Fuse Test Squadron

Multi-Domain Test and Evaluation

Fuse maintains organic test capabilities to quickly prototype, integrate, and demonstrate operational capabilities. This greatly accelerates Fuse's build-test-build cycle and provides real data from ground and air operations.

Based in San Diego, our Test Squadron pilots have thousands of hours of military aviation experience as well as intimate knowledge of flight testing with agencies such as the Department of War, Department of Homeland Security, and NASA, among others.

Fuse Test Squadron combines air and ground platforms to accelerate test and demonstration cycles for communications, networking, and sensor systems using real-world data in representative operational environments. This drives agile decision making and accelerated timelines for fielding.

The USAF O-2A serves as a flexible test bed, with four MIL-STD-8591 underwing pylons, an internal systems rack, and wiring provisions for power and data that support rapid payload integration and multi-hour sorties for sensor and communications survey experiments.

The OV-10 Bronco twin turboprop provides multiple external stores stations and a configurable cargo bay, extending capacity to heavier payloads with more power demand and complex C2, ISR, and networking configurations. Close coordination with certified maintenance professionals, FAA representatives, and veteran military test pilots enables rapid but safe modification and integration of pods, antennas, and subsystems.

For expeditionary testing, the squadron fields the KRAKEN UTV four-seat rapid-prototyping platform for mobility, and the 10-foot KRAKEN Container command module with organic power, HVAC, displays, and antenna masts. Fuse Test Squadron platforms enable efficient end-to-end test campaigns from lab prototypes through full mission threads in realistic terrain and airspace.

OV-10

> Twin-turboprop aircraft with seven external stores stations and up to 3,600 lb external load for pods, sensors, fuel tanks, and weapons.
> Stations wired with MIL-STD-1553 & 1760 connectors supporting AC, DC, and multiple data formats.
> Tandem two-seat cockpit with configurable rear cargo/ mission bay supporting up to 3,200 lb of mission equipment, cargo, or auxiliary fuel.
> 5.5 hour on station time with three external fuel tanks.

O-2A

> Four-seat conventional twin aircraft with four external stores stations up to 300 lb per pylon and internal electronics rack for mission hardware.
> Wing stations wired for 28 VDC, three Gigabit Ethernet lines, and discrete control back to the cabin, with options to add 1553 and other interfaces.
> Supports MIL-STD-8591-compliant pods on 14 in lug spacing via MIL-STD-1760 adapter cable, enabling multi-sensor, comms, and weapons integration with up to 4.5 hours endurance at very low cost per flight hour.

KRAKEN UTV

> Four-seat, ground-based rapid-prototyping platform for expeditionary networking and mission-systems testing.
> Supports modular payloads on configurable platform and multiple mounting points.
> Integrated power and data routing between cockpit and payload area enable fast reconfiguration and low-cost, repeatable test events with ground support.

KRAKEN Container

> Deployable command container providing an enclosed workspace for expeditionary C2 and network operations.
> Integrated dual antenna masts, six 28" displays, and HVAC system support multi-role monitoring and planning in austere environments.
> Onboard dual-fuel generator enables independent power and climate control for extended operations.

