

Aircraft Maintenance - Underwing Platform

The Underwing Platforms for aircraft maintenance provides access to the underwing and overwing surfaces, center fuselage panels, wingleet and wing flight controls. Each platform consists of four sections that can be operated independently or synchronously.

High-precision and highly reliable servo systems and software control movement of the platform work surfaces to provide a safe and efficient work area. Automatic sequencing insures that all four sections of the platform move synchronously to each other. The positions for each section of the platform can also be adjusted individually via operator touch screens.



Two underwing maintenance platforms for the C-17 are operational at Robins Air Force Base, Georgia.

Productivity in Motion

- Safe, efficient airframe maintenance operations with an easy-to-use operator interface.
- Safety override features including software halts, and hard-wired e-stops.
- Decreased service time with efficient use of manpower.
- Minimized damage during maintenance and repairs.



Operator Interface

- Touch screen operator monitors
- Security badge reader for controlled system access
- Remote access via wired operator pendant
- Single point of control

An intuitive graphical interface improves service operations time by providing operators with visualization of the information for controlling the automatic positioning. A portable pendant can be used to control each section of the platform and for overall synchronous movement of the entire platform.

Application highlights

The multi-sectioned work platforms provide adjustable height surfaces for aircraft maintenance personnel. The platform positions are different depending upon the repairs required. The sections of the platform are maneuvered either independently or synchronously.

Mechanics are more productive with quick and convenient access to both the aircraft and their repair tools.

The moveable platforms retract to allow the plane to be positioned and once the engines clear, the sections are can be automatically moved back into position.



Aircraft mechanics are given easy access to aircraft components with the underwing maintenance platforms.

Sequencing of motion

The positioning of the jacks and actuators for each section is controlled by dedicated multi-axis motion controllers. Synchronous motion is coordinated through by an Ethernet connected master controller. It coordinates the movement of all the sections at once. Twenty-one axes of motion are controlled.

ORMEC Equipment

Multi-axis ORMEC Controllers

- Motion control and PLC functions with high performance computing capability
- High speed drive based I/O with microsecond position capture servo updates
- Sub millisecond programmable limit switch outputs
- Drive fault protection circuits, watchdog timers and integrated diagnostics for fail-safe operation

ORMEC Servo Drives

- High bandwidth control with high resolution motor feedback, for quick and accurate torque, velocity and position control
- Programmable drive real-time software configuration tools.

ORMEC AC Servo Motors

- High performance, reliable with low maintenance
- Large library of standard motors and a custom motor wizard for non-standard motor configuration.

Certified UL508A panels

- Integrated panels are built to your design specifications and are UL certified.



Custom integrated panels are provided with UL certification.

Operator consoles

Touch screen monitors

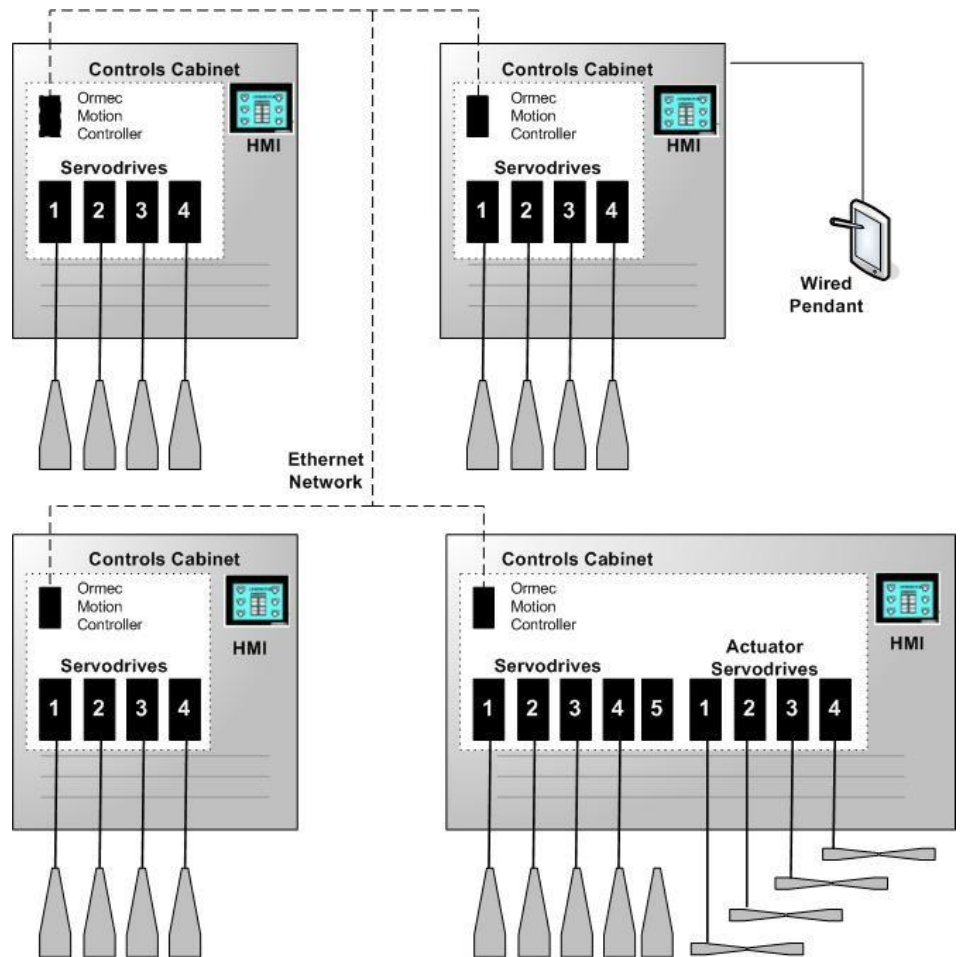
- Easy-to-use
- Efficient commands
- Secured access via card reader

Pendant station

- Operator flexibility for remote access



Retractable drop decks are moved into position.



ORMEC configuration for a typical underwing maintenance system.

The motion control experts at ORMEC have a wealth of experience providing motion control solutions for the aerospace industry. As your automation partner, we offer a comprehensive range of automation integration and project management services.

For further information please contact us by phone (585) 385-3520 or email us at sales@ormec.com