Kawasaki
Powering your potential

TWIN TURBOFAN ENGINE HIGH-SPEED AIRLIFTER

YCX

YCX

TWIN TURBOFAN ENGINE
HIGH-SPEED AIRLIFTER

The YCX is an export version of the C-2, a distinctive ramp-

oading transport aircraft with the following features

Medium-Size Turbofan Transport Aircraft

- Bridging the gap between the C-130 and the C-17

Versatile Loading Capability

- Oversize cargo (medium-size helicopters, military vehicles, etc.)
- Pressure and temperature control in the cargo compartment
- Lock system compatible with standard military ULDs

High-Speed Long-Range Transport

- High-speed/high-altitude cruise capability for air route operation
- Long-range capability
- High-temperature/high-altitude runway capability

Multi-Task Capability

- Transportation of personnel, cargo and patients
- Airdrop and paratroop drop*
- Aerial refueling as recipient*
- Low-level flight
- Formation flight*

Economical Efficiency

- Proven twin turbofan engine
- High reliability with low maintenance cost

Technology for Easy Operation

- Two-person flight deck operation
- Triple redundant fly-by-wire flight control system with envelope protection
- Glass cockpit and fully integrated flight management system
- Integrated cargo management by loadmaster station
- Onboard maintenance system

Environmental Compatibility

- Noise complying with ICAO Annex 16, Vol. I, Chapter 4
- Emissions complying with ICAO Annex 16, Vol. II, CAEP/4

* This information applies to the C-2.

Medium-Size Turbofan Transport Aircraft

The YCX is sized between the C-130 and the C-17, and almost the same as the A400M. While the A400M is equipped with four turboprop engines, the YCX is equipped with a twin turbofan engine, which shows a different design concept between them. The YCX is equipped with the CF6-80C2, which is one of the most reliable and widely used commercial turbofan engines with proven low maintenance cost.

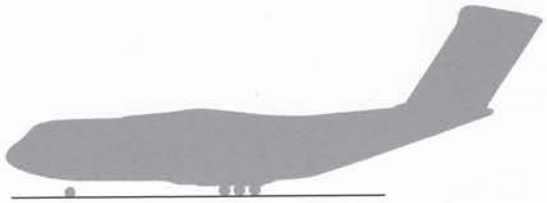
The YCX enables transportation of military equipments that can not be loaded on the C-130 more cost effectively compared to existing larger transport aircraft.

Aircraft Size Comparison (Side View) and Maximum Take-Off Weights (MTOW) *1

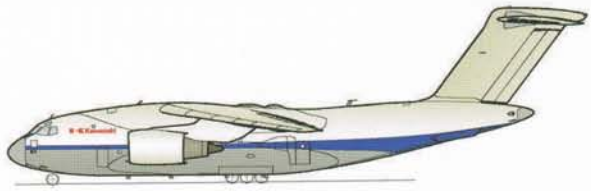
*1 : 2.5 G
*2 : MT = Metric Ton (1,000kg)

