



Ohio Air National Guard Headquarters for the 179th Airlift Wing

FACT SHEET **C-27J SPARTAN**



Future Long-term Mission at the 179th Airlift Wing

I. Mission

The C-27J has been selected for the U.S. Army and U.S. Air Force Joint Cargo Aircraft Program.

The C-27J Spartan embodies the C-27J Team's uncompromising commitment to deliver a proven interoperable and survivable airlifter to the U.S. military. Born a rugged military airlift platform, the C-27J has a maximum payload of over 25,000 lbs. that can be configured for any mission: troops, medevac, airdrop or cargo. In an austere environment, the C-27J provides the autonomous capability to get in, get out, and get the job done.

C-27J Spartan military medium tactical airlifter combines peerless interoperability, extended range, superior payload and essential STOL capability. The C-27J Spartan more than meets the requirements of the U.S. Army & Air Force JCA program.



The Joint Cargo Aircraft (JCA) is central to the U.S. Army's Aviation Modernization program, a restructure and revitalization of its aviation assets to reflect current and anticipated needs. As a key component in its fixed wing fleet, the Army will procure the JCA to support operations and to transport supply items and personnel to forward deployments in remote locations. The JCA will also augment the Air Force's existing fleet of intratheater airlifters. The JCA will play a key role in providing responsive aerial sustainment and critical resupply support for the maneuver force to maintain operational momentum.

The C-27J Spartan provides the U.S. Army and Air Force with unsurpassed performance, an unmatched level of interoperability, enhanced tactical flexibility, excellent reliability, unparalleled survivability and best value to the warfighter - making it the ideal choice for the JCA program. The C-27J is the low risk, best value and only military-off-the-shelf solution for the JCA program.

The C-27J has been purchased by NATO and coalition countries Italy, Greece and Bulgaria and is competing around the world. It is the only aircraft in its class that is capable of carrying standard NATO 463L pallets (3.5), up to two uparmoured HMMWVs and heavy, dense loads such as aircraft engines and ammunition. The C-27J can carry over 5,000 lbs more cargo than its competition, has a max cruise speed 75 ktas great, and significantly better landing and take-off characteristics in any environment than its competition, making it the most capable, low risk, aircraft available to support the warfighter.

Unlike other twin engine cargo aircraft in this class, the C-27J boasts interoperability with both CH/MH-47s and larger, intratheatre lift aircraft such as the C-130s. This interoperability means the C-27J can play an effective and flexible role in supporting the soldiers the last tactical mile. Whether that is flying pre-configured pallets for the Chinooks from one



fire base to another, or taking larger, critical loads directly off C-130s directly to the warfighter, the C-27J has the capability to get the job done.

The C-27J Spartan embodies GMAS' uncompromising commitment to deliver a proven interoperable and survivable airlifter to the U.S. military. Born a rugged military airlift platform, the C-27J has a maximum payload of over 25,000 lbs. that can be configured for any mission: troops, medevac, airdrop or cargo. In an austere environment, the C-27J provides the autonomous capability to get in, get out, and get the job done.

Combining peerless interoperability, extended range, superior payload and essential STOL capability, the C-27J Spartan more than meets the requirements of the U.S. Army/US Air Force JCA program.

II. Background

Launched in 1997, the C-27J Spartan tactical transport aircraft incorporates the same propulsion system and advanced avionics as the C-130J Hercules Transporter. The C-27J has been developed by Lockheed Martin Alenia Tactical Transport Systems (LMATTS). LMATTS is a joint venture company based in Marietta, Georgia, which was set up by Lockheed Martin and Alenia Aeronautica, which is part of the Finmeccanica company of Italy.

The first flight of the development aircraft was in September 1999 and the aircraft received full Italian Military Type certification in December 2001. The Italian Air Force has ordered 12 aircraft to replace the G.222. Deliveries began in January 2007 and are scheduled to conclude in 2008.

In January 2003, LMATTS received the first export order for the C-27J when Greece signed a contract to buy 12 aircraft with three on option. The first was delivered in August 2005. In February 2006, the Defence Ministry of Bulgaria signed a contract for five C-27J aircraft, with an option for three more. Deliveries began in November 2007.



In June 2006, Lithuania placed an order for three C-27J aircraft. The first was delivered in December 2006. The second will be delivered in 2008 and the third in 2009.

In December 2006, it was announced that Romania has selected the C-27J with a requirement for seven aircraft. A contract was signed in February 2007. The decision faced a legal challenge but was confirmed in June 2007. Deliveries are scheduled to begin in late 2008.

In June 2007, the C-27J was chosen as the US Army / Air Force new Joint Cargo Aircraft (JCA). The initial contract is for 78 aircraft (54 for the Army and 24 for the USAF). L-3 Communications Integrated is prime contractor and is teamed with Alenia North America, Boeing Integrated Defense Systems and Global Military Aircraft Systems (a joint venture of L-3 and Alenia). The C-27J JCA's maiden flight was in June 2008.

