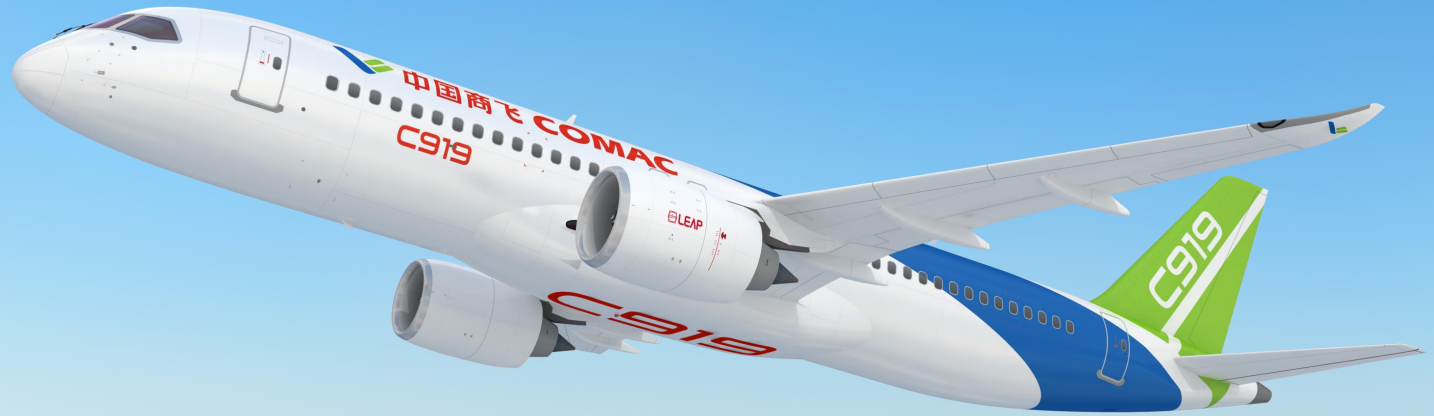
The airport characteristics of C919



Eighth Meeting of the Aerodromes Operations and Planning（AOP/SG/8）

Presented by China　July 18th 2024

Part1.1 C919——A Reliable New Choice

C919

Short-medium Range Narrow body

Seats: 158～192
Range: 4,075~5,555km

First test flight On May. 5th 2017
Obtain Type Certificate issued by CAAC On Sep. 29th 2022

Part 1.1 C919 Airworthiness Certification

Historic Breakthrough!

Part 1.2 C919 Features

Excellent Reliability

- New and Strict Standard of Airworthiness
- Well-designed Flight Envelop
- Strict Toward Design
- Rigorous Test

Advanced Design

- New-Generation Engine
- Full authority Fly-by-wire Flight Control System
- Advanced integrated Avionics System
- Wide-frequency Conversion and Large-capacity Power Supply System

Superior Comfort

- Wider Cabin Space
- Quieter Cabin Environment
- More Scene Lighting
- More Fresh Air

Outstanding Economic

- Advanced Aerodynamics Design
- New Materials Application
- Convenient Maintenance
- Wider Adaptability

Environment-friendly

- Lower External Noise
- Lower Carbon and Nitrogen Emissions
- More environmentally friendly material technology

Part 1.2 C919 Safety & Reliability

Latest Airworthiness Standards

Fully Test Flight Verification

High Temperature Testing. Xinjiang Tulufan

Excellent performance at high temperatures

Stall Certification Flight Test. Shannxi Yanliang

Natural Icing Test. Shannxi Yanliang

Minimum Unstick Speed Test. Shannxi Yanliang

Water Ingestion Testing. Jiangxi Nanchang

1600+ Ground Tests **500+ Flight Tests**

2000+ Flight Circles **6000+ Flight Hours**

Part 1.2 C919 Advanced Design

LEAP-1C

Type	LEAP-1C28	LEAP-1C30*
Thrust	*29220 lbs*	*30830 lbs*

Max. take-off thrust at S.L

Note: C919 ER has Bump Rating (jump thrust rating) which can increase the thrust by more than **5%,** suitable for high-temperature and plateau airports