C-130 74 MT *2

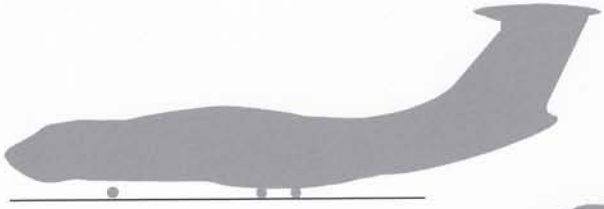
A400M 130 MT



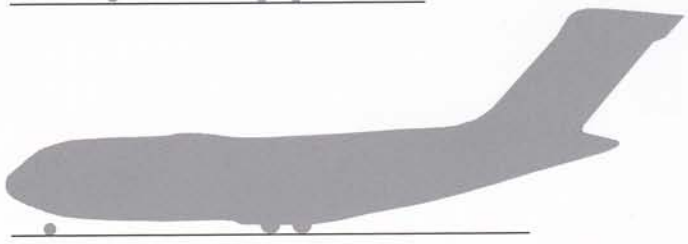
YCX 141 MT



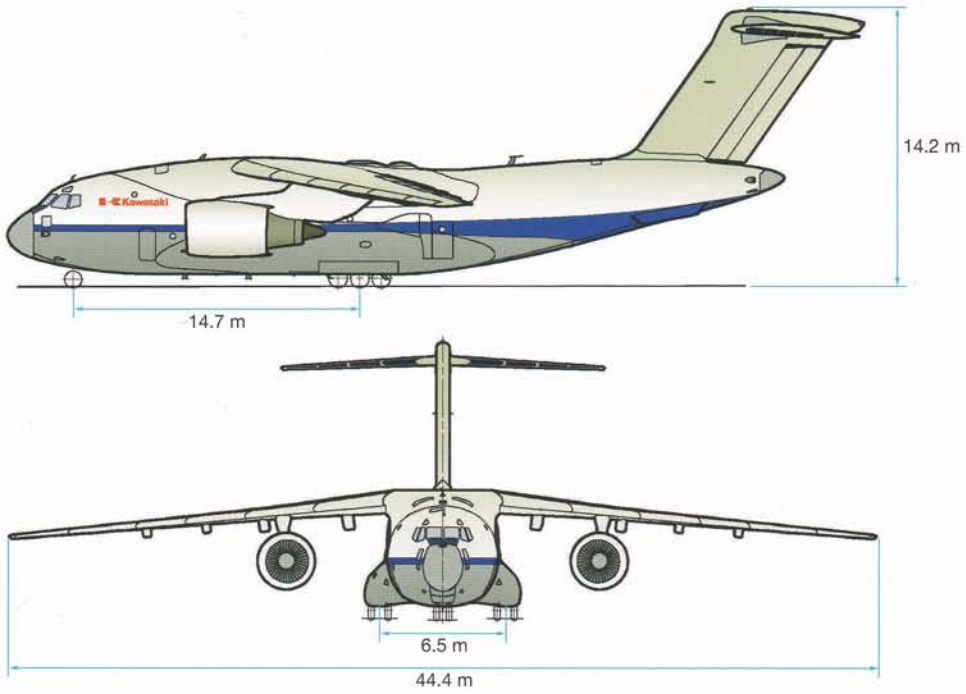
IL-76 195 MT



C-17 249 MT



Aircraft Size



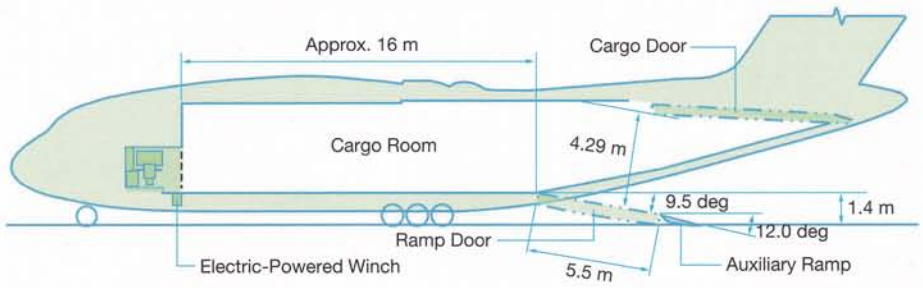
Versatile Cargo-Loading Capability

The YCX features a pressurized* air-conditioned cargo compartment with the highest ceiling among comparable-size aircraft. The YCX can carry most military equipments except battle tanks. The cargo compartment is equipped with retractable rollers and a lock system compatible with standard military ULDs.

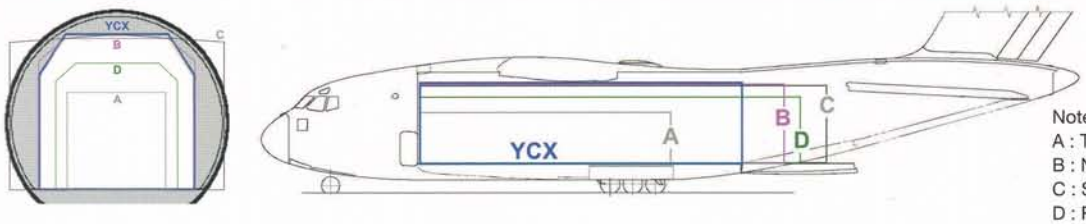
The YCX is equipped with an integrated cargo management system. Loading and unloading is controlled and monitored by the load master station (LMS), which allows quick and easy cargo handling operation.

