

IOWA



Operator Performance Lab CubCrafters CC19 XCub

Short Takeoff And Landing (Stol) Testbed For Low-Altitude Sensor Research



LET OPL SERVE YOUR FLIGHT TEST NEEDS

IOWA

Technology
Institute

OPL.Lab.uiowa.edu
1801 S. Riverside Drive, Iowa City, IA 52246
319-384-0811
thomas-schnell@uiowa.edu
youtube.com/ResearchAtOPL



FULL SERVICE FLIGHT TESTING

The Xcub is ready for instrumentation as a low-altitude research testbed for a variety of scenarios:

Unmanned Aircraft System (UAS) autonomy surrogate • Platform for testing equipment for austere and covert operations • Testing of human-machine interfaces for flight in the degraded visual environment (DVE) including: Helmet Mounted Displays • Synthetic Vision Systems (SVS) • Highway in the Sky (HITS) guidance • Color night vision • Forward looking infrared (FLIR) • Lidar

AIRCRAFT CONFIGURATION

- Lycoming® 4 cylinder O-360-C1G normally aspirated 180 HP engine
- Fixed main landing gear, tailwheel equipped
- CubCrafters 'Signature X' paint scheme in red and white
- FAA FAR Part 23 certification

AIRFRAME ATTRIBUTES

- Maximum Gross Weight: 2300 lbs.
- Useful load: exceeds 1000 lbs.
- Vortex generators/dorsal fin
- Landing and navigation lights
- 3 point strobe light system

LANDING GEAR

- Grove® one-piece spring-aluminum main landing gear
- Booster type brake system
- 29" ABW® tundra tires
- 3200 ABW® tailwheel

ENGINE/ELECTRICAL/FUEL SYSTEMS

- Lycoming® O-360 (180 HP) engine
- 78" Hartzell® variable pitch propeller
- 49 US gallons fuel capacity
- Gravity feed fuel system
- Internal sight fuel gauges
- 40 amp alternator

CABIN CONFIGURATION

- Two place tandem seating
- Dual flight controls
- Overhead skylight
- Dual cabin heat vents
- Cabin fresh air vents
- Adjustable front & rear seat
- Removable rear seat
- R&L swing out windows
- Baggage area access door
- 4 point inertial crew restraint system

AVIONICS PACKAGE

- Avionics Package
- Garmin® G3X System w/Full Digital EFIS
- Digital Airspeed IAS/TAS/GS
- Digital Altitude PA/DA/GPS
- Digital Attitude Indicator
- Digital Inclinometer
- Digital Directional Gyro
- Digital Trim Indicator
- Background Synthetic Vision
- GPS Maps, VFR Sectional Charts, IFR Charts
- Terrain Warning (visual and audible)
- GPS Navigation (waypoint/heading/track/vnav)
- Garmin® GTR 20 Remote Com Radio
- Garmin® GTX 345R Transponder (ADS-B In/Out & Free WX)
- Garmin® Dual Axis Autopilot w/Digital Servos
- Garmin® GMC 307 Autopilot Control Head
- Garmin® GEA 24 Engine Analyzer/Monitor
- Digital Tachometer
- Digital Oil Pressure/Temp
- Digital CHT Monitor
- Digital EGT Monitor
- Digital OAT Monitor
- Digital Fuel Management
- XM® Radio and Weather (with subscription)
- Single plug and civilian two plug helmet jack installed in rear of right side wing root panel for passenger and instrument panel for pilot
- Stick grip installed on pilot control stick w/PTT and AP/Trim disconnect.
- Garmin® GRA-55/GI-205 (or similar) Radar Altimeter. Integrate w/G3X if possible.

