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Manufacturer
The Boeing Company

Type Certificate Data Sheet (TCDS)	TCDS Identifier	Marketing Name	Pilot Type Rating
T00021SE	787-8	Boeing 787	B-787
T00021SE	787-9	Boeing 787	B-787
T00021SE	787-10	Boeing 787	B-787

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1 RECORD OF REVISIONS

Revision Number	Section(s)	Page(s)	Date
0 (Original)	All	All	08/25/2011
1	All	All	02/17/2012
2	All	All	12/01/2012
3	All	All	07/18/2014
4	5, 6	9, 13, 14	04/13/2017
5	All	All	03/09/2018
6	Cover Page, Table of Contents, 1, 3–5, 8–13, Appendix 2, Appendix 3	Cover Page, 2–4, 6–8, 9, 10, 14–39	10/17/2018
7	Cover Page, Table of Contents, 1, 3, 5, 13	1 thru 5, 10	05/08/2019

2 INTRODUCTION

Aircraft Evaluation Groups (AEG) are responsible for working with aircraft manufacturers and modifiers during the development and Federal Aviation Administration (FAA) certification of new and modified aircraft to determine: 1) the pilot type rating; 2) flightcrew member training, checking, and currency requirements; and 3) operational suitability.

This report lists those determinations for use by: 1) FAA employees who approve training programs; 2) FAA employees and designees who certify airmen; and 3) aircraft operators and training providers to assist them in developing their flightcrew member training, checking, and currency.

3 HIGHLIGHTS OF CHANGE

The purpose of this revision is to adjust and clarify the Landing Minima Categories in section 13.2.

4 BACKGROUND

The Transport Aircraft Seattle Branch formed a Flight Standardization Board (FSB) that evaluated the B-787 as defined in FAA Type Certificate Data Sheet (TCDS) #T00021SE. The evaluation was conducted using the methods described in the current edition of FAA Advisory Circular (AC) 120-53, Guidance for Conducting and Use of Flight Standardization Board Evaluations.

5 ACRONYMS

14 CFR	Title 14 of the Code of Federal Regulations
AC	Advisory Circular
ACFT	Aircraft
ACS	Airman Certification Standards
AEG	Aircraft Evaluation Group
AFDS	Autopilot Flight Director System
APU	Auxiliary Power Unit
ATP	Airline Transport Pilot
AV	Audiovisual Presentation
CAC	Cabin Air Compressor
CG	Center of Gravity
CPT	Cockpit Procedures Trainer
ECL	Electronic Checklist
EEC	Electronic Engine Control
EGPWS	Enhanced Ground Proximity Warning System
EICAS	Engine Indicating and Crew Alerting System
FAA	Federal Aviation Administration
FD	Flight Director
FFS	Full Flight Simulator
FMS	Flight Management System
FSB	Flight Standardization Board
FSTD	Flight Simulation Training Device
FTD	Flight Training Device
GE	General Electric
GPS	Global Positioning System
HF	High Frequency
HO	Handout
HUD	Head-Up Display
IAN	Integrated Approach Navigation
ICBI	Interactive Computer-Based Instruction
ILS	Instrument Landing System
LNAV	Lateral Navigation
MDR	Master Differences Requirements
NAS	National Airspace System
ND	Navigation Display
PA	Passenger Address

PC	Proficiency Check
PFD	Primary Flight Display
PIC	Pilot in Command
PTS	Practical Test Standards
PTT	Part Task Trainer
QRH	Quick Reference Handbook
RR	Rolls-Royce
SATCOM	Satellite Communication
SU	Stand-Up Instruction
TAC	Thrust Asymmetry Compensation
TCBI	Tutorial Computer-Based Instruction
TCDS	Type Certificate Data Sheet
TCP	Tuning Control Panel
TOGA	Takeoff/Go-Around
V ₁	Takeoff Decision Speed
VHF	Very High Frequency

6 DEFINITIONS

These definitions are for the purposes of this report only.

- 6.1 Base Aircraft.** An aircraft identified for use as a reference to compare differences with another aircraft.
- 6.2 Current.** A crewmember meets all requirements to operate the aircraft under the applicable operating part.
- 6.3 Differences Tables.** Describe the differences between a pair of related aircraft and the minimum levels operators must use to conduct differences training and checking of crewmembers. Difference levels range from A to E.
- 6.4 Master Differences Requirements (MDR).** Specifies the highest training and checking difference levels between a pair of related aircraft derived from the Differences Tables.
- 6.5 Mixed Fleet Flying.** The operation of a base aircraft and one or more related aircraft for which credit may be taken for training, checking, and currency events.
- 6.6 Operational Evaluation.** An AEG process to determine pilot type rating, minimum crewmember training, checking, and currency requirements, and unique or special airman certification requirements (e.g., specific flight characteristics, no-flap landing).
- 6.7 Operational Suitability.** An AEG determination that an aircraft or system may be used in the National Airspace System (NAS) and meets the applicable operational regulations (e.g., Title 14 of the Code of Federal Regulations (14 CFR) parts 91, 121, 133, 135).
- 6.8 Qualified.** A crewmember holds the appropriate airman certificate and ratings as required by the applicable operating part.