* Cabin Altitude 8,000 ft at Maximum Operating Altitude

Cargo Compartment Dimensions (Side View)



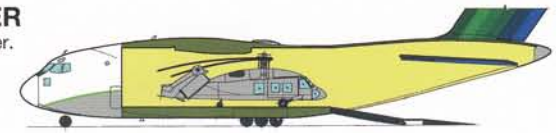
Cargo Compartment Size Comparisons



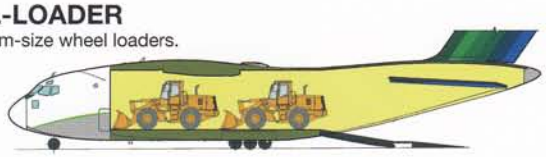
Notes
A : Tactical Transport Aircraft
B : New Tactical Transport Aircraft
C : Strategic Transport Aircraft
D : Russian Mid-Size Transport Aircraft

Loading Examples

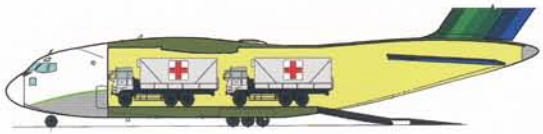
HELICOPTER
Mid-size helicopter.



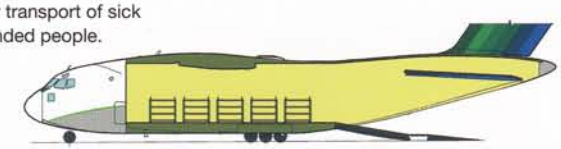
WHEEL-LOADER
Two medium-size wheel loaders.



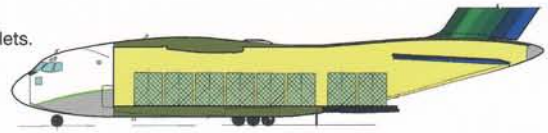
TRUCK



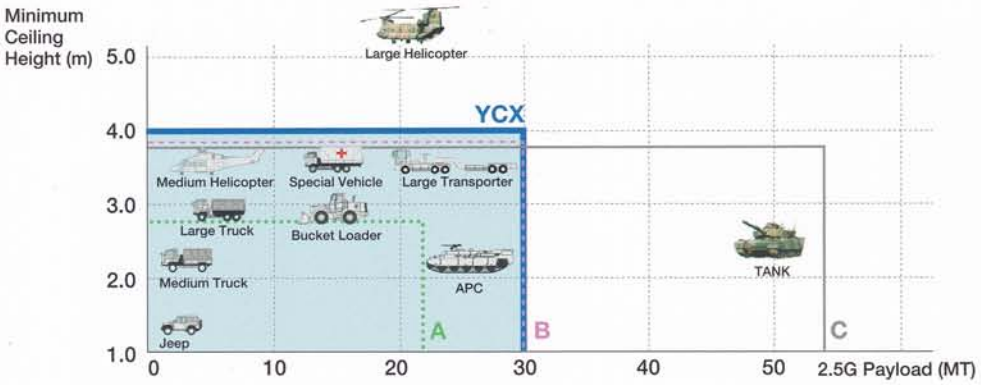
LITTER
Litters for transport of sick and wounded people.



PALLET
Eight 88"×108" pallets.



Loadable Height & Weight



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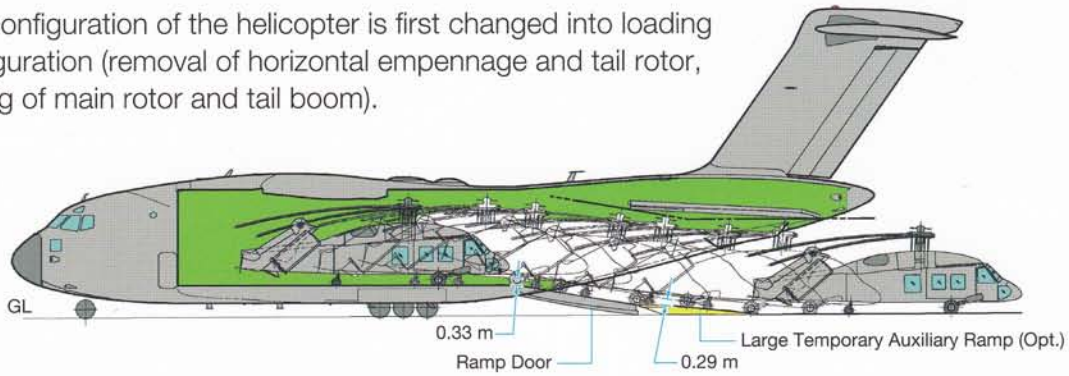
Loading of Mid-Size Helicopter

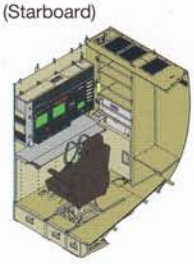
The configuration of the helicopter is first changed into loading configuration (removal of horizontal empennage and tail rotor, folding of main rotor and tail boom).

