Accelerating the future of aerospace

NLR Research Aircraft Cessna Citation II

PRODUCTS & SERVICES

“Looking for a good citation of your test work...?”

The Cessna Citation II (PH-LAB) is one of the research aircraft operated by NLR Flight Test Operations. It offers opportunities to perform your flight test applications in a flexible and affordable way. The aircraft is operated from Rotterdam The Hague Airport in the Netherlands. Extensive modifications have turned this pressurised, twin-engined business jet into a versatile airborne research platform.

PERFORMANCE

MTOW	6,600 kg	14,600 lbs
MLW	6,100 kg	13,500 lbs
maximum payload (crew + equipment)	1,400 kg	3,100 lbs
maximum fuel loading	2,250 kg	5,000 lbs
range		
(1,400 kg payload)	1,100 km	600 nm
(2,250 kg fuel, 550 kg payload)	3,000 km	1,600 nm
endurance		
(1,400 kg payload)	2h30min	
(2,250 kg fuel, 550 kg payload)	5h30min	
take-off distance (MTOW)	1,050 m	3450 ft
landing distance (MLW)	745 m	2450 ft
rate of climb (MTOW)	14.7 m/s	2,900 fpm
maximum speed		
(sea level to 9,300 m / 30,500 ft)	484 km/h	262 KIAS
(above 9,300 m)	Mach 0.705	
maximum operating altitude	13 km	43,000 ft
cabin altitude at maximum operating altitude	2,400 m	8,000 ft
stall speed (MLW, landing configuration)	156 km/h	84 KIAS

DIMENSIONS

Length	14.4 m	47.3 ft
Wing span	15.9 m	52.2 ft
Cabin volume	10.7 m3	378 ft3
Cabin door	1.18 m x 0.53 m	3.9 ft x 1.7 ft
Cabin emergency hatch	0.95 m x 0.57 m	3.1 ft x 1.9 ft
Number of cabin seats	max 8	

“ ...then use one!”

MODIFICATIONS

For flight test purposes the aircraft features:

- a separate electrical system dedicated to powering on-board test equipment
- an additional stand-alone 3000 psi hydraulic system
- provisions on fuselage for mounting an external pod
- numerous facilities in cockpit and cabin for accommodating test equipment
- an antenna box on top of the fuselage that can accommodate multiple antennas
- underwing panels configured for antenna installation
- a noseboom with alpha/beta vanes or five-hole probe
- a fugelage fairing accommodating a forward facing optical glass
- several metal plate inserts that can replace existing windows and can accommodate flight test equipment

INSTRUMENTATION

Available flight test instrumentation consists of:

- Inertial Reference System
- Digital Air Data System
- GPS high-accuracy positioning system (phase tracking)
- Multi-channel digital data acquisition and recording system (general aircraft state parameters are real-time availablein cabin)
- Iridium SATCOM
- Liquid Water Content sensor
- Humidity sensor
- Telemetry system
- Digital integrated avionics system in cockpit, offering opportunities to test new experimental display formats in flight

OPERATION

The aircraft can be operated single-pilot IFR/VFR, allowing display and/or procedure evaluations by the customer from the right hand seat. The aircraft has been operated in different parts of the world, including cold weather areas and remote locations.

TOPICS

Flight test topics performed by our Citation range from aerodynamics, flight mechanics, zero-gravity, atmosphere, airborne remote sensing and flight test methods, to system tests, air traffic management, avionics, alternative fuel, flight inspection, flight validation and on-board class-room instruction for educational purposes.

CONTEXT

Our research aircraft operates in accordance with Part OPS. For the design, classification and approval of modifications, NLR holds an approval based on Part 21, while our maintenance organisation is Part 145 and Part-M approved.

BENEFITS

- Versatile airborne platform for flight testing of your applications
- Wide range of operations in a flexible and affordable flight test environment
- In-house design, classification and approval of modifications based on Part 21
- High safety and quality standards in context of Part OPS, Part 21, Part 145 and Part M

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