- 6.9 Related Aircraft.** Any two or more aircraft of the same make with either the same or different type certificates that have been demonstrated and determined by the Administrator to have commonality.
- 6.10 Seat Dependent Tasks.** Maneuvers or procedures using controls that are accessible or operable from only one flightcrew member seat.
- 6.11 Special Emphasis Area.** A training requirement unique to the aircraft, based on a system, procedure, or maneuver, which requires additional highlighting during training. It may also require additional training time, specialized training devices, or training equipment.
- 6.12 Specific Flight Characteristics.** A maneuver or procedure with unique handling or performance characteristics that the FSB has determined must be checked.

7 PILOT TYPE RATING

- 7.1** Type Rating. The Boeing 787 type rating designation is B-787.
- 7.2** Common Type Ratings. In accordance with the provisions of FAA Order 8900.1 and AC 120-53, the B-787 and the B-777 are separate type ratings that have been determined to have commonality.
- 7.3** Military Equivalent Designations. Military aircraft that qualify for the B-787 can be found on the [faa.gov](http://www.faa.gov/licenses_certificates/airmen_certification) website under Licenses and Certificates, Airmen Certification, Online Services, Aircraft Type Rating Designators. This webpage is kept up-to-date and can be found at http://www.faa.gov/licenses_certificates/airmen_certification.

8 RELATED AIRCRAFT

8.1 Related Aircraft on Same TCDS:

- The B-787-8 has been evaluated by the AEG as related to the B-787-9 and the B-787-10.
- The B-787-9 has been evaluated by the AEG as related to the B-787-8 and B-787-10.
- The B-787-10 has been evaluated by the AEG as related to the B-787-8 and B-787-9.

8.2 Related Aircraft on Different TCDS. The B-787 is related to the B-777:

- The B-787 has been evaluated by the AEG as related to the B-777.
- The B-777 has been evaluated by the AEG as related to the B-787.

9 PILOT TRAINING

9.1 Airman Experience.

Airmen receiving initial B-787 training should have previous operational experience in multiengine transport turbojet aircraft, new generation avionics, high altitude operations, Head-Up Display (HUD), electronic checklist (ECL), and flight management systems (FMS). Pilots without this experience may require additional training.

Airmen receiving differences, upgrade, or transition B-787 training are assumed to have previous experience in multiengine transport turbojet aircraft, new generation avionics, high altitude operations, HUD, ECL, and FMS. Pilots without this experience may require additional training.

9.2 Special Emphasis Areas.

Pilots must receive special emphasis on the following areas during initial ground training:

- ECL. Paper quick reference handbook (QRH) backup for the ECL should also be trained.
- Electronic Flight Bag (EFB). Refer to the current version of the Boeing Class 3 EFB FSB report.
- HUD.
- Tuning control panel (TCP).
- Display management.
- Engine variants (General Electric (GE) or Rolls-Royce (RR)) if in the same fleet. Pilots should be exposed to the alternate engine indicating and crew alerting system (EICAS) presentations by means of photos, drawings, or graphic media which would assure proper display interpretation and use by the flight deck crew.

Pilots must receive special emphasis on and perform the following areas during flight training:

- Flight control modes. This item must be included in initial and recurrent training.
- Envelope protection. Aircraft response to bank angle indications and protection, thrust asymmetry protection, enhanced underspeed (stall), and overspeed protection. This item to be included in initial training.
- Fly-by-wire speed stability characteristics and aircraft trimming. This item to be included in initial training.
- Automatic landings. Applicable if an operator conducts automatic landings in the B-787. This item to be included in initial training and recurrent training.

9.3 Specific Flight Characteristics.

Maneuvers/procedures required to be checked as referenced in the airline transport pilot (ATP) and type rating practical test standards (PTS) or Airman Certification Standards (ACS), as applicable, and/or 14 CFR part 121 appendix F.

There are no specific flight characteristics.

9.4 Seat Dependent Tasks.

There are no seat dependent tasks.