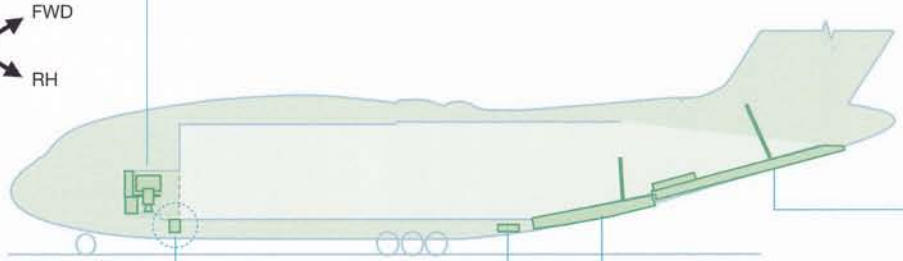


The large temporary auxiliary ramp (opt.) is fixed to the end of the ramp door, when handling helicopters with low minimum ground clearance or large overhang.

Loading Equipment

FWD Loadmaster Station
(Starboard)

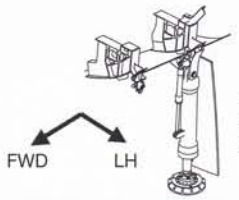




Cargo Door
For wide opening.

Electric Cargo Winch

Ramp Door
Cargo can be loaded on ramp door.



Stabilizer Strut
Struts are provided at the rear on each side to stabilize the aircraft during loading/unloading.

Multi-Task Capability

The YCX is an export version of the C-2. In addition to transporting personnel and cargo smoothly and quickly at high speed and high altitude, the C-2 has multi-task capability that allows it to conduct a wide variety of missions.

The C-2 can conduct airdrop and paratroop drop missions, which are sometimes required in humanitarian aid or disaster relief. The load master station is equipped with a computerized aerial delivery system, so that these missions can be conducted smoothly and safely.

The C-2 also has low-level flight capability. The corridor along the flight path is displayed on the head-up display (HUD), which enables pilots to conduct low level-flight easily and safely.

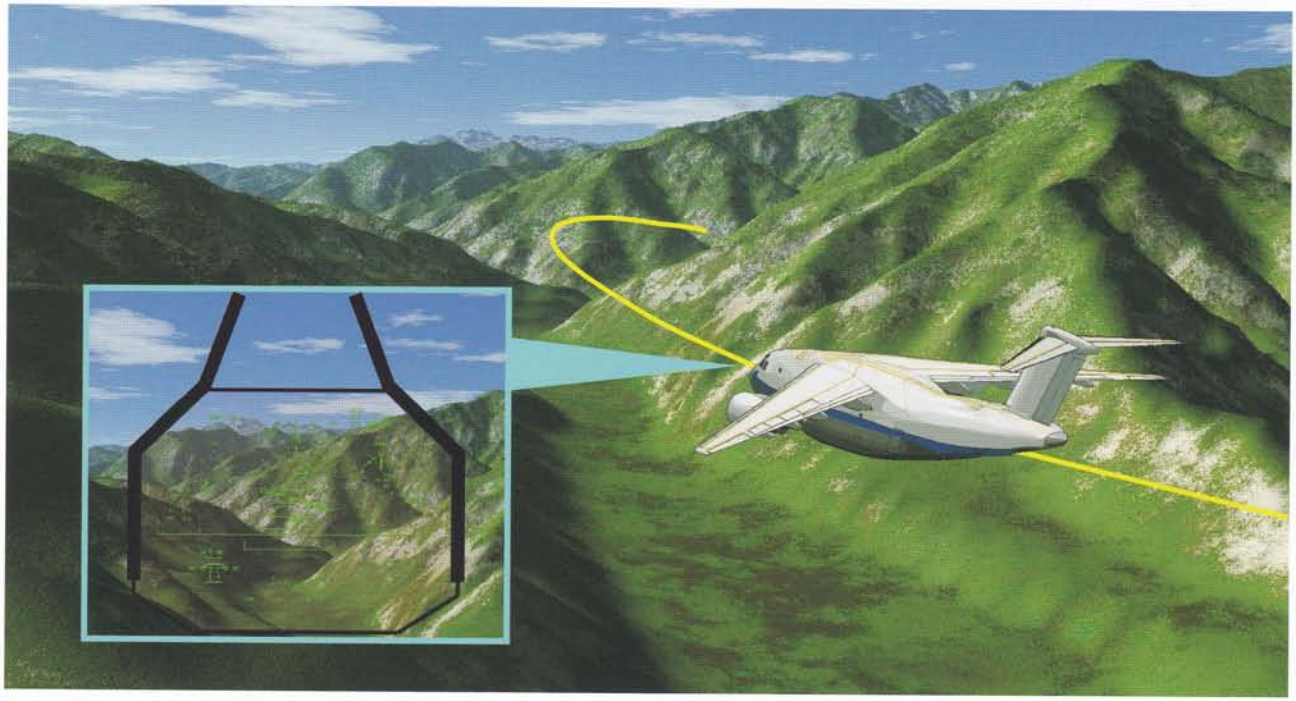
The C-2 has aerial refueling capability and is equipped with an aerial refueling receptacle to receive fuel through a flying boom.

