

Request For Proposal

Speed Agile Concept Demonstrator

1. Purpose:

The airplane will replace the C-130J in the role of tactical transport, gunship, and special operations support. It will have low-observable characteristics

2. Mission Requirements

2.1. Tactical Transport

Cruise speed: Mach 0.80

Self Deployment: 3,300 nm with 5,000 lb payload. The mission profile is specified in MIL-STD-3013 Section 4.2.9.1.c with the following values:

Missed approach	5 min loiter
Hold	20 min loiter
Distance to alternate	200 nm.

Tactical: 500 nm with 65,000 lb payload; land on 2000 ft runway with California Bearing Ratio (CBR) 5; takeoff with full payload; return 500 nm. End of mission reserves specified in MIL-STD-3013 Section 4.2.9.1.b, assumed at 20 minutes loiter.

Capacity: Payload bay dimensions - length 60 ft., width 12 ft, height 10 ft.

Ceiling: 28,000 ft with 42,000 lb payload.

Takeoff Distance: See Radius Mission. Operations at sea level, standard day.

Landing Distance: See Radius Mission. Operations at sea level, standard day.

Runway conditions: California Bearing Ratio 5.

Loading: Loading and unloading from rear ramp with width 12 ft.
Maximum height of cargo floor above ground 4 ft.
Maximum ramp angle 10°

Paratroop doors: Egress doors on either side of aft end of payload bay, measuring 2.9 ft wide X 5.8 ft high, suitably located for paratroop drop.

Crew: Pilot, copilot, loadmaster.

Visibility: Flight deck visibility comparable to C-130J.

Toilet: Provision for self-contained toilet measuring 5 ft X 2.5 ft

Refueling: Capability of being refueled with probe and drogue system.

Powerplant: Designer's choice. BPR 5 suggested.

3. Technology Application

Aircraft should take advantage of technologies developed in the US Air Force Research Laboratories (AFRL) Speed Agile Concept Demonstrator (SACD) program.