U.S. Department of Transportation
Federal Aviation Administration
Washington, DC

Flight Standardization Board Report

Revision: 6
Date: XX/XX/XXXX

Manufacturer
Embraer S.A.

Type Certificate Data Sheet (TCDS)	TCDS Identifier	Marketing Name	Pilot Type Rating
A60CE	EMB-505	Phenom 300	EMB-505

Approved by the Aircraft Evaluation Division
Federal Aviation Administration
General Aviation Branch (AFS-130)
AFS-100
800 Independence Avenue, S.W.
Washington, DC 20591

AED Email: 9-AVS-AFS-100@faa.gov

TABLE OF CONTENTS

1. RECORD OF REVISIONS

Revision Number	Section(s)	Date
Original	All	01/14/2009
1	All	02/16/2010
2	Miscellaneous	09/15/2010
3	All	06/26/2013
4	All	11/02/2017
5	All	06/13/2023
6	2, 3, 4, 5, 6, 7, 9, 10, 12, 13, Appendices, 2, 3, and 4	XX/XX/XXXX

2. INTRODUCTION

The Aircraft Evaluation Division (AED) is 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 add the electronically actuated rudder (eRUD), Lithium-Ion Main Batteries, Garmin G3000 Avionics Phase 3, and the Autobrake system.

4. BACKGROUND

4.1 Original Evaluation. A Flight Standardization Board (FSB) for the EMB-500 was convened in September 2008, first at CAE SimuFlite in DFW, Texas and then relocated to Araraquara, São Paulo, Brazil at the Embraer flight test facility to evaluate the EMB-500 via the T-5 test process described in FAA Advisory Circular (AC) 120-53A, Guidance for Conducting and Use of Flight Standardization Board Evaluations. In accordance with 14 CFR parts 1 and 61, the pilot type rating designation for the EMB-500 model is EMB-500. An FSB for the EMB-505 was convened at CAE SimuFlite at DFW, Texas on November 16, 2009. The FSB evaluated the EMB-505 in accordance with T-5 test process described in AC 120-53A in order to determine if a shortened transition course was appropriate for pilots transitioning from the EMB-500 to the EMB-505.

4.2 Second Evaluation. Miscellaneous updates, to include results of Class II Electronic Flight Bag (EFB) Electronic Charts application evaluation.

4.3 Third Evaluation. The Small Aircraft AEG formed an FSB that evaluated the EMB-505 as defined in FAA Type Certificate Data Sheet (TCDS) No. #A60CE. The evaluation was conducted during November 2009 using the methods described in FAA AC 120-53.

The EMB-500 and EMB-505 were on the same report until revision 3 when they were separated in order to have a separate report for each pilot type rated airplane.

4.4 Fourth Evaluation. The purpose of this revision was to add the software upgrade evaluation results of both the Garmin Prodigy G1000 and G3000 avionics systems that resulted in a training requirement. Additionally, the Flight Standardization Board Report (FSB) was reformatted into the standard template.

In 2022, the Small Aircraft AEG was designated the General Aviation Branch as a part of a reorganization of the AED.

4.5 Fifth Evaluation. The AED General Aviation Branch evaluated the following projects (see Appendix 2, Master Differences Requirements (MDR) Table):

- Garmin G3000 Load 2X (System Version 3305.00);
- Garmin G3000 Load 2X+ (System Version 3305.02);
- Garmin G3000 Load 2X++ (System Version 3305.07);
- Runway Overrun Awareness and Alerting System (ROAAS);
- EMB-505 with Enhanced Performance;
- FCE Recovery System;
- Current Speed Control (CSC); and
- Autothrottle (AT).

This revision converted this document to the new FSBR format and complies with Section 508.

4.6 Sixth Evaluation. The purpose of this evaluation was to evaluate the following projects:

- Autobrake,
- Emergency Autoland System,
- Rudder by Wire System,
- G3000 Avionics Software Phase 3,
- Lithium-Ion Main Batteries.

The AED General Aviation Branch convened an FSB that evaluated these modifications on December 15-18, 2025 in Melbourne, FL.

