DISPERSANT AIRCRAFT CAPABILITY FORM

PLATFORM

LOCKHEED
ELECTRA L-188

Operator: Atlantic Reconnaissance
OSRO: United Kingdom

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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	**150**	**3**	**100-150**	**Atlantic Reconnaissance**
	a. Application (gallons per acre)	gpa	**5**	**3**	**1-10**	**Atlantic Reconnaissance**
	b. Altitude	feet	**50**	**2**	**50-125**	**Atlantic Reconnaissance**
	c. Application Speed	knots	**140**	**2**	**130-165**	**Atlantic Reconnaissance**
	d. Pump Rate (gallons per minute)	gpm	**-----**	**2**	**150-350**	**Atlantic Reconnaissance**
	e. Boom Pressure (pounds/square inch)	psi	**-----**	**3**	**15-45**	**Estimated from similar spray systems**
2	Transit Speed at Altitude Base to Staging Airport	knots feet	**295** **19,000**	**2**	**240-330** **19,000**	**Atlantic Reconnaissance Ltd. Operator**
3*	Transit Speed at Altitude Staging Airport to/from spill	knots feet	**225** **<10,000**	**2**	**150-250** **<10,000**	**Atlantic Reconnaissance Ltd. Operator. See Other Comment 3***
4	Dispersant Reposition Speed	knots	**165**	**2**	**130-165**	**Atlantic Reconnaissance Ltd. Operator**
5*	Time to Fully Load Dispersant Tank	min	**30**	**2**	**25-60**	**Atlantic Reconnaissance Ltd. Operator.**

6*	Time to Fully Load Fuel Tanks	min	**32**	**2**	**25-60**	**Atlantic Reconnaissance Ltd. Operator**
7	Load Dispersant & Fuel simultaneously (Y/N)	-----	**Y**	**1**	**Y**	**Atlantic Reconnaissance Ltd. operator. See Other Comments below 5*-6***
8	Time to Make U-turn (Turn 180 degrees)	min	**1.75**	**2**	**1.0-2.0**	**Atlantic Reconnaissance Ltd. Operator**
9	Dispersant Payload Maximum	gal	**3,750**	**2**	**3,250-4,000**	**Atlantic Reconnaissance Ltd. Operator**
10	Fuel with maximum dispersant payload	lbs	**28,500**	**2**	**25,000-30,000**	**Atlantic Reconnaissance Ltd. Operator**
11	Approach Distance for spraying	nm	**1.0**	**2**	**1.0-2.0**	**Atlantic Reconnaissance Ltd. Operator**
12	Departure Distance for spraying	nm	**1.0**	**2**	**1.0-1.5**	**Atlantic Reconnaissance Ltd. Operator**
13	Taxi Time Take-Off	min	**15**	**3**	**10-30**	**Exercise observation for C-130 operation**
14	Taxi Time Landing	min	**15**	**3**	**10-30**	**Exercise observation for C-130 operation**
15	On-site Check-In/Safety Time	min	**10**	**2**	**5-15**	**Atlantic Reconnaissance Ltd. Operator**
	CASCADE PARAMETERS*					
16	Take-off with **Maximum Payload and Maximum Take-off Weight** (assume no wind & **VFR** fuel reserve)					
	a. Maximum Flight Time	hours	**6.8**	**2**	**6.8**	**Atlantic Reconnaissance Ltd. Operator**
	b. Maximum Flight Range	nm	**2,000**	**2**	**2,000-2,244**	**Atlantic Reconnaissance Ltd. Operator**
	c. Optimal Altitude	feet	**19,000**	**2**	**19,000**	**Atlantic Reconnaissance Ltd. Operator**
	d. True Air Speed	knots	**295**	**2**	**295-330**	**Atlantic Reconnaissance Ltd. Operator**
	e. Fuel Consumption	lbs/ hour	**4,200**	**2**	**4,000 – 5,000**	**Atlantic Reconnaissance Ltd. Operator**
17	Take-Off with **Maximum Fuel and No Payload** (assume no wind and **VFR** fuel reserve)					
	a. Maximum Flight Time	hours	**8.5**	**2**	**8.5**	**Atlantic Reconnaissance Ltd. Operator**
	b. Maximum Flight Range	nm	**2,400**	**2**	**2,400-2,800**	**Atlantic Reconnaissance Ltd. Operator**
	c. Optimal Altitude	feet	**19,000**	**2**	**19,000**	**Atlantic Reconnaissance Ltd. Operator**
	d. True Air Speed	knots	**282**	**2**	**282-330**	**Atlantic Reconnaissance Ltd. Operator**
	e. Fuel Consumption	lbs/ hour		**2**	**4,000 – 5,000**	**Atlantic Reconnaissance Ltd. Operator**

18	Staging area briefing	min	**45**	**3**	**30-60**	**Exercise observation for C-130 operation**
	AIRPORT PARAMETERS					
19	Runway length - **Minimum** (For take-off at maximum gross weight assuming sea level, 90^{o} F, no wind using a balanced field concept, i.e., go, no go speed)	feet	**6,000**	**2**	**6,000**	**Atlantic Reconnaissance Ltd. Operator**
20	Runway weight restrictions for maximum aircraft weight	lbs	**116,500**	**2**	**116,500**	**Atlantic Reconnaissance Ltd. Operator**
	OTHER COMMENTS					
3*	The extended 20 foot spray arms attached to the tail end of the aircraft limit the transit speed of the aircraft to the spill site and while applying dispersant.					
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.					