SAF Available

LOWER FUEL CONSUMPTION ***LESS NOISE*** ***LESS EMISSION***

Part 1.2 C919 Advanced Design

Avionics Core Processing System

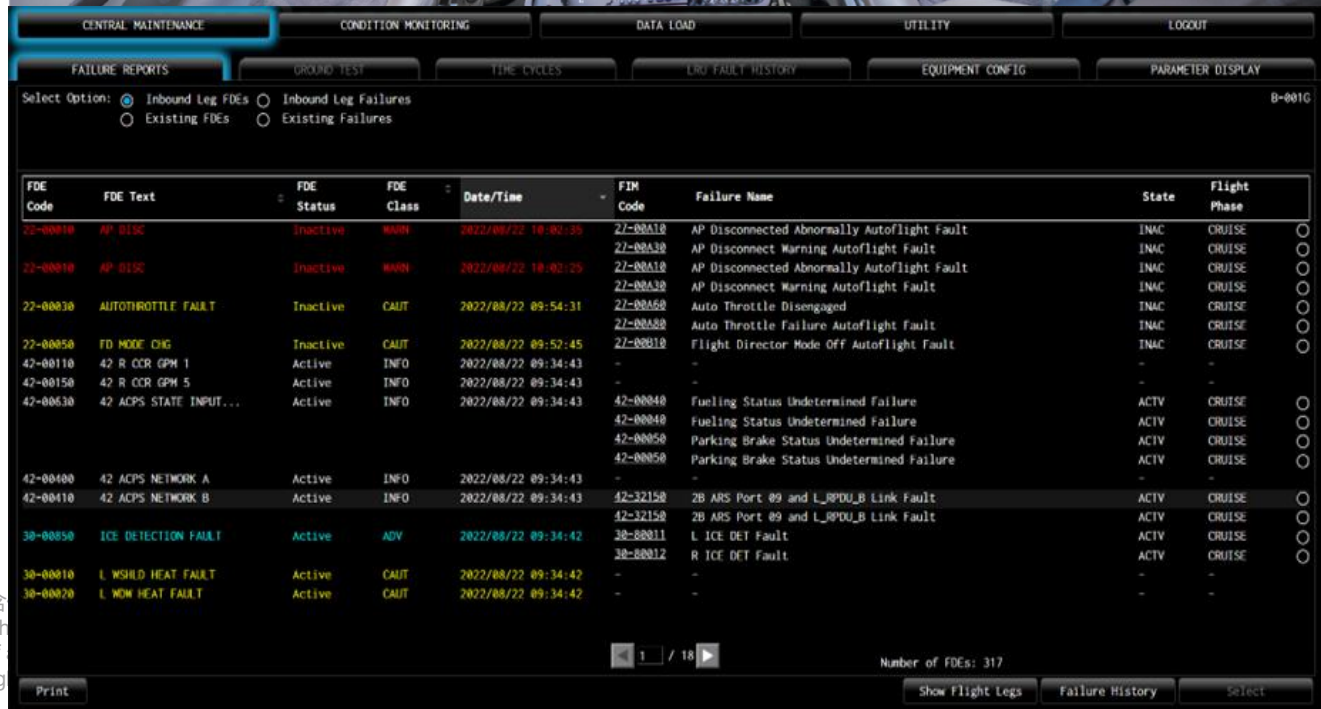
Highly Integrated Data Processing And Network Transmission Technology

- **Integrated Modular Avionics**, a shared set of flexible, reusable and interoperable hardware and software resources
- **ARINC 664**, high-performance avionics databus

Onboard Maintenance System

Highly integrated and supporting big data analysis

- Centralized **maintenance information**
- Acquire, process and record **systems parameters**
- Centralized **data up and down loading**
- Aircraft systems **configuration data and report**



Part 1.2 C919 Superior Comfort

- **Wider Cabin** (Wider Middle Seats, Wider Aisle)
- **Newer Entertainment & Communication Equipment** (In-Seat Power Supply, WIFI etc.)
- **Scene Lighting** (10+Modes)
- **Lower Cabin Noise** (<75dBA)
- **More Fresh Air** (Renew 2-3mins)
- **Inclined Luggage Rack** (more overhead space)
- **Thoughtful design details** (Adjustable headrest and outer seat handle)

Part 1.1 C919 Cabin layout

Cabin Layout

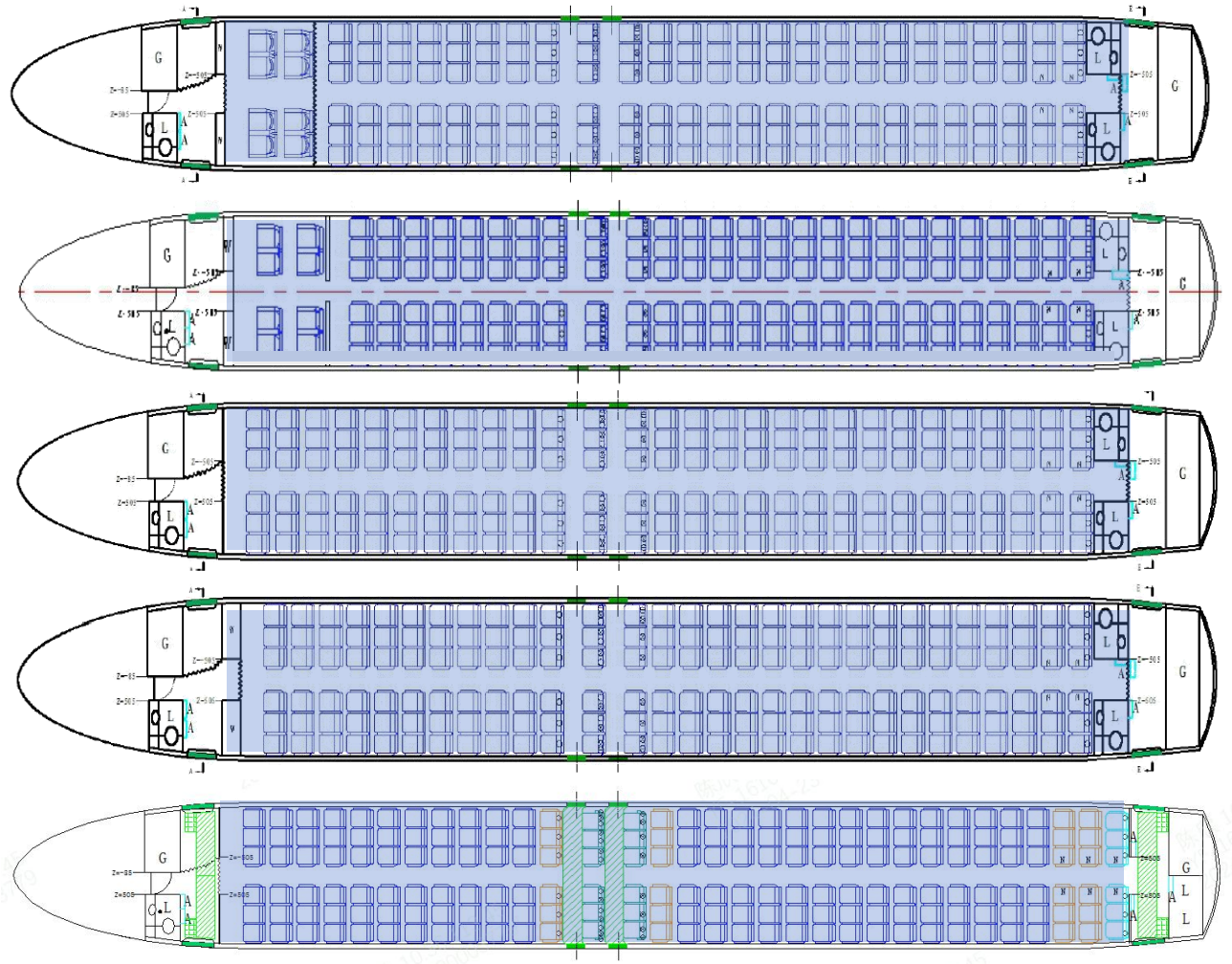
COMBINED CLASS
158 seats
(8C@38”+150Y@32”)

