

What are Microvanes™?

Microvanes™ are small aerodynamic components that are surface mounted to the fuselage of the C-130 aircraft. This effectively reshapes the air flow around the aft cargo door reducing the total drag on the aircraft and in turn reducing fuel and thrust requirements.

Metro Aerospace holds the sole license to manufacture Microvanes™ with patented technology, tested over 10 years. AllClear is proud to partner with Metro Aerospace as a stocking distributor.

Proven effectiveness. Tested for safety.

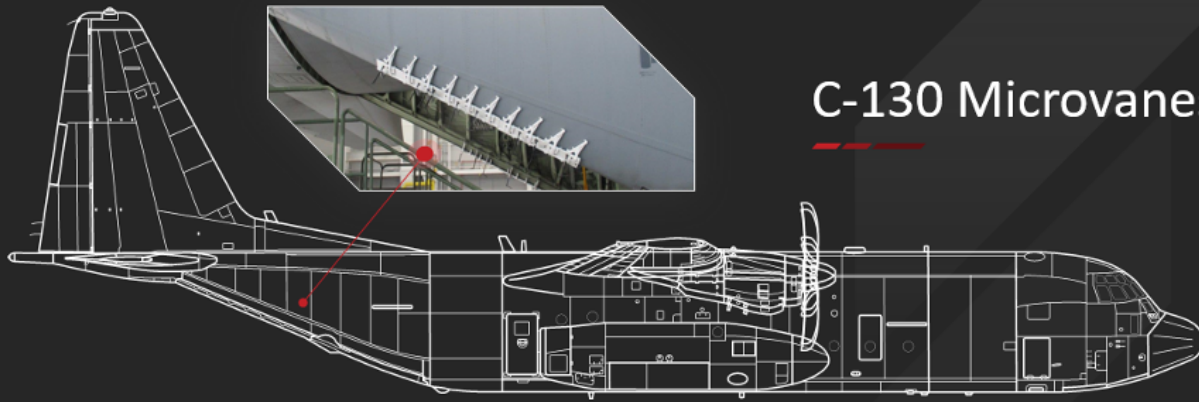
15 POINTS
DRAG REDUCTION

4% LESS
FUEL CONSUMPTION ON THE C-130



Microvanes™ have been designed, developed, tested, and proven to:

- Reduce aircraft drag
- Reduce fuel consumption
- Increase mission endurance and range
- Increase payload capability
- Improve climb performance
- Better airspeed at altitude
- Reduced harmful carbon emission
- Reduce overall engine operating costs
- Increase engine on-wing MTBO
- Reduce engine wear
- Reduce engine temperature and wear without impact on airspeed



C-130 Microvanes™

- Full C-130 set comprises 20 vanes, 9" x 2" x 2" each
- Surface mounted (bonded) to both sides of the fuselage
- No interference with existing cargo ramp design
- No interference with parachute operations
- Installed in under a day with proper curing and paint
- Adaptable for additional airframes
- Short lead time to production, unlimited shelf life
- Lockheed Martin patented technology, tested over 10 years

Case Study



DOCUMENTED RESULTS: (BASED ON 900 FH PER AIRCRAFT PER YEAR AND \$3.19 PER GALLON JET A-1)

- 3.03 % reduction in fuel consumption
- \$66K annual savings/aircraft
- +\$530K annual fleet savings (8 A/C)
- Reduced carbon emissions by 3.7M lbs
- Reduced engine wear
- Cruise altitude increased from 20,000 feet to 22,000 feet even with heavy payloads. Due to reduced drag, we are more often able to climb to a higher altitude and sooner depending on gross weights.
- Normally you set TIT to 932°C for cruise to maintain speed and altitude, but with Microvanes™, you can reduce TIT to as low as 900°C and still meet normal speed and altitude.
- True Air Speed (TAS) of 310-315 knots consistently achieved with reduced TIT settings (+6 to 7 kts average increase)
- With Microvanes™ installed you can achieve step climbs sooner

- First product (Microvanes™) licensed in cooperation with Lockheed Martin
- Product designed for C-130/L-100 variants and other large aircraft with a rear cargo door configuration
- Metro Aerospace selected as winner of Aviation Week Network's Annual Laureate Awards for 2017

Innovative Simplicity

- Retrofits to existing aircraft
- Globally available, easy to produce, no stocking or ITAR requirement
- 3D manufacturing uses less energy, low scrap, no retooling

QUALITY & COMPLIANCE

AllClear Aerospace & Defense is committed to quality, continuous improvement, and full regulatory compliance at every level of the organization through AS9120 and ISO 9100:2008 certifications, implementing lean processes, continuous quality improvement training initiatives, and a customer service focused business model. Our in-house legal and compliance teams maintain robust processes and procedures to comply with all federal, state, and local regulations including ITAR, EAR, and the FCPA.