The C-2 is also equipped with station-keeping equipment (SKE), which enables formation flight on auto-pilot.

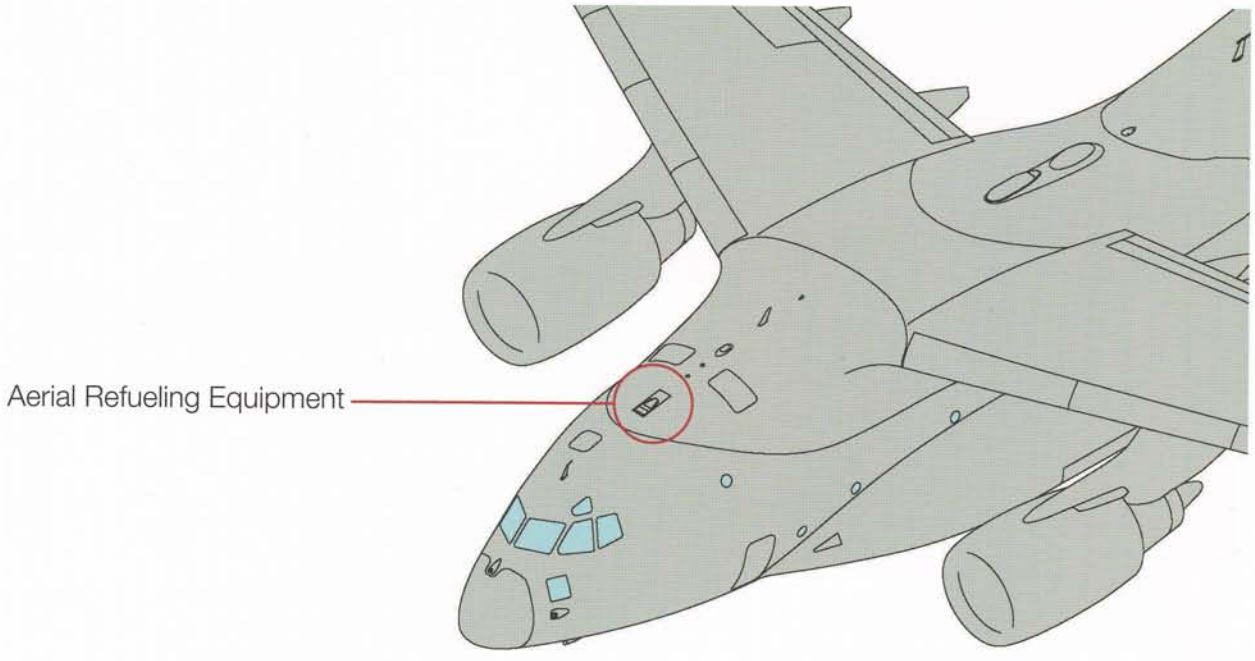
Airdrop & Paratroop Drop

Ref: http://www.mod.go.jp/trdi/news/backnumber.html

Low-Level Flight



Aerial Refueling



Performance and Economics

The YCX features a twin turbofan engine with low fuel consumption, achieving excellent range capability. The YCX is also designed to be highly reliable, which reduces maintenance costs. The combination of lower fuel consumption and lower maintenance costs makes the YCX' s DOC* superior to that of competing aircraft.