9.5 Regulatory Training Requirements which are Not Applicable to the B-787 (Part 121 Appendix E).

Tuck and Mach buffet. Demonstration of the aircraft's overspeed protection capabilities is an acceptable substitute.

9.6 Flight Simulation Training Devices (FSTD).

There are no specific systems, procedures, or maneuvers that are unique to the B-787 that require a specific FSTD for training.

9.7 Training Equipment.

There are no specific systems or procedures that are unique to the B-787 that require specific training equipment.

9.8 Differences Training between Related Aircraft.

Pilots must receive differences training between the B-787-8, B-787-9, and B-787-10. The level of training is specified in Appendix 3, Differences Tables.

Pilots must receive differences training between the B-787 and B-777. The level of training is specified in Appendix 3.

10 PILOT CHECKING

10.1 Landing from a No-Flap or Nonstandard Flap Approach.

The probability of flap extension failure on the B-787 is extremely remote due to system design. Therefore, demonstration of a partial flap approach and landing during pilot certification or a 14 CFR part 61, § 61.58 proficiency check, part 91, § 91.1065 competency check, part 121, § 121.441 proficiency check, part 125, § 125.287 competency check, or part 135, § 135.293 competency check is required.

Refer to Order 8900.1, Volume 5 when the test or check is conducted in an aircraft versus a full flight simulator (FFS).

10.2 Specific Flight Characteristics.

Maneuvers/procedures required to be checked as referenced in the ATP and type rating PTS or ACS, as applicable, and/or part 121 appendix F.

There are no specific flight characteristics.

10.3 Seat Dependent Tasks.

There are no seat dependent tasks.

10.4 Other Checking Items.

- a) Proficiency with manual and automatic flight. Initial and recurrent checking.
- b) FMS operation and FMS failures. Initial and recurrent checking.
- c) Use and knowledge of map displays, raw data, flight director (FD), and Autopilot Flight Director System (AFDS) should be demonstrated, particularly during instrument approaches. All types of checking.
- d) FMS/Global Positioning System (GPS) navigation (departures and approaches) proficiency if these type operations are approved for the operator. Initial and recurrent checking.
- e) ECL during normal and non-normal procedures. All types of checking.
- f) Proper management of speed and attitude stability functionality of flight controls in normal operations. Initial and recurrent checking.
- g) Proper use and knowledge of the look-ahead terrain function of the enhanced ground proximity warning system (EGPWS) (if installed). Initial and recurrent checking.
- h) Proper use and knowledge of the predictive wind shear system (if installed). All types of checking.
- i) Proper use of the HUD to include all phases of flight. All types of checking.
- j) Proper use of the EFB. Initial and recurrent checking.

10.5 FSTDs.

There are no specific systems, procedures, or maneuvers that are unique to the B-787 that require a specific FSTD for checking.

10.6 Equipment.

There are no specific systems or procedures that are unique to the B-787 that require specific equipment.

10.7 Differences Checking between Related Aircraft.

There are no differences checking required between the B-787-8, B-787-9, and the B-787-10.

Pilots must receive difference checking between the B-787 and B-777. The level of checking is specified in Appendix 3.

Alternating B-777 and B-787 Proficiency Checks (PC). For mixed fleet flying between B-777 and B-787 aircraft, PCs should alternate for pilots in command (PIC) and other flightcrew members. The preflight and equipment examination portion of initial and recurrent PCs should address each aircraft operated by the flightcrew member in mixed fleet flying.

11 PILOT CURRENCY

There are no additional currency requirements for the B-787 other than those already specified in parts 61, 121, 125, and 135.

11.1 Differences Currency between Related Aircraft.

There are no differences currency requirements between the B-787-8, B-787-9, and the B-787-10.

There are no differences currency requirements for part 121 mixed fleet flying of the B-787 aircraft and B-777 aircraft. Takeoff and landing credit may be permitted between B-787 and B-777 variations. Takeoffs and landings performed in one aircraft variation are equivalent to those performed in the other aircraft variation.

12 OPERATIONAL SUITABILITY

The B-787 is operationally suitable for operations under parts 91, 121, 125, and 135. The FSB determined operational compliance by conducting an evaluation of a B-787-8, B-787-9, and B-787-10 aircraft. The list of operating rules evaluated is on file at the Transport Aircraft Seattle Branch.

13 MISCELLANEOUS

13.1 Forward Observer Seat.

The B-787 center forward and right forward observer seats as installed by TCDS #T00021SE have been evaluated and determined to meet requirements of §§ 121.581(a), 125.317(b), and 135.75(b) and the current edition of AC 120-83, Flight Deck Observer Seat and Associated Equipment. The forward center observer seat is identified as the primary forward observer seat.