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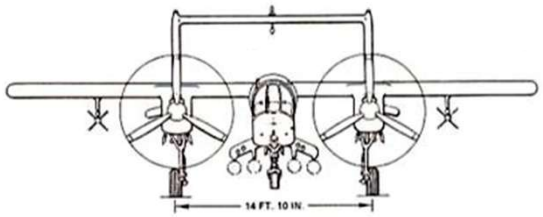
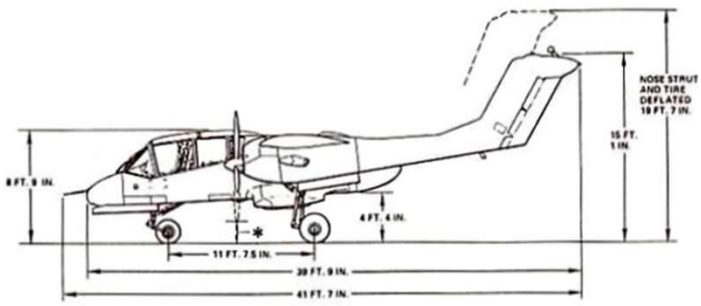
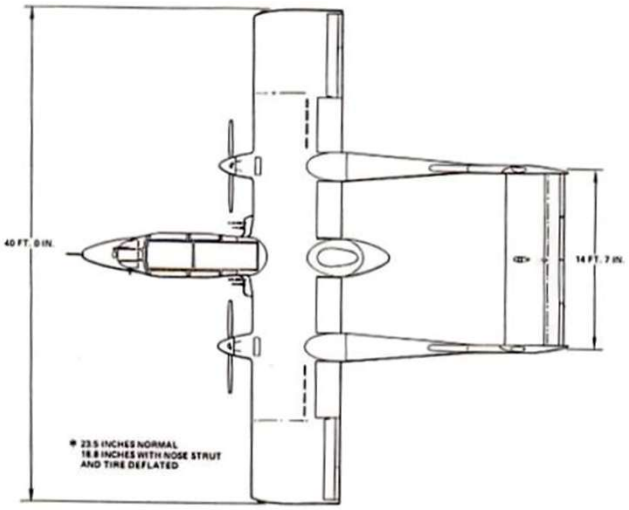
OV-10 Bronco

Twin Turboprop Test and Evaluation Platform







Fuse warfighter-focused design, engineering, development, and test includes a North American Rockwell OV-10 Bronco light twin turboprop aircraft with seven pod mounting pylons.

Primary electrical power on the OV-10 Bronco is supplied by a 28-volt DC, plus 114V, 400 Hz AC system. The aircraft has seven external stores stations—four pylons on the fuselage, two underwing pylons, and one centerline station—with a total external load of 3,600 lb for fuel tanks, sensors, and weapons. A tandem two-seat cockpit is backed by a rear cargo/ mission bay that can be configured for up to 3,200 lb of cargo or mission equipment.

The Fuse OV-10 Bronco provides a stable twin-turboprop platform with substantial mounting space on the fuselage sponsons and underwing pylons, and with external fuel tanks it can remain on station for five hours.

Performance

- **Maximum speed:** 290 mph (250 kts)
- **Range:** 1400 mi (1,200 nm)
- **Service ceiling:** 30,000 ft
- **Rate of climb:** 3,020 ft/min

- **Length:** 44 ft 0 in
- **Wingspan:** 40 ft 0 in
- **Height:** 15 ft 2 in

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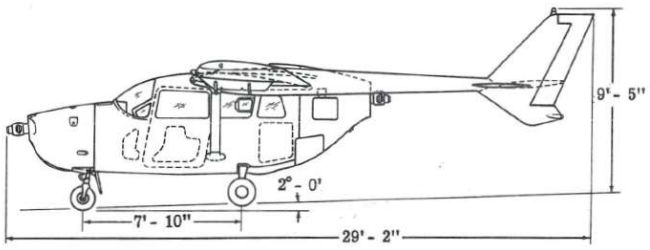
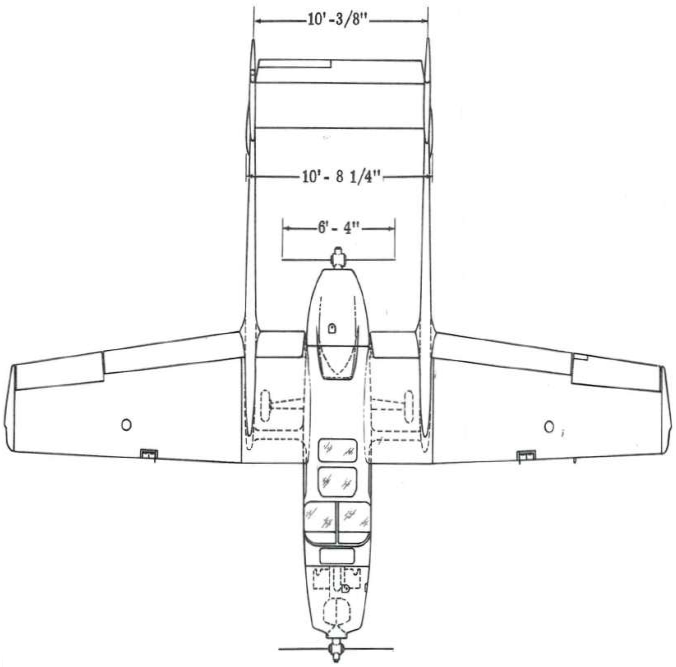
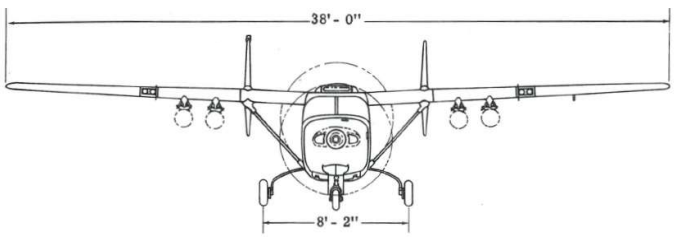
O2-A Skymaster

