warnings and context-sensitive tips. We suggest keeping page 2 of the Control panel open and monitoring the various readouts, warnings, and tips (hover the mouse pointer over the item in question for options) until you have become thoroughly familiar with the Do's and Don'ts of handling this plane.

- (3) **Failure conditions.** The main failure conditions built into the model are battery depletion and engine failure, both of which can happen fairly quickly. The battery can be replenished by middle-clicking the battery item on page 2 of the Control panel, or by flipping the Ground Power switch on the overhead panel (FSXA only). Engine stress is signaled on page 2 of the Control Panel by a numeric counter decrementing from 100% to 0, with the final red zero flagging imminent failure. Engine stress can only be cured by reducing MAP and RPM to the acceptable 'green' ranges indicated on the respective gauges.
- (4) Control Panel settings and VC switches usually act on both left and right clicks, occasionally also middle clicks. Side windows, pilot's yoke, overhead spotlights, call sign, wipers, and pilot's clipboard are also clickable - click them and see what they do.
- (5) **Engine Start.** You can choose one of four startup procedures. (a) Ctrl-E will work in practically all situations (also reset faulty conditions), but it will not produce the realistic slow period-style engine start we all want. (b) For a slow engine start, open page 2 of the Control Panel and go through the eight steps detailed in the mini-tutorial engstart.jpg. (c) Use the relevant switches of the Engine Start section on the VC's overhead panel. (d) Use the mini-icons accessible via Shift-7 in any view, including spot view.

Note, proper engine start sequence is 2 - 1.

## C-117D Engine Start Procedure

Flight: NAVY 17191

batt	ext	amp	radio	nav	land	pnl
24.0	0.0	30	24.0	OFF	OFF	OFF

door1	vac	wiper	static	deice	p-ice	stby1
CLSD	OFF	OFF	OFF	OFF	OFF	OFF

	carb	7 mags	qer	5 pump	8 prime	start
#1	OFF	OFF	0.0	ON	OFF	OFF
#2	OFF	OFF	0.0	ON	OFF	OFF

	tank	lbs	pph	psi	f/a	mix
#1	LM	602	30	18	0.085	AR
#2	RM	602	30	18	0.085	AR

	rpm	map	psi	chl	4 prop	throt
#1	0	29.9"	0	38	100%	10%
#2	0	29.9"	0	46	100%	10%

psi	hand	tail	park	left	right	flaps
0	OFF	FREE	100%	DN	DN	UP

pitot	oat	ktas	kias	alt	vsi	hdq
OFF	+15°	0	0	16	+0	313°

suc	aoa	pitch	trim	target	fpm	lock
0.0	+0.0°	20°	+0.0°	0	+0	360°

17:27:11 -2-

Shift-3: open Cotrol Panel, page 2.

- 1 Battery 24V (mid-click to reset)
- 2 Mixture AUTO RICH (R-click on "mix" for AR; mid-click for manual)
- 3 Throttle CRACKED (10%)
- 4 Prop Control FULL FORWARD
- 5 Fuel Pump ON
- 6 Starter Button mid-click and count NINE BLADES (Hover mouse over "start" settings for tips and error tracking)
- 7 Mags / Ignition R-click until BOTH
- 8 Prime IF REQUIRED

**Note**  
In case of "carb flooding" turn off pumps, open throttle a few seconds, close throttle, and redo steps 1-8. Alternatively, use Ctrl-E to recover.

- (6) In the VC, propeller control, throttle, and mixture levers can be linked by middle-clicking any one of them. To unlink, middle-click again.
- (7) Flip battery switch OFF and apply parking brakes to display wheel chocks and let the pilots take a break.
- (8) Cowl flaps open/close in intervals by clicking the "cht" (cylinder head temperature) item on the Control Panel or on pressing Shift-Ctrl-V / Shift-Ctrl-C. The recommended settings are listed in the checklist.
- (9) Landing lights swivel up/down on pressing Shift-Ctrl-Num8/Num2 respectively.
- (10) With engines off and parking brake set, the port passenger/freight door can be opened/closed by pressing Shift-E. The second freight door opens on Shift-E-2. Steps appear on Shift-E-3.
- (11) For detailed instructions on how to operate the Garmins consult the docs in subfolder "Documentation". When operating the Garmins, use left/right clicks on ON/OFF knob to decrease/increase the brightness of the display. Similarly, use left/right clicks to scroll through multiple pages. Generally, right=next and left=previous. For the NAV/GPS link switch click the CDI button on the Garmin.

## **CREDITS**

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