13.2 Landing Minima Categories (Reference 14 CFR Part 97, § 97.3).

The base B-787-8 is considered Category C aircraft for the purposes of determining “straight-in landing weather minima.”

The base B-787-9 is considered Category C aircraft for the purposes of determining “straight-in landing weather minima.”

The base B-787-10 is considered Category D aircraft for the purposes of determining “straight-in landing weather minima.”

The B-787-8 and B-787-9 both have optional configurations and performance packages available that would increase the “straight-in landing weather minima.” to Category D. It is the operator’s responsibility to determine what category their specific aircraft is.

13.3 Emergency Evacuation.

A full-scale emergency evacuation was successfully completed on the B-787 by Boeing. The demonstration complied with § 121.291(a).

13.4 Normal Landing Flaps.

The B-787 (all variations) normal “final landing flap setting” per § 91.126(c) are flaps 25 and flaps 30.

13.5 Aircraft Proving Tests.

Proving tests in accordance with §§ 121.163 and 135.145 are appropriate when the B-787 is new to an operator.

13.6 Flightcrew Rest Facilities (14 CFR Part 117)/Flightcrew Sleeping Quarters (Part 121 Subpart R).

The B-787 overhead flightcrew rest, as installed by TCDS #T00021SE, has been evaluated and determined to meet requirements of parts 117 and 121 through the current editions of AC 117-1, Flightcrew Member Rest Facilities, and AC 121-31, Flightcrew Sleeping Quarters and Rest Facilities, respectively.

APPENDIX 1. DIFFERENCES LEGEND

Training Differences Legend

Differences Level	Type	Training Method Examples	Conditions
A	Self-Instruction	<ul style="list-style-type: none"> • Operating manual revision (HO) • Flightcrew operating bulletin (HO) 	<ul style="list-style-type: none"> • Crew has already demonstrated understanding on base aircraft (e.g., updated version of engine). • Minor or no procedural changes required. • No safety impact if information is not reviewed or is forgotten (e.g., different engine vibration damping mount). • Once called to attention of crew, the difference is self-evident.
B	Aided Instruction	<ul style="list-style-type: none"> • Audiovisual presentation (AV) • Tutorial computer-based instruction (TCBI) • Stand-up instruction (SU) 	<ul style="list-style-type: none"> • Systems are functionally similar. • Crew understanding required. • Issues need emphasis. • Standard methods of presentation required.
C	Systems Devices	<ul style="list-style-type: none"> • Interactive (full-task) computer-based instruction (ICBI) • Cockpit Procedures Trainers (CPT) • Part task trainers (PTT) • Level 4 or 5 flight training device (FTD 4–5) 	<ul style="list-style-type: none"> • Training can only be accomplished through systems training devices. • Training objectives focus on mastering individual systems, procedures, or tasks versus highly integrated flight operations or “real-time” operations. • Training devices are required to assure attainment or retention of crew skills to accomplish more complex tasks usually related to aircraft systems.
D	Maneuvers Devices	<ul style="list-style-type: none"> • Level 6 or 7 flight training device (FTD 6–7) • Level A or B full flight simulator (FFS A–B) 	<ul style="list-style-type: none"> • Training can only be accomplished in flight maneuver devices in a real-time environment. • Training requires mastery of interrelated skills versus individual skills. • Motion, visual, control loading, and specific environmental conditions may be required.
E	Level C/D FFS or Aircraft	<ul style="list-style-type: none"> • Level C or D full flight simulator (FFS C–D) • Aircraft (ACFT) 	<ul style="list-style-type: none"> • Motion, visual, control loading, audio, and specific environmental conditions are required. • Significant full task differences that require a high fidelity environment. • Usually correlates with significant differences in handling qualities.

Checking Differences Legend

Differences Level	Checking Method Examples	Conditions
A	None	None
B	<ul style="list-style-type: none"> • Oral or written exam • Tutorial computer-based instruction self-test (TCBI) 	<ul style="list-style-type: none"> • Individual systems or related groups of systems.
C	<ul style="list-style-type: none"> • Interactive (full-task) computer-based instruction (ICBI) • Cockpit Procedures Trainers (CPT) • Part task trainers (PTT) • Level 4 or 5 flight training device (FTD 4–5) 	<ul style="list-style-type: none"> • Checking can only be accomplished using systems devices. • Checking objectives focus on mastering individual systems, procedures, or tasks.
D	<ul style="list-style-type: none"> • Level 6 or 7 flight training device (FTD 6–7) • Level A or B full flight simulator (FFS A–B) 	<ul style="list-style-type: none"> • Checking can only be accomplished in flight maneuver devices in a real-time environment. • Checking requires mastery of interrelated skills versus individual skills. • Motion, visual, control loading, and specific environmental conditions may be required.
E	<ul style="list-style-type: none"> • Level C or D full flight simulator (FFS C–D) • Aircraft (ACFT) 	<ul style="list-style-type: none"> • Significant full task differences that require a high fidelity environment.

