



## DCS Mission Planner Guide

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[illegible]

## Introduction

In order to determine precise fuel requirements, and therefore minimize the quantity loaded, it is necessary to make some calculations based on weapons load out (drag & weight), distances and altitudes flown, and loiter time requirements over the target area.

A useful tool for this is the DCS Mission Planner, created by Egon “Rider” Carusi. This guide will describe its use, and the employment of the data which can be extracted from it.

It is currently only able to provide data for the A-10C.

## Description

The utility consists of 3 pages plus a cover page. The first page is Loadout. The weaponry and fuel quantities can be specified here, and the data entered will feed into the calculations for fuel usage aircraft weight etc. The second page is labelled Takeoff/Land and is where meteorological data, runway lengths and bearings, aircraft configurations are entered to provide take off roll length, landing roll length rotation speed, and performances can be obtained. The last page entitled Mission is where mission profile data is entered, and it provides fuel requirements, mission time, total distances flown etc. A summary of current data is displayed to the right of each page.

The three pages will provide all the information required to correctly plan and execute a mission with the correct fuel levels, and gives essential information regarding aircraft performances for the mission. It allows exact planning of aircraft weight, and take off performance. This information will allow you to fly much more efficiently whilst maximising performance and safety.

## Data Entry

The essential data you will need to complete the mission plan are as follows:

Altitudes for each phase of the flight

Weapon load out

Details of the runways to be used

Meteorological data

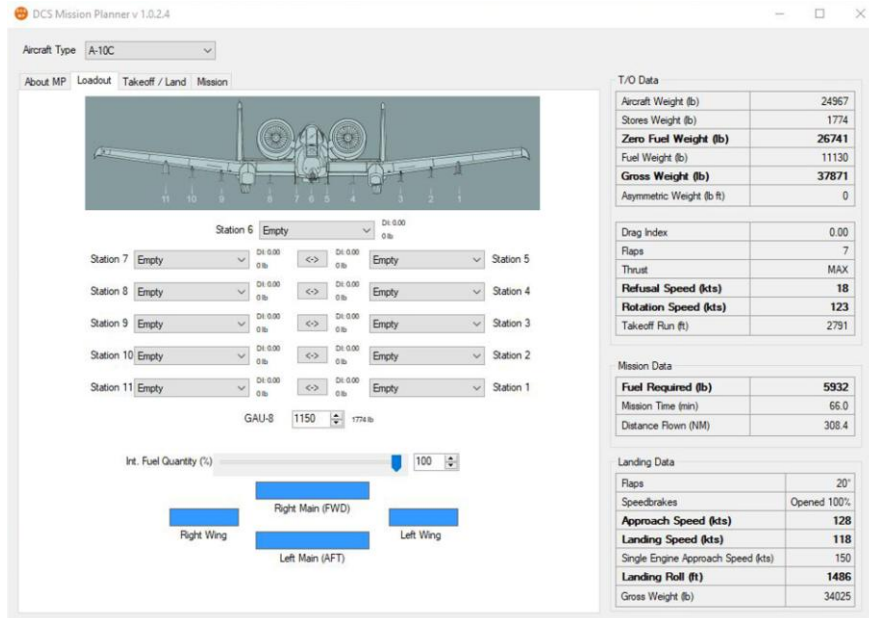
Waypoint information in the form of distances to be flown and time to be spent loitering.

All this information should be provided in the mission briefing sheet, or is found on the airport charts provided with DCS World.

The data is entered onto the 3 pages as follows:

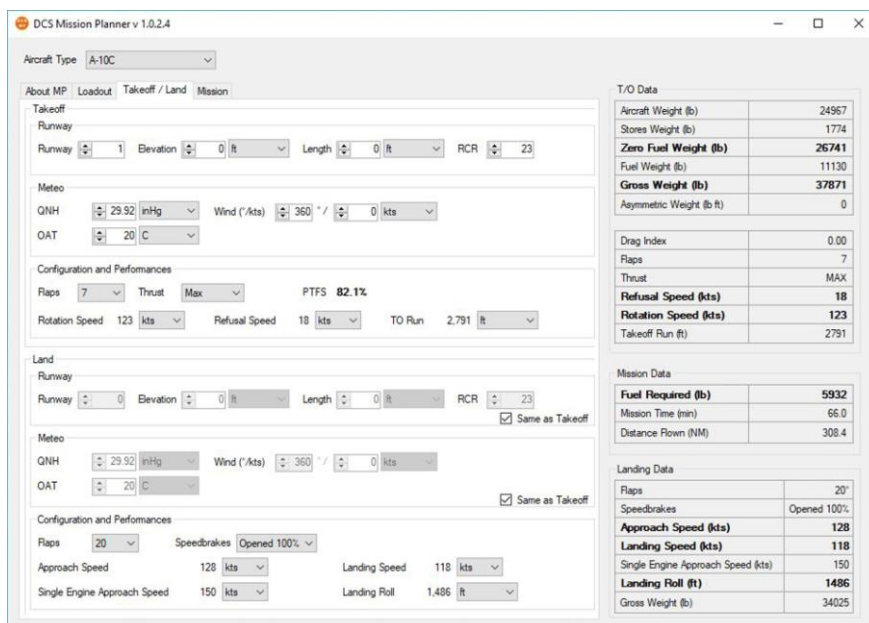


## Load out Page



Select the required load out for each station using the drop down menu. Set fuel quantity using the slider. As weapons are added or removed, you will see the drag index of the chosen configuration change along with aircraft weight. These factors will be used to determine performance and fuel requirements. Moving the fuel slider will also affect the total weight used to calculate performance.

## Takeoff/Land



Use drop down menus to change units, and simply enter data into the boxes provided. This will provide rotation and refusal speeds as well as minimum takeoff roll. The landing data will provide approach speed, landing speed landing roll, and single engine performance data.

## Mission

The screenshot displays the DCS Mission Planner v 1.0.2.4 interface. The main window is titled 'Aircraft Type: A-10C'. Below this, there are tabs for 'About MP', 'Loadout', 'Takeoff / Land', and 'Mission'. The 'Mission' tab is active, showing a table of mission actions and their parameters.

Action	Thrust	Time (min)	Dist (NM)	Alt. (ft)	IAS (kts)	Fuel Used (lb)	Fuel Avail (lb)	Ordnance Fired
Ground/Takeoff	MAX	1.0	2.0	2000	200	500	11130	
Climb (Nav)	MAX	7.7	22.0	18000	470	10630		
Cruise	16.8	80.0	18000	220	735	10160		
Loiter	10.0	47.7	18000	220	438	9426		
Combat	MAX	5.0	28.4	7000	340	529	8988	
Drop				2000	0	8459		
Climb (Nav)	MAX	6.9	19.8	18000	440	8459		
Cruise	16.8	80.0	18000	220	735	8019		
Descend (Nav)	IDLE	1.9	28.7	2000	86	7284		
Land/Ground				0	128	2000	7198	

Below the mission table, there are sections for 'Ordnance' and 'Performance Data'.

Ordnance	Avail.	Fired
GAU-8	1150	0

Performance Data	
Fuel Required (lb)	0
Mission Time (min)	0.0
Distance Flown (NM)	0.0
Gross Weight (lb)	37871
Drag Index	0.00

On the right side of the interface, there are several data panels:

- T/O Data:**

Aircraft Weight (lb)	24967
Stores Weight (lb)	1774
<b>Zero Fuel Weight (lb)</b>	<b>26741</b>
Fuel Weight (lb)	11130
<b>Gross Weight (lb)</b>	<b>37871</b>
Asymmetric Weight (lb ft)	0
- Drag Index:** 0.00
- Flaps:** 7
- Thrust:** MAX
- Refusal Speed (kts):** 18
- Rotation Speed (kts):** 123
- Takeoff Run (ft):** 2791
- Mission Data:**

<b>Fuel Required (lb)</b>	<b>5932</b>
Mission Time (min)	66.0
Distance Flown (NM)	308.4
- Landing Data:**

Flaps	20°
Speedbrakes	Opened 100%
<b>Approach Speed (kts)</b>	<b>128</b>
<b>Landing Speed (kts)</b>	<b>118</b>
Single Engine Approach Speed (kts)	150
<b>Landing Roll (ft)</b>	<b>1486</b>
Gross Weight (lb)	34025

The number of events can be set by adding or deleting actions, and the nature of the event can be set using the drop down menus. White boxes are used to enter the relevant data such as time, distance, altitude and indicated airspeed.

Once the mission profile has been input, essential data is calculated and displayed. Required fuel can be set in the load out page once all the remaining data has been entered, and will dynamically update aircraft weight and performance. Reduce the fuel load until the fuel required display box turns amber or red indicating either critical or insufficient fuel levels. This enables you to fine tune fuel requirements.

## Summary

Time taken to complete the mission planner will enable you to fly more precisely and more efficiently. Providing the correct data is provided with the mission briefing, use of this aid will go a long way to making your missions more meaningful and complete.