5. ACRONYMS

- 14 CFR Title 14 of the Code of Federal Regulations
- AC Advisory Circular
- ACS Airman Certification Standards
- ACFT Aircraft
- AED Aircraft Evaluation Division
- AEG Aircraft Evaluation Group
- AFM Airplane Flight Manual
- A-I Anti-Ice
- AMS Air Management System
- AOA Angle of Attack
- AT Autothrottle
- ATP Airline Transport Pilot
- AV Audiovisual Presentation
- CAS Crew Alerting System
- CPT Cockpit Procedures Trainer
- CSC Current Speed Control
- CTRL Controller
- DA Decision Altitude
- EAL Emergency Autoland
- EDM Emergency Descend Mode
- EFVS Enhanced Flight Vision System
- ENG Engine
- FAA Federal Aviation Administration
- FADEC Full Authority Digital Engine Controller
- FCE Flight Control Electronic
- FCSOV Flow Control Shutoff Valve
- FFS Full Flight Simulator
- FMS Flight Management System
- FSB Flight Standardization Board
- FSBR Flight Standardization Board Report
- FSTD Flight Simulation Training Device
- FTD Flight Training Device
- GTC Garmin Touch Control
- HO Handout
- HUD Head-Up Display
- ICBI Interactive Computer-Based Instruction
- ILS Instrument Landing System
- ITT Interturbine Temperature
- KIAS Knots Indicated Airspeed
- LFE Landing Field Elevation
- LOF Line Oriented Flight
- LPV Localizer Performance With Vertical Guidance

- MDA Minimum Descent Altitude
- MDR Master Differences Requirements
- MFF Mixed Fleet Flying
- MLW Maximum Landing Weight
- M_{MO} Maximum Operating Mach
- MRW Maximum Ramp Weight
- MTOW Maximum Takeoff Weight
- MZFW Maximum Zero Fuel Weight
- NAS National Airspace System
- ODR Operator Difference Requirements
- OPERA Optimized Performance Analyzer
- PIC Pilot In Command
- POI Principal Operations Inspector
- PRESN Pressurization
- PRSOV Pressure Regulator Shutoff Valve
- PTS Practical Test Standards
- PTT Part Task Trainers
- QRH Quick Reference Handbook
- ROAAS Runway Overrun Awareness and Alerting System
- SIC Second In Command
- SRM Single-Pilot Resource Management
- STC Supplemental Type Certificate
- SU Stand-Up Instruction
- TAWS Terrain Avoidance Warning System
- TC Type Certificate
- TCAS Traffic Collision Avoidance System
- TCBI Tutorial Computer-Based Instruction
- TCDS Type Certificate Data Sheet
- VNAV Vertical Navigation
- V_1 Critical Engine Failure Speed
- V_A Design Maneuvering Speed
- V_{LE} Maximum Landing Gear Extended Airspeed
- V_{LO} Maximum Landing Gear Operating Airspeed
- V_{MCA} Minimum Control Airspeed in the Air
- V_{MCG} Minimum Control Airspeed on Ground
- V_{MO} Maximum Operating Airspeed
- WX Weather
- XBV Cross Bleed Valve
- XPDR Transponder

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 flightcrew members. Differences levels range from A to E.

6.4 Master Differences Requirements (MDR). Specifies the minimum levels of training and checking required between a pair of related aircraft, derived from the highest level in the Differences Tables.

6.5 Mixed Fleet Flying (MFF). 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. The AED process to determine pilot type rating, minimum flightcrew member training, checking and currency requirements, and unique or special airman certification requirements (e.g., specific flight characteristics, no-flap landing).

6.7 Operational Suitability. The AED 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 the Federal Regulations (14 CFR) parts 91, 121, 133, and 135).

6.8 Qualified. A flightcrew member 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 (TC) 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 flight simulation training devices (FSTD) 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 Embraer 505 type rating designation is EMB-505 and may be operated with or without a second in command (SIC) with certain limitations. The Airplane Flight Manual (AFM) lists equipment that must be operative to operate the aircraft single-pilot.