C-27J SPARTAN DESIGN AND CONSTRUCTION

The aircraft design is based on the proven G-222 airframe from Alenia, with turboprop engines from Allison and advanced systems from Lockheed Martin.

Final assembly of the C-27J Spartan takes place in Italy. Lockheed Martin is responsible for the propulsion and avionics and will take lead responsibility for product support and worldwide marketing. Alenia Aeronautica takes responsibility for the certification process and for most of the manufacturing and flight testing operations.

The C-27J Spartan has the same logistical and maintenance characteristics of the Lockheed Martin C-130J Hercules medium tactical airlifter, and also shares commonality of the cargo capacity. The primary roles of the C-27J are cargo transport, troop transport, and material and paratroop air drop. Other missions include maritime patrol, tactical operations, medical evacuation, ground refuelling, fire-fighting and aerial spraying.

Global Military Aircraft Systems (GMAS) is a joint venture that has been set up between Alenia and L-3 Communications for the US Army Future Cargo Aircraft (FCA) and the USAF combat rescue tanker requirement.

COCKPIT

The two-pilot cockpit is Night Vision Goggle (NVG) compatible. The flight deck is very similar to that of the C-130J Hercules. The Electronic Flight Instrumentation System (EFIS) incorporates five liquid crystal head-down colour displays.



CARGO SYSTEMS

The Spartan is constructed with a floor strength equal to that of a Hercules transporter, and the large cargo cabin cross-section is able to accommodate Hercules pallets.

Without modification, HMMWV (High Mobility Medium Wheeled Vehicle), AML-90, Perentie 6x6 armoured vehicle, M113 armoured personnel carrier or similar military vehicles can be driven on and off the Spartan via a hydraulically operated rear-loading ramp. The aircraft is constructed to offload vehicles quickly while taking fire.

An upward-opening door is installed in the underside rear fuselage, which is used for air drops of pallets or CDS (Container Delivery Systems) units. The air-drop speed is typically in the range 110kt to 140kt.

The aircraft is pressurised and air conditioned in the cockpit and cargo compartment. In the medical evacuation role, the aircraft can carry 24 casualties on litters (stretchers) and four medical attendants. The cargo compartment is equipped with a dedicated aero-medical oxygen supply and twelve power centres for medical or auxiliary equipment.

For the paratroop role, the aircraft is equipped with door-jump platforms and static lines, and can carry up to 24 fully equipped paratroops. Paratroop jumps can be carried out from the paratroop doors on both sides of the cargo compartment or from the cargo ramp and rear door.

AVIONICS

The C-27J is equipped with a digital avionics suite integrated by Lockheed Martin Aeronautical Systems. The mission computers are supplied by Sanders, a Lockheed Martin company, and the displays by ADC. Honeywell provides the autopilot and the standby instruments are supplied by BF Goodrich.

ENGINES

The C-27J is equipped with two AE 2100D3 turboshaft engines, supplied by Rolls-Royce Defence North America (formerly Allison). The engines are rated at 5,000shp. Messier-Dowty supply the six-bladed composite propellers.

The aircraft's propulsion system allows the C-27J Spartan to access a wide range of airfields, including short, unprepared strips in hot and high-altitude conditions while transporting heavy loads. The Spartan can perform 3g tactical airlift operations under severe conditions. The navigation and night piloting systems allow the aircraft to fly just above tree height even at night.

The propulsion system provides an increase in aircraft range by 35% and cruise ceiling by 30%, in comparison to the current G-222 tactical transporter configuration from Alenia.

III. General Characteristics



Crew: Three - pilot, co-pilot, loadmaster

Capacity:

- 60 troops *or*
- 46 paratroops *or*
- 36 litters with 6 medical personnel

Payload: 11,500 kg (25,353 lb)