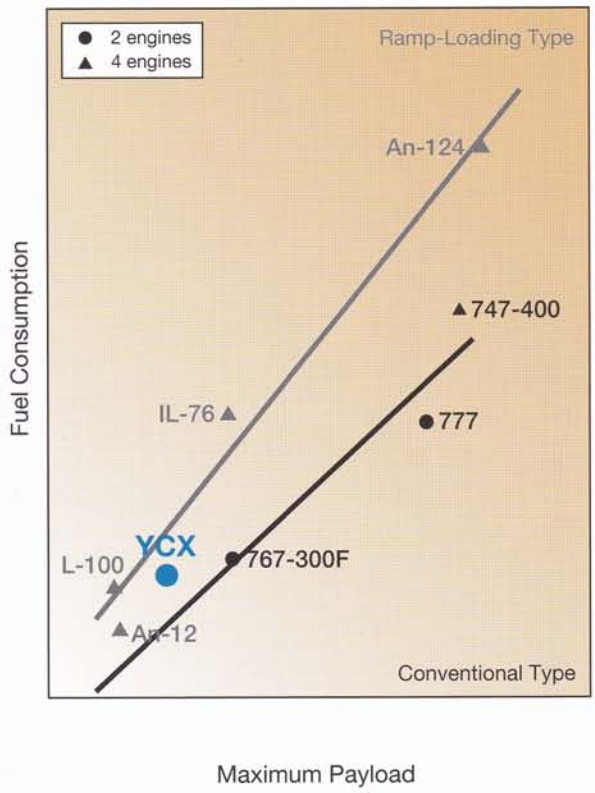
The YCX has the fastest cruise speed among military transport aircraft. The YCX also has high-altitude cruise capability. With its high-speed and high-altitude cruise capability, the YCX can cruise in the same air routes as commercial aircraft.

In addition to its economical advantages, the YCX is also environmentally friendly. The YCX is designed to comply with the noise regulations of ICAO Annex 16, Vol.I, Chapter 4 and the emissions regulations of ICAO Annex 16, Vol.II, CAEP/4.

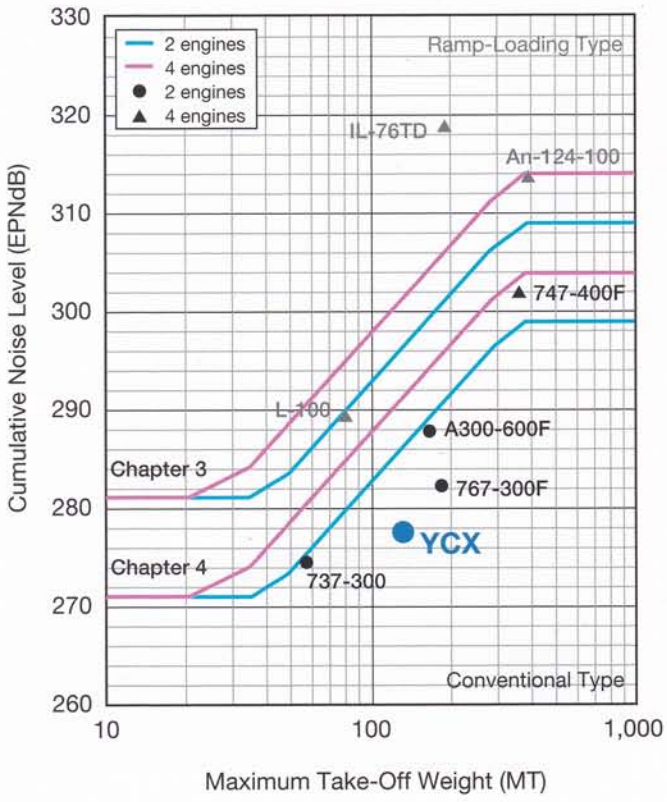
With its versatile cargo-loading capability, economic efficiency, superior cruise capability and environmentally friendly characteristics, the YCX is a distinctive ramp-loading transport aircraft that will satisfy the ever-changing logistic demand.

