



# EC-130Q Hercules

## N130AR

The Lockheed C-130Q Hercules is a four-engine, medium-size utility aircraft which has proven to be one of the most well-known and versatile aircraft ever built. It has twice the heating/cooling capacity of a standard C-130H and ultimately more than twice the electrical power.

The aircraft is an all-metal, high-wing monoplane, powered by four Allison T-56-A-423 turbo-prop engines. It is equipped with dual-wheel, tricycle landing gear with the main gear wheels arranged in tandem and the nose gear arranged side-by-side.

### Specifications

- ✓ Crew: 2 pilots, 1 flight engineer, 14 seats available for project participants (depending on equipment payload)
- ✓ Length: 102 ft (31.1 M)
- ✓ Wingspan: 136 ft (41.5 M)
- ✓ Height: 39 ft (11.9 M)
- ✓ Cabin Floor Area: 414 sq.ft (38.5 sq M)
- ✓ Gross Weight: 155,000 lb (70,455 kg), maximum
- ✓ Engines: 4 Allison T56-A 423 4,300 SHP each

- ✓ **Altitude:** 26,000 ft (7.925 kM), maximum operating
- ✓ **Range:** 1,800 nmi (3,335 kM) @ 1,000 ft (304 M) altitude 2,500 nmi (4,633 kM) @ 10,000 ft (3.04 kM) altitude 3,100 nmi (5,744 kM) @ 20,000 ft (6.10 kM) altitude
- ✓ **Endurance:** 10.0 hr, maximum with IFR reserve (single crew)
- ✓ **Speed:** 290 KTAS (149 M/s) @ normal cruise altitude 250 KTAS (129 M/s) with instrument pods installed
- ✓ **Payload:** 23,000 lb (10,400 kg), maximum 13,000 lb (5,900 kg) with full fuel
- ✓ **Electrical Power:** 90kVA @ 115 Vac 400 Hz; 21kVA @ 115Vac 60 Hz; 400A @ 28Vdc
- ✓ **Acceleration Limit:** +2.5 to 0 g (flight load)

### Sensors

- Atmospheric State Parameters
- Gustprobe Instrumentation for Turbulent Flux Measurements
- Cloud Physics Instrumentation
- Radiometers (Short and Longwave, Ultraviolet, and Multi-Channel Scanning Shortwave)
- Remote Radiometric Surface Temperature
- Video Photography
- Dropwindsonde Dispensing-Acquisition
- Oceanographic Dropsonde Dispensing
- In-situ Trace Gas Sampling (CO, CO<sub>2</sub> and O<sub>3</sub>)

### Applications

- Atmospheric Boundary Layer Surveys
- Oceanographic Investigations
- Air/Sea Interaction Measurements
- Cloud Physics Studies
- Tropospheric Profiling
- Radiometric Measurements, Satellite Ground Truth
- Atmospheric Chemistry Sampling
- Aerosol Measurements