Twin Conventional Test and Evaluation Platform







The O-2A provides an excellent rapid-prototyping platform as it can carry external pods, or internal equipment with ample mounting surfaces for antennas or sensors.

Each wing is wired to support 28v DC power, three Gigabit ethernet connections and discrete control wires connected back to the cabin. 1553 or other connections can be added if required. This aircraft has been flown with MIL-STD-8591 compliant communications pods, sensor pods, rockets, and gun pods using 14” lug spacing. Electrical connectors include a customizable adapter cable.

The Fuse O-2A provides a stable platform with significant space under the wing for mounting hardware. Mission length can extend up to 4.5 hours of flight time with minimal turn-around time between flights and extremely low cost per flight hour.

- 4x underwing pylons (300lb max load per pylon)
- 4 seats plus internal electronics rack

Performance

- **Maximum speed:** 199 mph (173 kts)
- **Range:** 1,060 mi (921 nm)
- **Service ceiling:** 19,800 ft
- **Rate of climb:** 1,180 ft/min

- **Length:** 29 ft 9 in
- **Wingspan:** 38 ft 0 in
- **Height:** 9 ft 4 in

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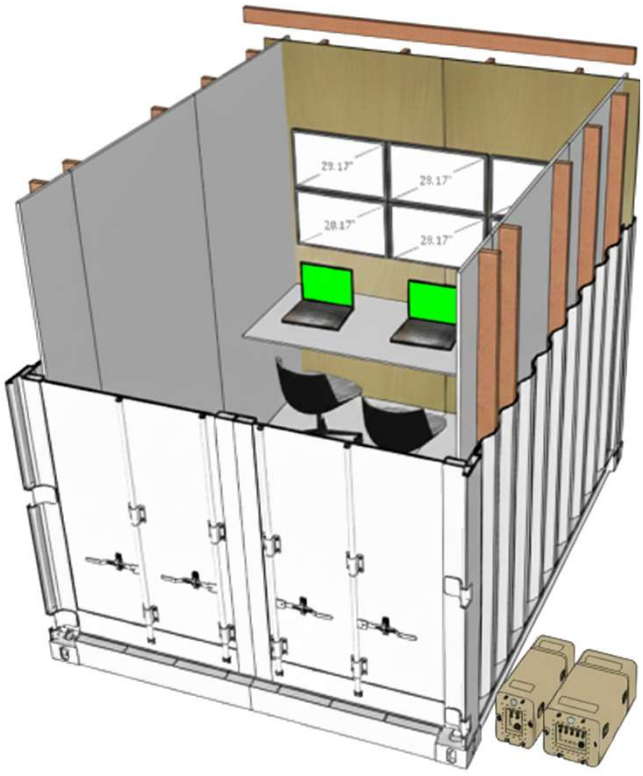
KRAKEN Container

Deployable Command and Control Center



KRAKEN Container is an expeditionary environment built to display information that gives users the highest-level of situational awareness. Integrated with a KEG, this environment can link vital systems and communications, not just to gather information but allow for seamless and mass distribution of critical instructions, notifications, and alerts.