* Direct Operating Cost

Fuel Consumption



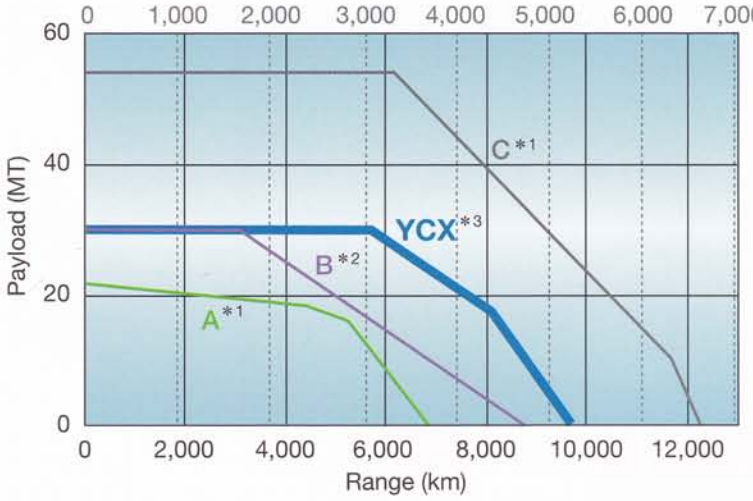
Noise



Maintenance Intervals

Type	Interval	Work
Preflight Check	Before Each Flight	• Structural Inspection (External Visual Inspection) • Servicing/System Check (Clean, Visual Inspection, Operational Test)
A-Check	400 FH/300 Cycles	• Structural Inspection (General Visual Inspection and Detailed Visual Inspection) • Servicing/System Check (Lubrication, Parts Replacement, Visual Inspection, Functional Test) • Zonal Inspection
C-Check	3,200 FH	• Structural Inspection (Special Detailed Inspection) • System Check (Visual Inspection, Operational Test)
D-Check	6 Years	• Structural Inspection (Visual Corrosion Inspection)

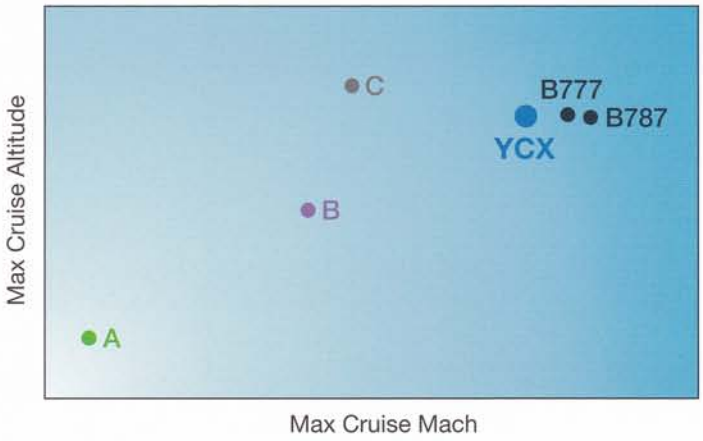
Range Capability



Notes 1
A : Tactical Transport Aircraft
B : New Tactical Transport Aircraft
C : Strategic Transport Aircraft

Notes 2
(common) 2.5G
*1 : MIL-C-5011A Fuel Reserves
*2 : ISA, No wind, MIL-C-5011B Fuel Reserves, KHI estimation
*3 : ISA, No wind, 5% flight fuel reserve, 200nm alternate, 30min hold @alternate

High-Speed, High-Altitude Cruise Capability



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Specifications

General Dimensions

Overall Length	43.9 m	(144 ft)
Overall Height	14.2 m	(46 ft 7 in)
Wing Span	44.4 m	(145 ft 8 in)
Turning Diameter on Ground	33 m	(110 ft)
Reversing	Capable	

Cargo Compartment Dimensions

Cargo Compartment Length (excluding ramp)	Approx. 16 m	(52 ft 6 in)
Ramp Useful Length	5.5 m	(18 ft 1 in)
Cargo Compartment Height (forward of wing rear spar)	Approx. 4 m	(13 ft 1 in)
Cargo Compartment Width	Approx. 4 m	(13 ft 1 in)
Cargo Floor Height from Ground	1.4 m	(4 ft 7 in)

Weights

Max. Take-Off Weight (2.5 G)	141 MT	(311,100 lb)
Design Landing Weight (2.5 G)	110 MT	(242,300 lb)
Max. Payload (2.5 G)	Approx. 30 MT	(66,000 lb)