COMBINED CLASS
164 seats
(8C@41”+156Y@30”)

SINGLE CLASS
168 seats
(168Y@32”)

SINGLE CLASS
174 seats
(174Y@30”)

HIGH DENSITY 192 seats



A–Attendant seat L–lavatory W–Wardrobe G–Galley

Part 1.2 C919 Outstanding Economics

Aerodynamic Drag Reduction 5%

supercritical wings, Integrated design winglets,

4 Pieces Of Double-curved Windshield, Streamlined Design Nose

Part 1.3 C919 First Delivery

Delivered the World First C919 on Dec. 9th, 2022

Part 1.3 C919 Commercial Flight

Successful Maiden Commercial Flight

SHA–PEK May 28th 2023

Part 1.3 C919 Stable Operation

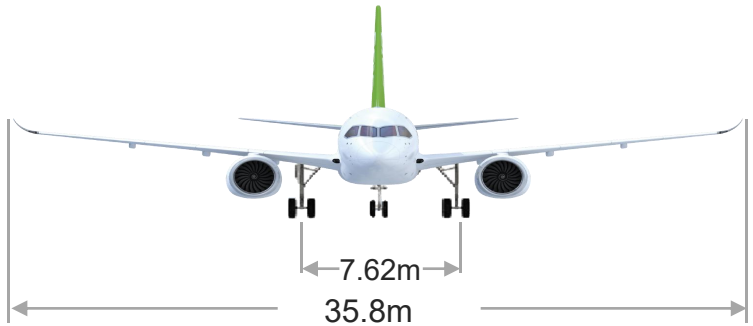
6 Deliveries

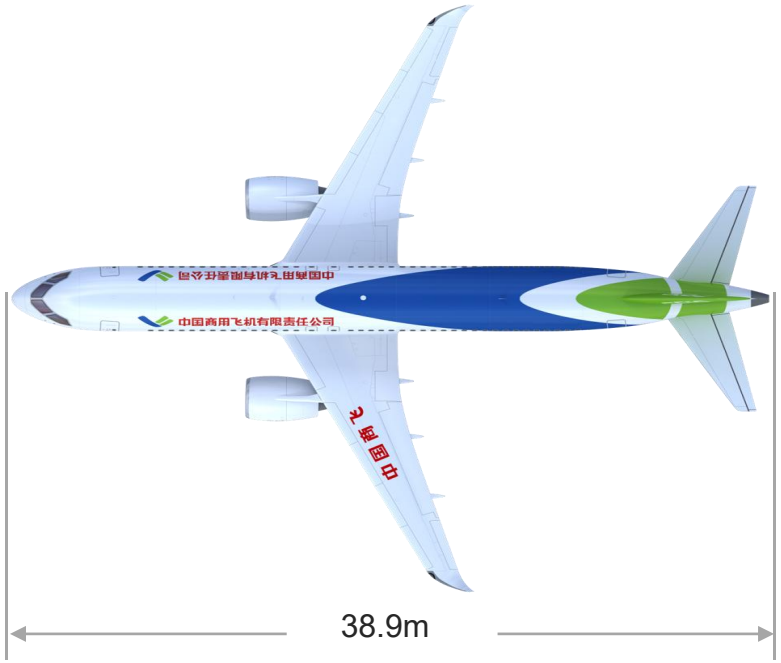
8000+ Hours

290,000+ Passengers

Data as if 12/07/2024

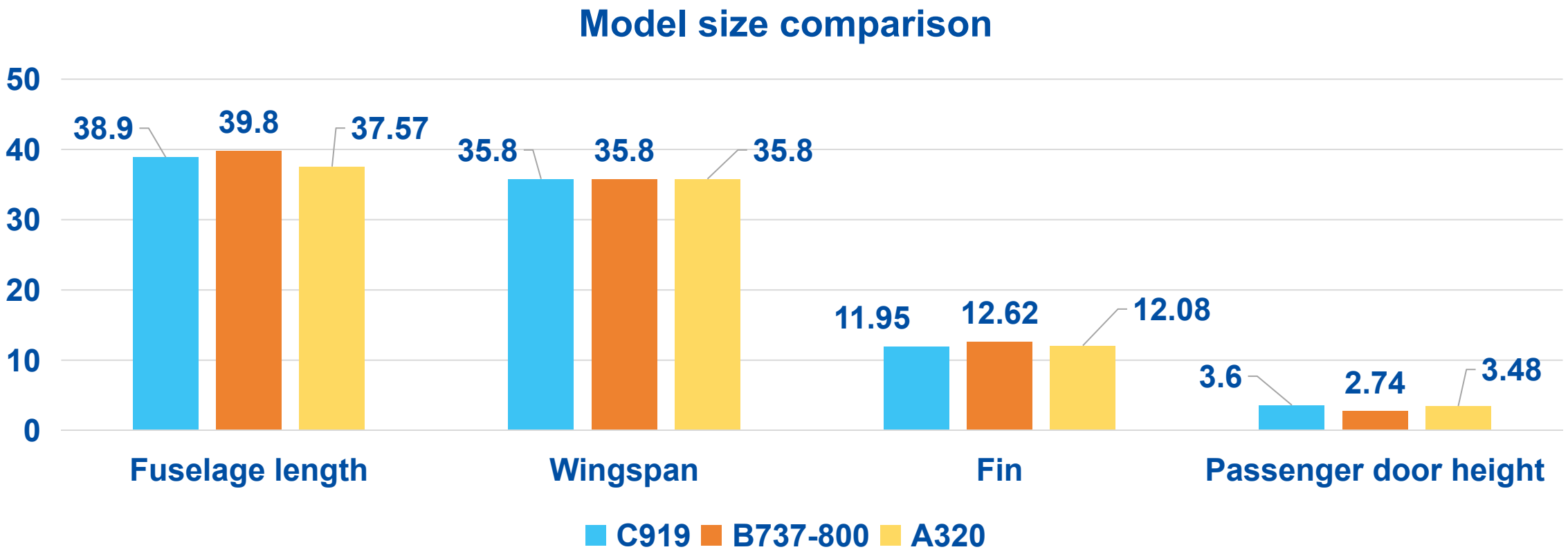
Part 2.1 C919 Specifications





Standard range version (STD) and extended range version (ER).
Aerodrome reference code 4C.

Part 2.1 C919 Specifications



The overall size of the C919 aircraft is similar to that of mainstream aircraft types.