APPENDIX 2. MASTER DIFFERENCES REQUIREMENTS (MDR) TABLE

These are the minimum levels of training and checking required, derived from the highest level in the Differences Tables in Appendix 3. Differences levels are arranged as training/checking.

Related Aircraft ↓	Base Aircraft →	B-787-8	B-787-9	B-787-10
B-787-8		Not applicable	A/A	A/A
B-787-9		A/A	Not applicable	A/A
B-787-10		A/A	A/A	Not applicable

To Related Aircraft ↓	From Base Aircraft →	787	777
787		Not applicable	D/D
777		D/D*	Not applicable

* Refer to the Boeing 777 Flight Standardization Board (FSB) report.

APPENDIX 3. DIFFERENCES TABLES

This Design Differences table, from the 777-300ER to the 787-8, was proposed by Boeing and validated by the Flight Standardization Board (FSB). It lists the minimum differences levels operators must use to conduct differences training and checking of flightcrew members.

FROM BASE AIRCRAFT: 777-300ER TO RELATED AIRCRAFT: 787-8	DESIGN	REMARKS	FLT CHAR	PROC CHNG	TRAINING	CHECKING
	Dimensions		No	No	A	A
	Limitations	Weight/CG Speeds	No	Yes	A	A
	ATA 21 Air Conditioning	Controls and indicators Packs (electric CACs) Alternate ventilation system Equipment cooling system Cargo heat/AC systems	No	Yes	B	B

FROM BASE AIRCRAFT: 777-300ER TO RELATED AIRCRAFT: 787-8	DESIGN	REMARKS	FLT CHAR	PROC CHNG	TRAINING	CHECKING
	ATA 22 Autoflight	Mode control panels AFDS Flight Mode Annunciations Approach and landing (IAN)	No	Yes	B	B
	ATA 23 Communications	Controls and indicators VHF, HF, PA, cabin, flight, and service interphone SATCOM Audio control panels Tuning and control panels	No	Yes	B	B
	ATA 24 Electrical Power	Controls and indicators AC generation and distribution DC generation and distribution Battery and standby systems Autoland	No	Yes	B	B

FROM BASE AIRCRAFT: 777-300ER TO RELATED AIRCRAFT: 787-8	DESIGN	REMARKS	FLT CHAR	PROC CHNG	TRAINING	CHECKING
	ATA 25 Equipment/Furnishings	Flight deck general arrangement Emergency evacuation panel	No	Yes	A	A
	ATA 26 Fire Protection	APU fire controls and indicators Cargo fire controls and indicators	No	Yes	A	A
	ATA 27 Flight Controls	Flight control systems Flight envelope protection Stabilizer trim Trim indicators Thrust asymmetry compensation Flap load relief Alternate flap operation Cruise flaps system	No	Yes	A	A

FROM BASE AIRCRAFT: 777-300ER TO RELATED AIRCRAFT: 787-8	DESIGN	REMARKS	FLT CHAR	PROC CHNG	TRAINING	CHECKING
	ATA 28 Fuel	Controls and indicators Fuel tanks Fuel pumps Fuel balance system	No	Yes	B	B
	ATA 29 Hydraulic Power	Controls and indicators Hydraulic systems	No	Yes	A	A
	ATA 30 Ice and Rain Protection	Controls and indicators Windshield washer Wing anti-ice	No	Yes	A	A

FROM BASE AIRCRAFT: 777-300ER TO RELATED AIRCRAFT: 787-8	DESIGN	REMARKS	FLT CHAR	PROC CHNG	TRAINING	CHECKING
	ATA 31 Indicating/Recording Systems	EFIS control panel PFD/ND controls Display select panels Instrument source selectors Cursor control Display formats Standby flight instruments	No	Yes	C	C
	ATA 31 Indicating/Recording Systems	Head-Up Display (HUD): • Dual installation	No	Yes	D	D
	ATA 32 Landing Gear	Main gear Nose wheel steering tiller Brakes	No	Yes	A	A

