DISPERSANT AIRCRAFT CAPABILITY FORM

PLATFORM

DOUGLAS DC-3

Operator: Airborne Support Incorporated
OSRO: Clean Gulf Associates

Photo compliments of
Airborne Support, Inc. (ASI)

DATA SOURCE LEGEND

1. **(Black):** Indicates the data are based on documented field trials or is a fixed design value

2. **(Blue):** Indicates the data are based on limited field observations or operator's stated practice or stated value (little or no documentation)

3. **(Red):** Indicates the data are based on reasonable calculations or performance of comparable systems

		Unit	U.S. Regulatory Calculation Values	Data Source 1-2-3	Range	Reference(s)
	AIRCRAFT PARAMETERS					
1	Swath Width	feet	**120**	**3**	**70-120**	**Airborne Support Inc. estimated value**
	a. Application (gallons per acre)	gpa	**5**	**3**	**1-10**	**Airborne Support Inc. estimated value**
	b. Altitude	feet	**50**	**2**	**50-100**	**Airborne Support Inc.**
	c. Application Speed	knots	**130**	**2**	**120-160**	**Airborne Support Inc.**
	d. Pump Rate (gallons per minute)	gpm	**-----**	**3**	**40-600**	**Estimate for typical spray systems**
	e. Boom Pressure (pounds/square inch)	psi	**-----**	**3**	**15-45**	**Estimate for typical spray systems**
2	Transit Speed at Altitude From Base to Staging Airport	knots feet	**130** **<10,000**	**2**	**130-150** **<10,000**	**Airborne Support Inc.**

3	Transit Speed at Altitude Staging Airport to/from spill	knots feet	**130** **<10,000**	**2**	**130** **<10,000**	**Airborne Support Inc.**
4	Dispersant Spraying Reposition Speed	knots	**130**	**2**	**130**	**Airborne Support Inc.**
5*	Time to Fully Load Dispersant Tank	min	**15**	**2**	**15-90**	**Airborne Support Inc.**
6*	Time to Fully Load Fuel Tanks	min	**13**	**2**	**13-90**	**Airborne Support Inc.**
7	Load Dispersant & Fuel simultaneously (Yes/No)	-----	**Yes**	**1**	**Yes**	**Airborne Support Inc.** **See Other Comments** **below 5*& 6***
8	Time to Make U-turn (Turn 180 degrees)	min	**1.0**	**2**	**1.0**	**Airborne Support Inc.**
9	Dispersant Payload Maximum	gal	**1,200**	**1**	**1,200**	**Airborne Support Inc.**
10	Fuel with maximum dispersant payload	lbs	**4,020**	**1**	**4,020**	**Airborne Support Inc.**
11	Approach Distance for spraying	nm	**1.0**	**2**	**0.5-1.5**	**Airborne Support Inc.**
12	Departure Distance for spraying	nm	**1.0**	**2**	**0.5-1.5**	**Airborne Support Inc.**
13	Taxi Time Take-Off	min	**15**	**2**	**10-30**	**Exercise observation**
14	Taxi Time Landing	min	**15**	**2**	**10-30**	**Exercise observation**
15	On-site Check-In/Safety Time	min	**10**	**2**	**5-15**	**Exercise observation**
	CASCADE PARAMETERS*					
16	Take-off with **Maximum Payload and Maximum** **Take-off Weight** (assume no wind and **VFR** fuel reserve)					
	a. Maximum Flight Time	hours	**6.2**	**2**	**6.2**	**Airborne Support Inc.**
	b. Maximum Flight Range	nm	**806**	**2**	**806**	**Airborne Support Inc.**
	c. Optimal Altitude	feet	**-----**	**-----**	**-----**	**-----**
	d. True Air Speed	knots	**130**	**2**	**130**	**Airborne Support Inc.**
	e. Fuel Consumption	lbs/ hour	**-----**	**-----**	**-----**	**-----**
17	Take-Off with **Maximum Fuel and No Payload** (assume no wind and **VFR** fuel reserve)					
	a. Maximum Flight Time	hours	**8.2**	**2**	**8.2**	**Airborne Support Inc.**
	b. Maximum Flight Range	nm	**1,066**	**2**	**1,066**	**Airborne Support Inc.**
	c. Optimal Altitude	feet	**-----**	**-----**	**-----**	**-----**
	d. True Air Speed	knots	**130**		**130**	**Airborne Support Inc.**
	e. Fuel Consumption	lbs/ hour	**-----**	**-----**	**-----**	**-----**
18	Staging area briefing	min	**45**	**2**	**30-60**	**Exercise observation**
	AIRPORT PARAMETERS					
19	Runway length - **Minimum** (For take-off at maximum gross weight assuming sea level, 90° F, no wind using a balanced field concept, i.e., go, no go speed)	feet	**3,000**	**2**	**3,000**	**Airborne Support Inc.**
20	Runway weight restrictions for maximum aircraft weight	lbs	**32,000**	**2**	**32,000**	**Airborne Support Inc.**

	OTHER COMMENTS
5*-6*	The time to load dispersants and fuel are stand alone times independent of each other. If item 7 indicates that fuel and dispersants can be loaded simultaneously, then the longer of fuel or dispersant load time is used in the capability calculations. If item 7 indicates fuel and dispersants can NOT be loaded simultaneously, then the times are added together to calculate the aircrafts capability. To load simultaneously depends upon the airport, aircraft, and support crew. The loading times depend upon the loading system i.e., 5000 tank truck, 55 gallon drums or other means and the pumping system used. The time shown in items 5 and 6 is for loading from a tank truck which is standing by ready to commence loading when the aircraft comes to a stop in the loading area, i.e. the fastest loading time possible.
*	**Cascade Parameters**: The aircraft's calculated capability when cascading uses the same fuel loading and taxi times for dispersant operations as listed in items 6, 13 and 14.