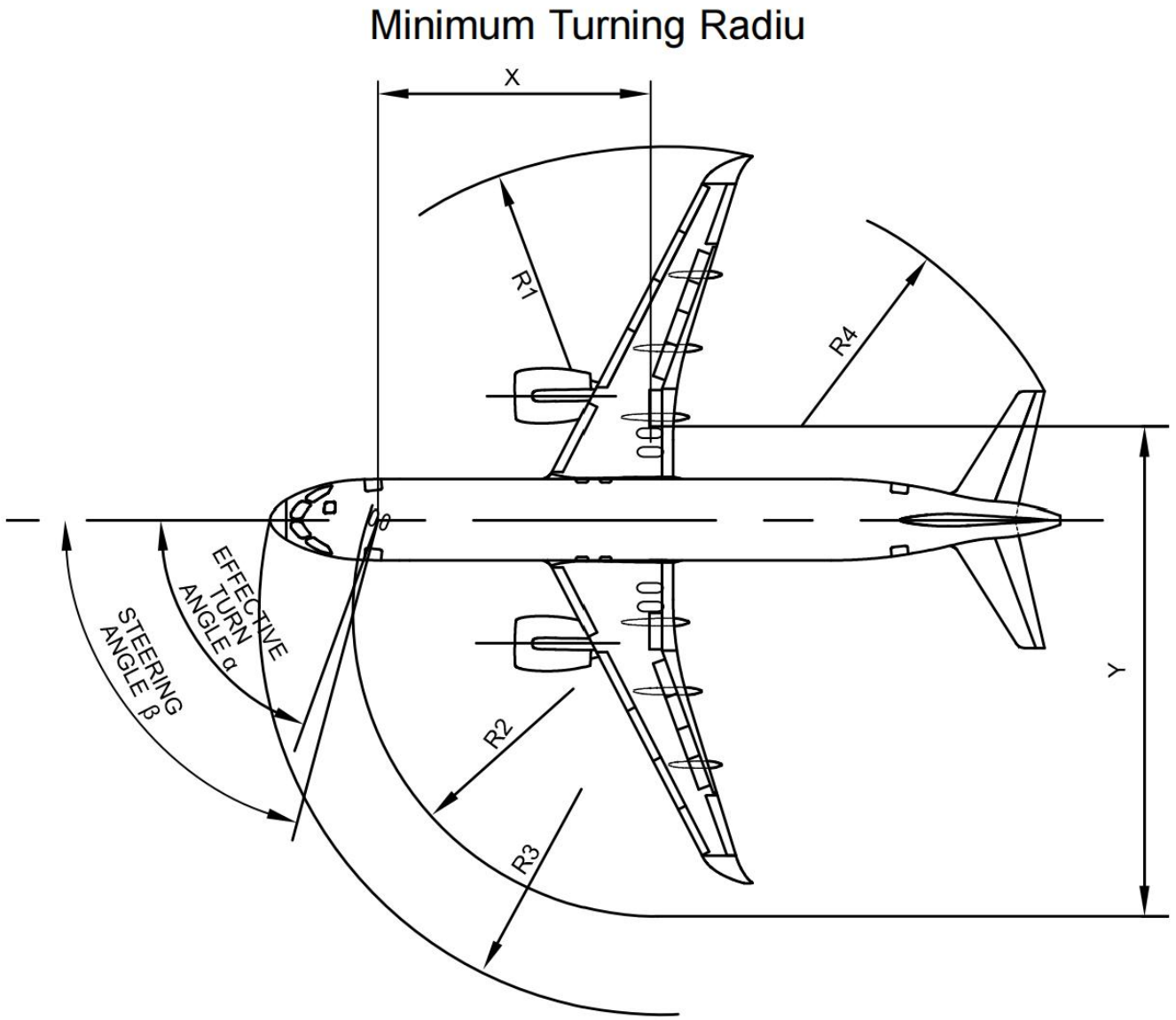
Part 2.1 C919 Specifications

ITEMS	C919 STD	C919 ER
Overall length	38.9 m (127.6 ft)	
Wingspan	35.8 m (117.5 ft)	
Vertical tail height	11.95 m (39.2 ft)	
Main wheel outer wheel spacing	8.98 m (29.5 ft)	
Front and main wheelbase	13.47 m (44.2 ft)	
Maximum design takeoff weight（MTOW）	75,100 kg (165,567 lb)	78,900 kg(173,944 lb)
Maximum Design Landing Weight (MLW)	67,800 kg (149,473 lb)	
Maximum Design Taxi Weight (MTW)	75,500 kg (166,448 lb)	79,300 kg (174,826 lb)
Standard Payload	15,010 kg (33,091 ft)	