FROM BASE AIRCRAFT: 777-300ER TO RELATED AIRCRAFT: 787-8	DESIGN	REMARKS	FLT CHAR	PROC CHNG	TRAINING	CHECKING
	ATA 34 Navigation	Control display unit Flight management system Inertial reference system Transponder panel Weather radar panel	No	Yes	B	B
	ATA 36 Pneumatic	Controls and indicators Engine anti-ice only	No	No	A	A
	ATA 49 Airborne Auxiliary Power	System operation	No	No	A	A
	ATA 52 Doors	No overwing slide	No	No	A	A
	ATA 70 Powerplant		No	Yes	A	A
	ATA 73 Engine Fuel and Control	EEC	No	No	A	A

FROM BASE AIRCRAFT: 777-300ER TO RELATED AIRCRAFT: 787-8	DESIGN	REMARKS	FLT CHAR	PROC CHNG	TRAINING	CHECKING
	ATA 77 Engine Indicating	Controls and indications	No	Yes	B	B
	ATA 80 Starting	Controls and indications	No	Yes	B	B

This Maneuver Differences table, from the 777-300ER to the 787-8, was proposed by Boeing and validated by the FSB. It lists the minimum differences levels operators must use to conduct differences training and checking of flightcrew members.

FROM BASE AIRCRAFT: 777-300ER	MANEUVER	REMARKS	FLT CHAR	PROC CHNG	TRAINING	CHECKING
TO RELATED AIRCRAFT: 787-8	Exterior Preflight	Minor differences	No	No	A	A
	Preflight Procedures	Minor differences due to systems	No	Yes	A	A
	Before Start Procedures	Minor differences	No	Yes	B	B
	Taxi	Minor differences (Airport map on EFB)	No	Yes	B	B
	Engine Failure/V ₁	Minor differences (TAC off)	No	No	D	D
	Go-Around (All Engines)	Minor differences (TOGA to LNAV optional)	No	Yes	A	A
	ILS Engine Inoperative	Minor differences (TAC off)	No	No	D	D
	Go-Around	Minor differences (TAC off)	No	No	D	D

FROM BASE AIRCRAFT: 777-300ER TO RELATED AIRCRAFT: 787-8	MANEUVER	REMARKS	FLT CHAR	PROC CHNG	TRAINING	CHECKING
	Manual Landing (One Engine)	Minor differences (TAC off)	No	No	D	D
	Non-ILS approach	Minor differences (No integrated approach navigation)	No	Yes	A	A

This Design Differences table, from the 787-8 to the 787-9, was proposed by Boeing and validated by the FSB. It lists the minimum differences levels operators must use to conduct differences training and checking of flightcrew members.

FROM BASE AIRCRAFT: 787-8 TO RELATED AIRCRAFT: 787-9	DESIGN	REMARKS	FLT CHAR	PROC CHNG	TRAINING	CHECKING
	Dimensions	Length = 206 feet, 1 inch (62.82 meters) Height = 55 feet, 10 inches (17.02 meters) Wing Span = 197 feet, 3 inches (60.3 meters) Nose gear to main gear = 84.9 feet	No	No	A	A
	Limitations	Weight/CG difference Changed flap placard to show 10, 17, and 18 flap speeds	No	No	A	A
	ATA 21 Air Conditioning	Deleted alternate ventilation valve Added 1:00 position to outflow valve indication	No	No	A	A
	ATA 27 Flight Controls	Added takeoff flap settings 10, 17, 18	No	No	A	A

FROM BASE AIRCRAFT: 787-8 TO RELATED AIRCRAFT: 787-9	DESIGN	REMARKS	FLT CHAR	PROC CHNG	TRAINING	CHECKING
	ATA 28 Fuel	Increased fuel capacity: <ul style="list-style-type: none"> • Mains = 36,984 lb each • Center = 149,678 lb • Total = 223,646 lb 	No	No	A	A
	ATA 70 Powerplant	Increased thrust ratings	No	No	A	A

This Maneuver Differences table, from the 787-8 to the 787-9, was proposed by Boeing and validated by the FSB. It lists the minimum differences levels operators must use to conduct differences training and checking of flightcrew members.

FROM BASE AIRCRAFT: 787-8 TO RELATED AIRCRAFT: 787-9	MANEUVER	REMARKS	FLT CHAR	PROC CHNG	TRAINING	CHECKING
	Takeoff Procedures	Added takeoff flap positions 10, 17, 18	No	No	A	A

This Design Differences table, from the 787-8 to the 787-10, was proposed by Boeing and validated by the FSB on December 6–8, 2017. It lists the minimum differences levels operators must use to conduct differences training and checking of flightcrew members.