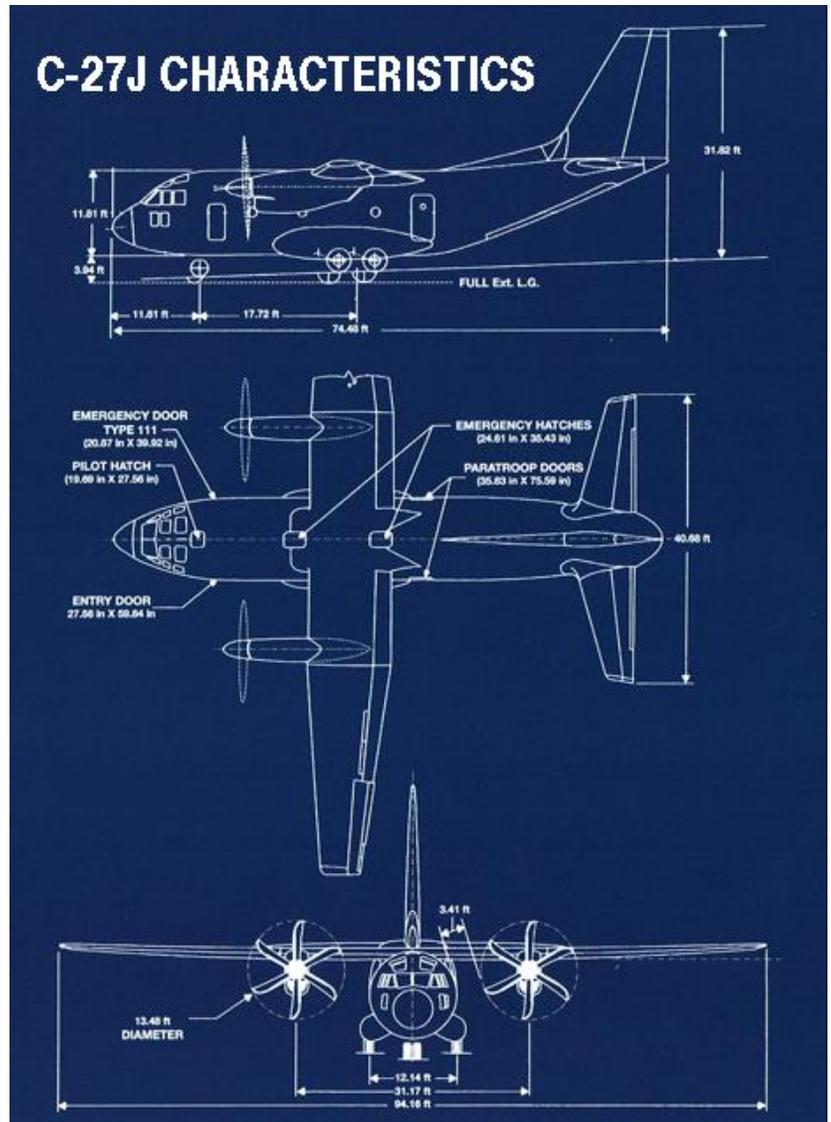
Length: 22.7 m (74 ft 6 in)

Wingspan: 28.7 m (94 ft 2 in)

Height: 9.6 m (31 ft 8 in)

Wing area: 82 m² (882.7 ft²)

Empty weight: 17,000 kg (37,479 lb)



C-27J Statistics

Weights:

Maximum take off weight (logistic)	(lb)	70,107	(kg)	31,800
Maximum take off weight (basic)	(lb)	67,241	(kg)	30,500
Maximum landing weight (FPS sink rate)	(lb)	67,241	(kg)	30,500
Normal landing weight (10 FPS sink rate)	(lb)	60,627	(kg)	27,500
Maximum payload	(lb)	25,353	(kg)	11,500
Fuel capacity	(US Gal)	3,255	(l)	12,320
Optional fuel tank	(US Gal)	402	(l)	1,520

Configurations and Loads

Troop transport	up to 68 + 2 loadmasters
Paratroop transport	up to 46 + 2 loadmasters (seats @ 20" MIL-S-27174B)
Cargo Transport/Low Velocity Air Drop (LVAD)	up to 25,353 lbs/19,842 lbs
12 E (54" by 88")	
7 HCU-12 E (54" by 88")	
12 A22 CDS Bundles with a maximum weight of 19,842 lbs	
LA PES up to 11,200 lbs	
Wheeled and tracked vehicles, spare engines, etc.	
Medevac	36 stretchers + 6 medical attendants

Powerplant

Engine	Rolls Royce AE 2100-D2
Power	4637 SHP
Propeller	Dowty R-391 six-blade
Diameter	

Performance

Tactical take off ground run (MTOW, ISA, S.L.)	(ft)	1,908	(m)	580
One engine out ceiling at ISA, 95% MTOW	(ft)	14,500	(m)	4,420
Maximum service ceiling	(ft)	30,000	(m)	9,144
Maximum cruise speed		315 Kts at MTOW		
Landing ground roll (MLW normal, ISA, S.L.)	(ft)	1,115	(m)	340

Range (logistic operation)

with 22,046 lbs of payload	(nm)	1,000	(km)	1,862
with 18,277 lbs of payload	(nm)	2,300	(km)	4,260
Ferry	(nm)	3,200	(km)	5,926

Max takeoff weight: 31,800 kg (70,100 lb)

Powerplant: 2× Rolls-Royce Allison AE2100-D2 turboprop, 3,460 kW (4,637 shp) each

Maximum speed: 602 km/h (325 kts, 374 mph)

Cruise speed: 315 kts (362 mph, 583 km/h)

Range: 4,260 km, 1,852 km at full load (2,300 nmi, 1,000 nmi at full load)

Ferry range: 5,926 km (3,200 nmi)

Service ceiling: 9,144 m (30,000 ft)



IV. Point of Contact

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