Performance

Engines	2 × CF6-80C2	
Operating Altitude	12,200 m	(40,000 ft)
Cruise Speed	0.80 Mach	
Take-Off Field Length* (@MTOW=141 MT)	2,300 m	(7,500 ft)
Landing Field Length* (@MLW=110 MT)	1,900 m	(6,200 ft)
Landing Field Length* (@MTOW=141 MT)	2,400 m	(7,900 ft)

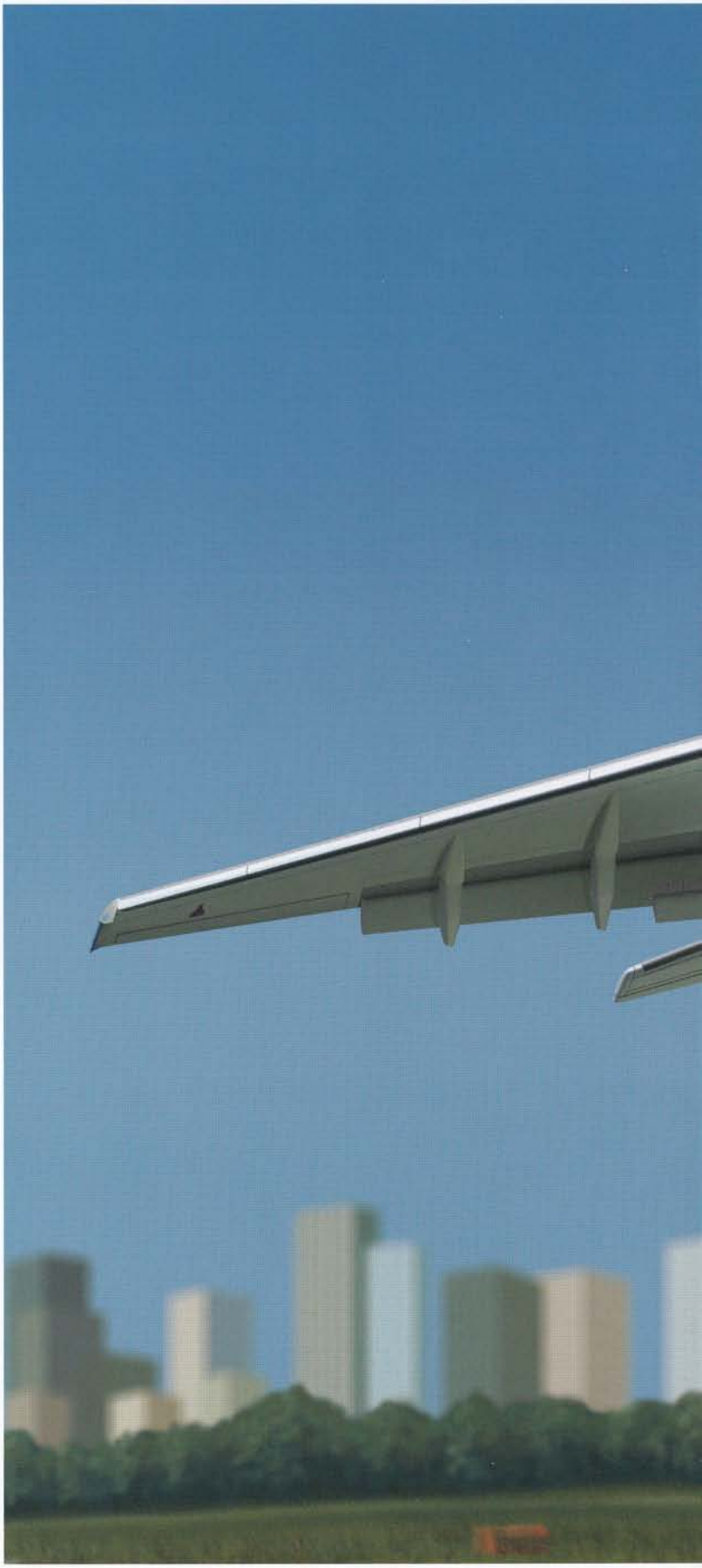
Payload-Range Performance (FAR Reserve Fuel)

Range with Max. Payload*	5,700 km	(3,100 nm)
Range with 18 MT Payload*	8,100 km	(4,400 nm)
Range for Ferry Mission*	9,700 km	(5,200 nm)

* FAR 25

TWIN TURBOFAN ENGINE HIGH-SPEED AIRLIFTER

YCX



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