Max Payload	18,900 kg (41,667 lb)	
Range (Standard Payload)	4139 km (2235 nm)	5576 km (3011 nm)
Usable Fuel	24,917 L (5481 G)	
Max Operating Altitude	12131 m (39800 ft)	
Take-off Field Length (MTOW, SL, ISA)	2,052 m (6,732 ft)	2,125 m (6,267 ft)
Landing Field Length (MLW, SL, ISA)	2,043 m (6,702 ft)	2,133 m (6,998 ft)
Runway width (standard)	45 m	

Part 2.2 C919 Airport Compatibility

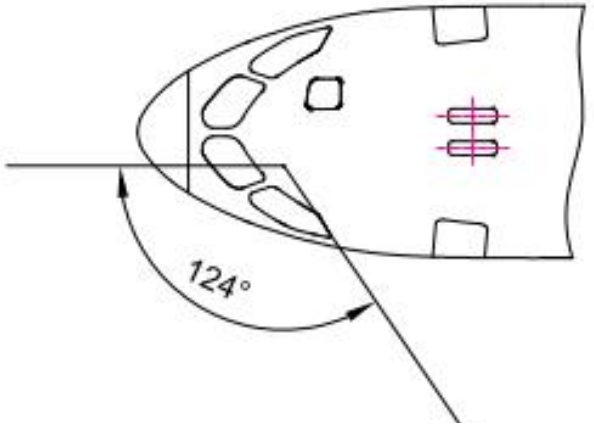
Maximum effective turn angle **70°**

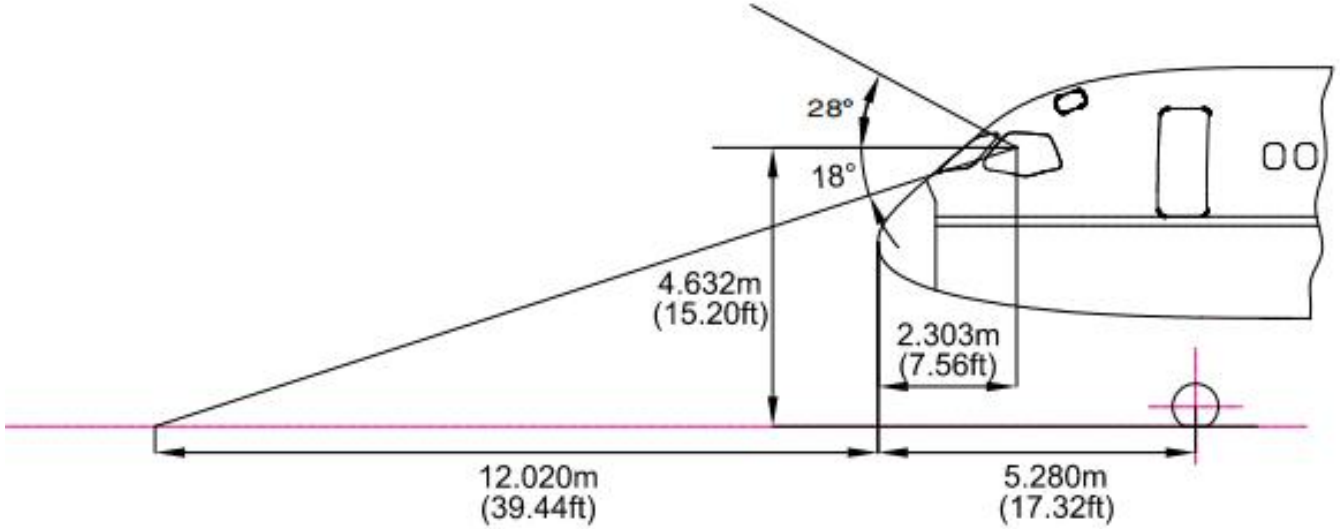
Minimum 180° turn runway width **30m** (including 3m clearance each side)