FROM BASE AIRCRAFT: 787-8 TO RELATED AIRCRAFT: 787-10	DESIGN	REMARKS	FLT CHAR	PROC CHNG	TRAINING	CHECKING
	Dimensions	Length = 224 feet, 1 inch (68.3 meters) Height = 55 feet, 10 inches (17.0 meters) Wing span = 207 feet, 10 inches (63.3 meters) Nose gear to main gear = 94 feet, 9 inches	No	No	A	A
	Limitations	Weight/CG difference Changed flap placard to show 10, 17, and 18 flap speeds Maximum operating altitude 41,100 feet	No	No	A	A
	ATA 21 Air Conditioning	Deleted alternate ventilation valve Added 1:00 Position to Outflow Valve Indication	No	No	A	A

FROM BASE AIRCRAFT: 787-8 TO RELATED AIRCRAFT: 787-10	DESIGN	REMARKS	FLT CHAR	PROC CHNG	TRAINING	CHECKING
	ATA 27 Flight Controls	Added takeoff flap settings 10, 17, 18	No	No	A	A
	ATA 28 Fuel	Increased fuel capacity: <ul style="list-style-type: none"> • Mains = 36,984 lb each • Center = 149,678 lb • Total = 223,646 lb 	No	No	A	A
	ATA 32 Landing Gear	Added semi-levered gear	No	No	A	A
	ATA 70 Powerplant	Increased thrust ratings	No	No	A	A

This Maneuver Differences table, from the 787-8 to the 787-10, was proposed by Boeing and validated by the FSB on December 6–8, 2017. It lists the minimum differences levels operators must use to conduct differences training and checking of flightcrew members.

FROM BASE AIRCRAFT: 787-8 TO RELATED AIRCRAFT: 787-10	MANEUVER	REMARKS	FLT CHAR	PROC CHNG	TRAINING	CHECKING
	Exterior Preflight	Added semi-levered gear	No	No	A	A
	Takeoff Procedures	Added takeoff flap positions 10, 17, 18	No	No	A	A

This Design Differences table, from the 787-9 to the 787-8, was proposed by Boeing and validated by the FSB. It lists the minimum differences levels operators must use to conduct differences training and checking of flightcrew members.

FROM BASE AIRCRAFT: 787-9 TO RELATED AIRCRAFT: 787-8	DESIGN	REMARKS	FLT CHAR	PROC CHNG	TRAINING	CHECKING
	Dimensions	Length = 186 feet, 1 inches (56.74 meters) Height = 55 feet, 6 inches (16.92 meters) Wing span = 197 feet, 3 inches (60.12 meters) Nose Gear to Main Gear = 74.9 feet, (22.80 meters)	No	No	A	A
	Limitations	Weight/CG difference Changed flap placard to remove 10, 17, and 18 flap speeds	No	No	A	A
	ATA 21 Air Conditioning	Added alternate ventilation valve Removed 1:00 position from outflow valve indication	No	No	A	A
	ATA 27 Flight Controls	Removed takeoff flap settings 10, 17, 18	No	No	A	A

FROM BASE AIRCRAFT: 787-9 TO RELATED AIRCRAFT: 787-8	DESIGN	REMARKS	FLT CHAR	PROC CHNG	TRAINING	CHECKING
	ATA 28 Fuel	Decreased fuel capacity: <ul style="list-style-type: none"> • Mains = 37,319 lb each • Center = 148,740 lb • Total = 223,378 lb 	No	No	A	A
	ATA 70 Powerplant	Decreased thrust ratings	No	No	A	A

This Maneuver Differences table, from the 787-9 to the 787-8, was proposed by Boeing and validated by the FSB. It lists the minimum differences levels operators must use to conduct differences training and checking of flightcrew members.

FROM BASE AIRCRAFT: 787-9 TO RELATED AIRCRAFT: 787-8	MANEUVER	REMARKS	FLT CHAR	PROC CHNG	TRAINING	CHECKING
	Takeoff Procedures	Removed takeoff flap positions 10, 17, 18	No	No	A	A

This Design Differences table, from the 787-9 to the 787-10, was proposed by Boeing and validated by the FSB on December 6–8, 2017. It lists the minimum differences levels operators must use to conduct differences training and checking of flightcrew members.