KRAKEN Container provides for multiple workstations as well as a video wall.

KRAKEN Container integrates with KRAKEN products, including KEG and Mobile kits, to enable distributed expeditionary operations, leveraging a combination of hybrid SATCOM, Mesh Networks, and Tactical Data Links. Fuse ground platforms enable test and experimentation organizations to observe and act during live events anywhere in the world.

Specifications

- **2x Antenna Masts**
- **6x 28.17” TVs**
- **HVAC System**
- **Dual-fuel Generator**
- **Size (L x W):** 10’ x 10’
- **Weight:** 4500 lb

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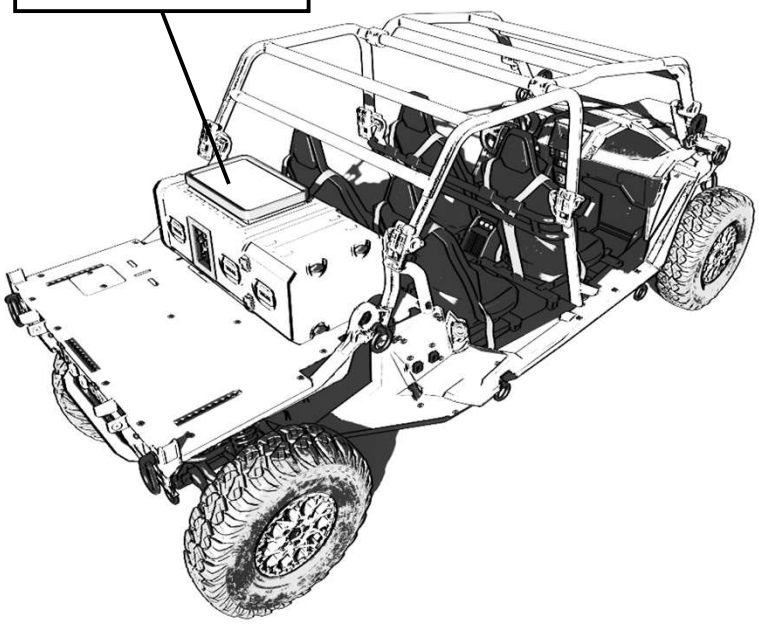
KRAKEN UTV

Ground-based Expeditionary Testbed



The KRAKEN UTV provides an excellent ground-based rapid-prototyping platform, capable of carrying modular payload racks, radios, and edge-compute equipment with ample mounting surfaces for antennas, sensors, and masts across the vehicle.

The platform supports integrated power distribution and data cabling between the cockpit and rear payload area, allowing Ethernet, RF, and discrete control lines to be routed cleanly to experimental payloads, with additional interface modules added as required to emulate operational platforms and KRAKEN expeditionary gateway configurations. It includes 4x seating positions plus configurable rear electronics and stowage area. Additionally, the UTV has multiple roof, bed-rail, and bumper mounting points for antennas, cameras, and test articles.

The Fuse KRAKEN UTV provides a stable off-road platform with significant payload volume for mounting hardware, enabling multi-hour test events over representative terrain with minimal turn-around time between runs and very low cost per test hour.

Dimensions (L x W x H)

- **Bed Box Dimensions:** 28 x 41 x 2.8 in
- **Main box size:** 28 x 22 x 7 in
- **Box Capacity:** 300 lb
- **Ground Clearance:** 13.5 in
- **Overall Vehicle Size:** 146 x 64 x 73.75 in
- **Payload Capacity:** 900 lb
- **Wheelbase:** 117 in

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