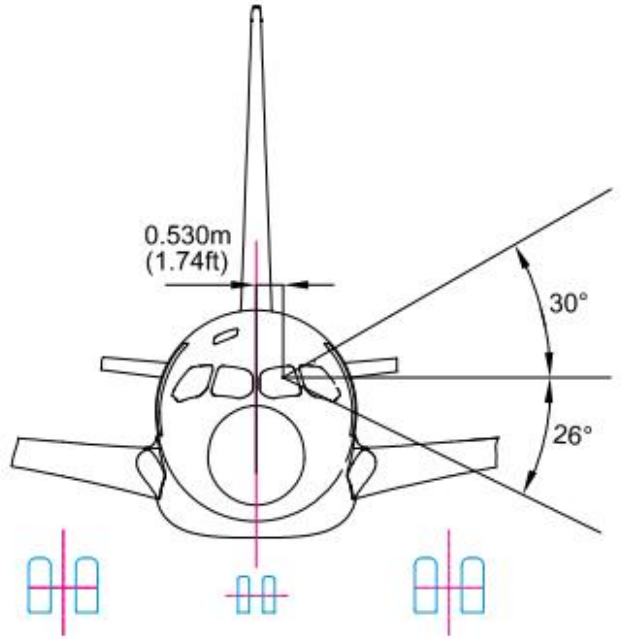


Part 2.2 C919 Airport Compatibility

Visibility from Cockpit in Static Position





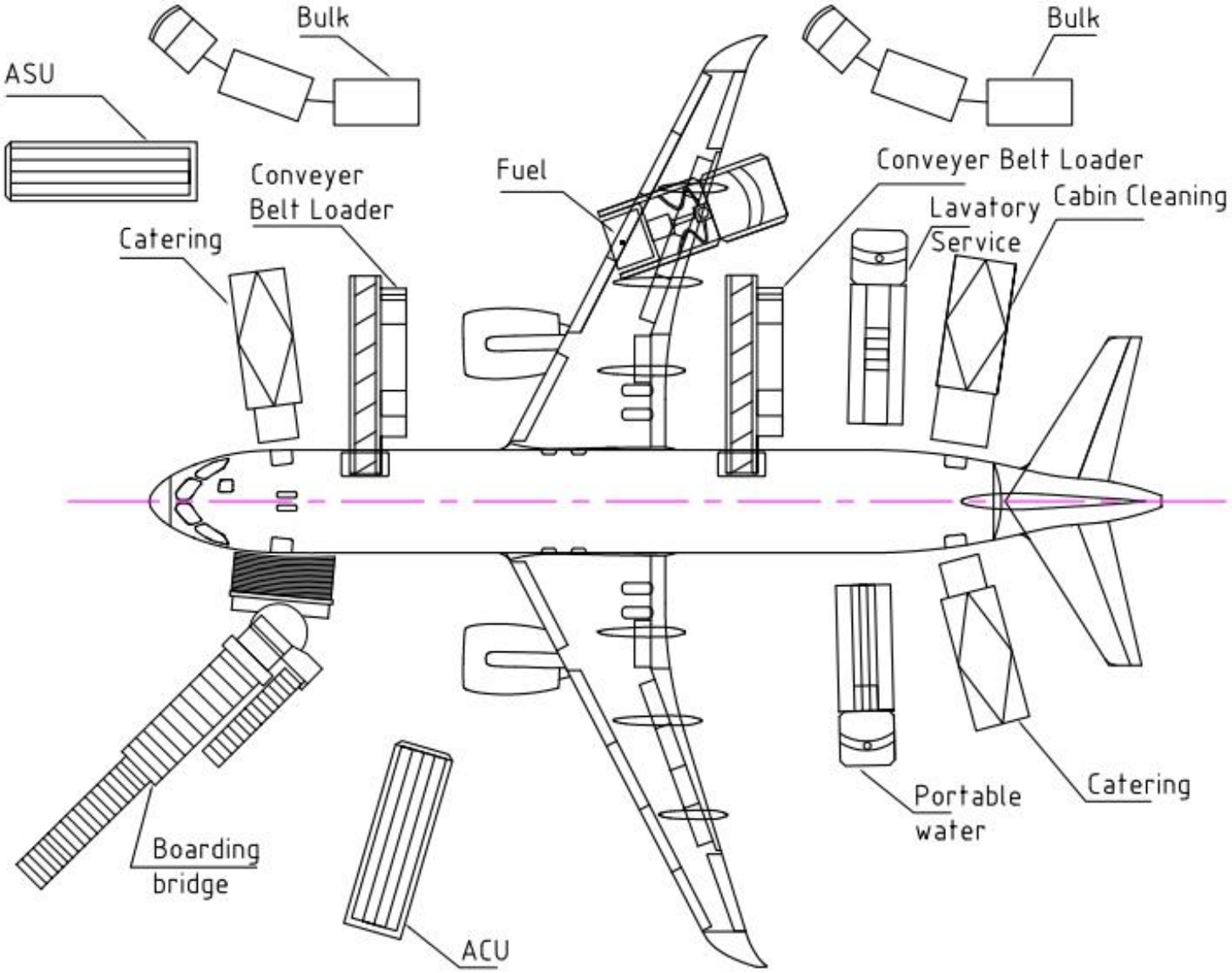


Part 2.2 C919 Airport Compatibility

ACR

Type	MTW/ Minimum weight (kg)	Main Landing gear on one side bearing (%)	Main Landing gear tire pressure (MPa)	ACR under rigid runway				ACR under flexible runway			
				High A 200	Mid B 120	Low C 80	Ultra low D 50	High A 200	Mid B 120	Low C 80	Ultra low D 50
C919 STD	75500	46.14	1.29	442	466	482	500	340	366	399	445
	45000	46.14	1.29	238	252	262	274	199	207	217	235
C919 ER	79300	45.82	1.35	471	495	511	528	361	387	423	472
	45000	45.82	1.35	240	253	263	274	200	207	216	234