FROM BASE AIRCRAFT: 787-9 TO RELATED AIRCRAFT: 787-10	DESIGN	REMARKS	FLT CHAR	PROC CHNG	TRAINING	CHECKING
	Dimensions	Length = 224 feet, 1 inch (68.3 meters) Height = 55 feet, 10 inches (17.0 meters) Wing span = 207 feet, 10 inches (63.3 meters) Nose gear to main gear = 94 feet, 9 inches	No	No	A	A
	Limitations	Weight/CG difference Maximum operating altitude 41,100 feet	No	No	A	A
	ATA 32 Landing Gear	Added semi-levered gear	No	No	A	A
	ATA 70 Powerplant	Increased thrust ratings	No	No	A	A

This Maneuver Differences table, from the 787-9 to the 787-10, was proposed by Boeing and validated by the FSB on December 6–8, 2017. It lists the minimum differences levels operators must use to conduct differences training and checking of flightcrew members.

FROM BASE AIRCRAFT: 787-9 TO RELATED AIRCRAFT: 787-10	MANEUVER	REMARKS	FLT CHAR	PROC CHNG	TRAINING	CHECKING
	Exterior Preflight	Added semi-levered gear	No	No	A	A

This Design Differences table, from the 787-10 to the 787-8, was proposed by Boeing and validated by the FSB on December 6–8, 2017. It lists the minimum differences levels operators must use to conduct differences training and checking of flightcrew members.

FROM BASE AIRCRAFT: 787-10 TO RELATED AIRCRAFT: 787-8	DESIGN	REMARKS	FLT CHAR	PROC CHNG	TRAINING	CHECKING
	Dimensions	Length = 186 feet, 1 inch (56.74 meters) Height = 55 feet, 6 inches (16.92 meters) Wing span = 197 feet, 3 inches (60.12 meters) Nose gear to main gear = 74.9 feet (22.80 meters)	No	No	A	A
	Limitations	Weight/CG difference Changed flap placard to remove 10, 17, and 18 flap speeds Maximum operating altitude 43,100 feet	No	No	A	A
	ATA 21 Air Conditioning	Added alternate ventilation Valve Removed 1:00 position from outflow valve indication	No	No	A	A

FROM BASE AIRCRAFT: 787-10 TO RELATED AIRCRAFT: 787-8	DESIGN	REMARKS	FLT CHAR	PROC CHNG	TRAINING	CHECKING
	ATA 27 Flight Controls	Removed takeoff flap settings 10, 17, 18	No	No	A	A
	ATA 28 Fuel	Decreased fuel capacity: <ul style="list-style-type: none"> • Mains = 37,319 lb each • Center = 148,740 lb • Total = 223,378 lb 	No	No	A	A
	ATA 32 Landing Gear	Removed semi-levered gear	No	No	A	A
	ATA 70 Powerplant	Decreased thrust ratings	No	No	A	A

This Maneuver Differences table, from the 787-10 to the 787-8, was proposed by Boeing and validated by the FSB. It lists the minimum differences levels operators must use to conduct differences training and checking of flightcrew members.

FROM BASE AIRCRAFT: 787-10 TO RELATED AIRCRAFT: 787-8	MANEUVER	REMARKS	FLT CHAR	PROC CHNG	TRAINING	CHECKING
	Exterior Preflight	Removed semi-levered gear	No	No	A	A
	Takeoff Procedures	Removed takeoff flap positions 10, 17, 18	No	No	A	A

This Design Differences table, from the 787-10 to the 787-9, was proposed by Boeing and validated by the FSB on December 6–8, 2017. It lists the minimum differences levels operators must use to conduct differences training and checking of flightcrew members.

FROM BASE AIRCRAFT: 787-10 TO RELATED AIRCRAFT: 787-9	DESIGN	REMARKS	FLT CHAR	PROC CHNG	TRAINING	CHECKING
	Dimensions	Length = 206 feet, 1 inch (62.82 meters) Height = 55 feet, 10 inches (17.02 meters) Wing span = 197 feet, 3 inches (60.3 meters) Nose Gear to Main Gear = 84.9 feet	No	No	A	A
	Limitations	Weight/CG difference Maximum operating altitude 43,100 feet	No	No	A	A
	ATA 32 Landing Gear	Removed semi-levered gear	No	No	A	A
	ATA 70 Powerplant	Decreased thrust ratings	No	No	A	A

This Maneuver Differences table, from the 787-10 to the 787-9, was proposed by Boeing and validated by the FSB on December 6–8, 2017. It lists the minimum differences levels operators must use to conduct differences training and checking of flightcrew members.

FROM BASE AIRCRAFT: 787-10 TO RELATED AIRCRAFT: 787-9	MANEUVER	REMARKS	FLT CHAR	PROC CHNG	TRAINING	CHECKING
	Exterior Preflight	Removed semi-levered gear	No	No	A	A