Part 2.3 C919 Terminal Service

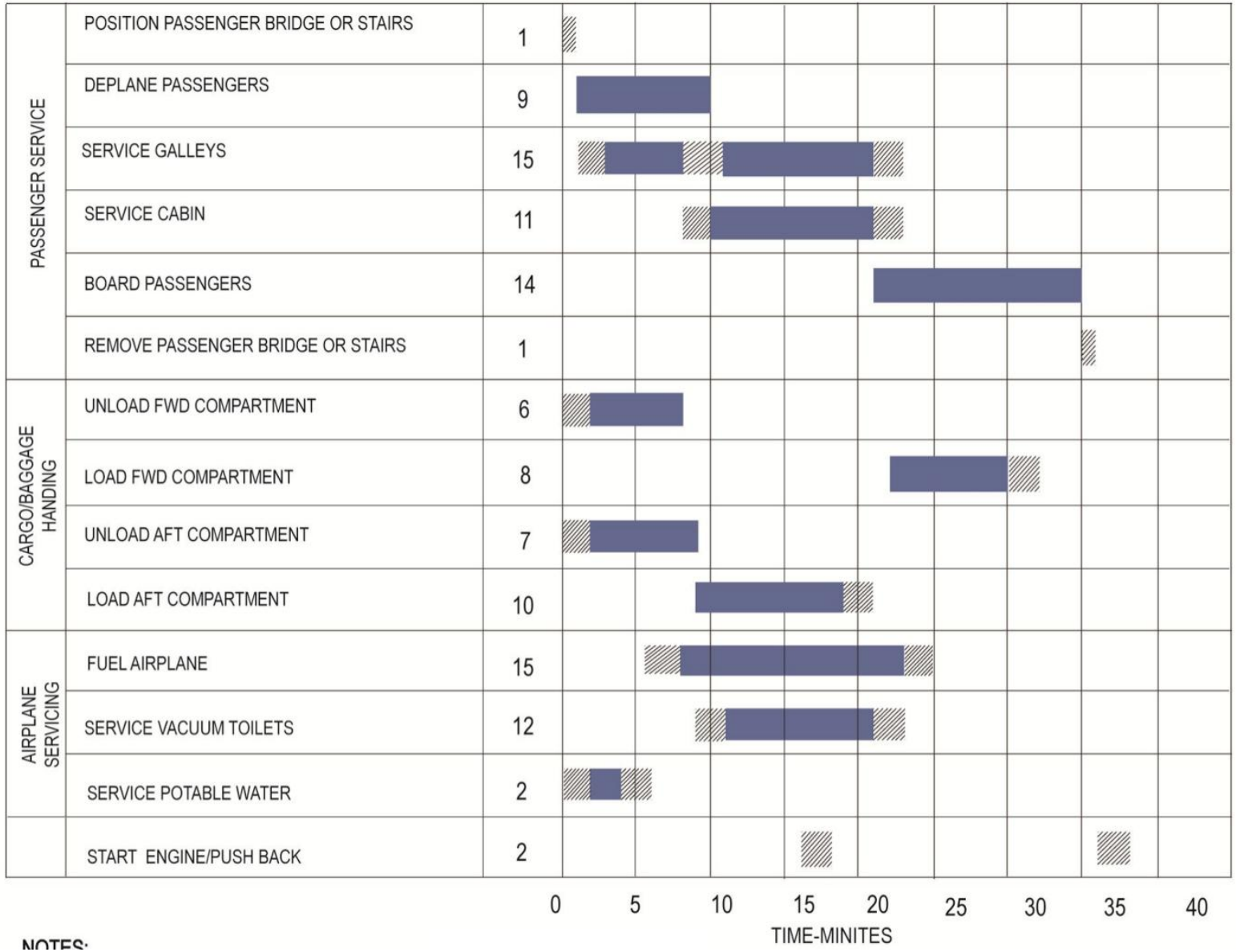


Service Interface Location

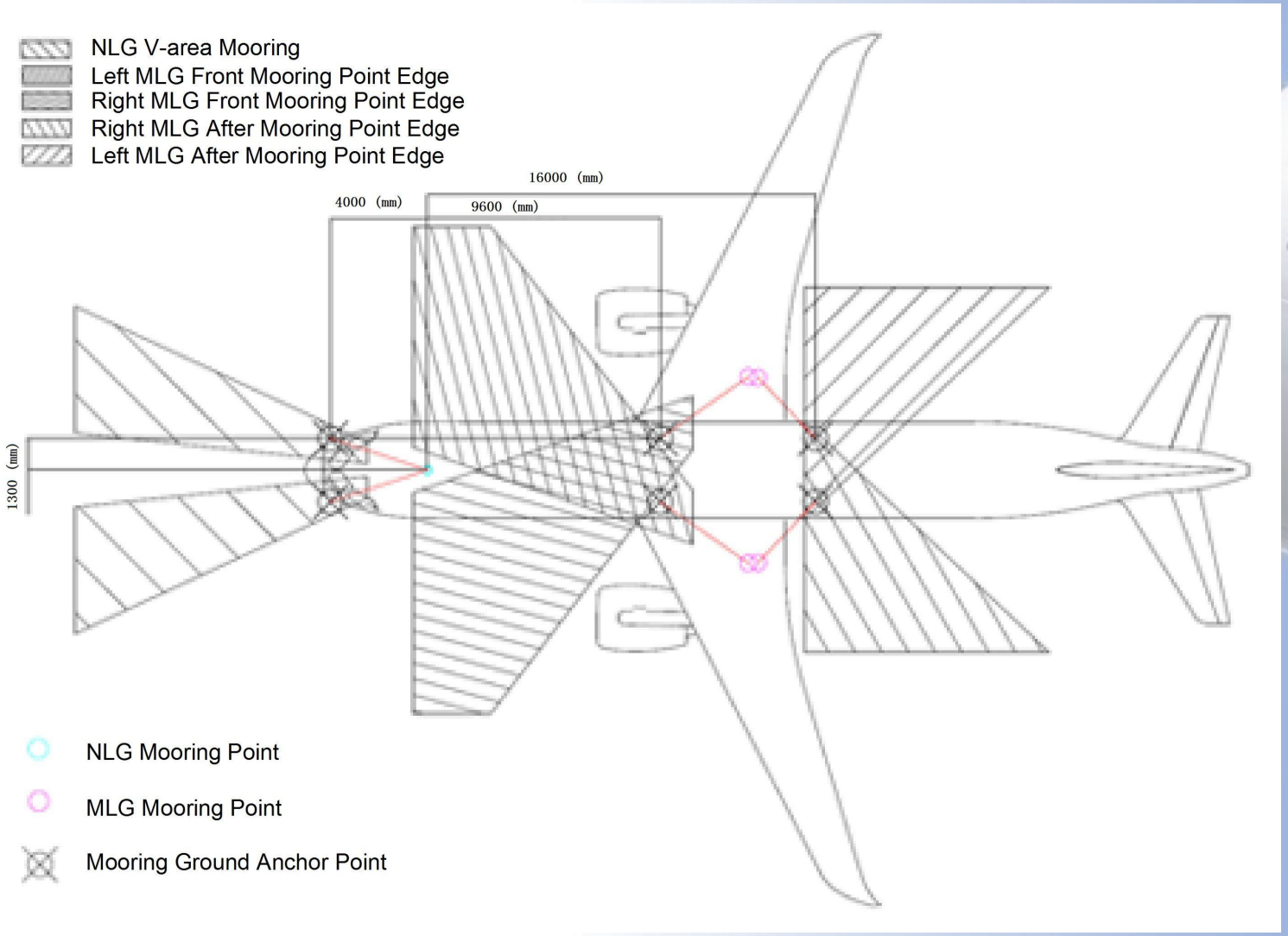
Part 2.3 C919 Terminal Service

The Typical Turnaround Station (Full economy class with 168 seats) of C919

The fast turnaround time can be finished in 40 min.



Part 2.3 C919 Terminal Service



Mooring Position

Part 2.4 C919 Information

More information and characteristics of C919 can be obtained from the manual——Aircraft Characteristics for Airport Planning (ACAP) and others.

Web link http://english.comac.cc/Galleries/Technical/.

Part 3 Action

a) Note the information contained in this paper and welcome member States to send the mail to airport.compatibility@comac.cc for any requirement and questions on airport compatibility of C919.

b) Encourage member States to conduct the airport capability assessment ahead, and provide feedback to CAAC to help C919 manufacturer to obtain information of airport and ground support equipment service environment of member States.

c) Rrequest ICAO to add C919 airport characteristic into the relevant Document of ICAO, including Doc 9157，and

d) Encourage Asia Pacific States to pay attention to C919 model operational requirements into the design and operation processes of airports in anticipation that Asia Pacific States will be the main service users of C919 aircraft.

中国民航
CAAC

Looking forward to in-depth cooperation and Creating a better future together