7.2 Common Type Ratings. Not applicable.

7.3 Military Equivalent Designations. Military aircraft that qualify for the EMB-505 type rating can be found at www.faa.gov under "Pilots and Airmen," "Airmen Certification," "Quick Links," "Pilot Certificate Aircraft Type Designations." This webpage is kept up-to-date and can be found at: https://registry.faa.gov/typeratings/.

8. RELATED AIRCRAFT

8.1 Related Aircraft on Same TCDS. Not applicable.

8.2 Related Aircraft on Different TCDS. The Embraer 505 is related to the Embraer 500.

9. PILOT TRAINING

9.1 Airman Experience. Airmen receiving initial EMB-505 training should have, at a minimum, a Private Pilot Certificate with Instrument and Multi-Engine ratings and a logbook showing at least 70 hours total pilot in command (PIC) and 200 hours of total flight time. Airmen should have previous training in new generation avionics, high altitude operations, flight management system (FMS), and Single Pilot Resource Management (SRM). Pilots without this experience may require additional training.

9.2 Special Emphasis Areas.

9.2.1 Pilots must receive special emphasis on the following areas during initial, recurrent, requalification, and transition ground training:

a) SRM, risk assessment and risk management.

b) Stick Pusher aerodynamics and purpose.

c) Optimized Performance Analyzer (OPERA).

d) Prodigy System Integration Training.

e) Crew Alerting System (CAS) Logic and Abnormal Procedures Training ("Golden" messages).

f) Effect of icing system at high altitudes in regard to airspeed and performance.

g) Rudder by Wire – Control Laws, System Architecture, and Flight Control Modes, Normal and Abnormal Procedures.

9.2.2 Pilots must receive special emphasis on, and perform the following areas during initial, recurrent, requalification, and transition flight training:

a) Rejected Landings. Pilots should use caution not to inadvertently exceed the 180 KIAS Flaps 1 speed limitation during both single and two-engine balked landings and missed approaches.

b) Antiskid System. Training should emphasize appropriate crew response if the antiskid system fails and the possibility of system failure if landing on runways with 3 millimeters of water or more. Pilots should practice and demonstrate the manufacturer's recommended procedures for stopping the aircraft on wet/contaminated runways during antiskid brake failure.

c) Stick Pusher System. With an appropriately qualified instructor, all pilots in EMB-505 should practice and demonstrate the Stick Pusher system in a full flight simulator (FFS) or in flight and recognize that an altitude loss in stall can be significant if the stick pusher activates. If this training must be conducted in the aircraft, the FSB recommends it be conducted during the clean configuration stall maneuver and with ample altitude for recovery.

d) Electronic Checklist (ECL). The ECL is open-loop type as the pilot or crewmember must acknowledge the accomplishment of all checklist items. All Normal, Abnormal, and Emergency Procedures contained in the quick reference handbook (QRH) are included.

e) SafeTaxi. The aircraft symbol moves over the airport diagram as the airplane is taxied.

f) FliteCharts. FliteCharts do not have a moving display. It is an electronic display of the paper chart.

g) ChartView. ChartView is the electronic version of Jeppesen terminal procedures charts.

h) Autothrottle. Pilots must be trained in AT operation with emphasis on go-around with engine failure.

9.3 Specific Flight Characteristics. Maneuvers or procedures required to be checked as referenced in the Airline Transport Pilot (ATP) and Type Rating for Airplane Airman Certification Standards (ACS).

There are no specific flight characteristics for this aircraft.

9.4 Seat-Dependent Tasks. There are no specific seat-dependent tasks. However, the minimum crew determination listed in the AFM and the TCDS is one pilot in the left seat. As such, the pilot must occupy the left cockpit seat for all PIC training.

9.5 Regulatory Training Requirements Which Are Not Applicable to the EMB-505.

9.5.1 Title 14 CFR Part 135.

a) Part 135 Ground Training: Propellers.

9.6 Flight Simulation Training Devices (FSTD). There are no specific systems, procedures, or maneuvers that are unique to the EMB-505 that require a specific FSTD for training.

9.7 Training Equipment. There are no specific systems or procedures that are unique to the EMB-505 that require specific training equipment.

9.8 Differences Training Between Related Aircraft. Pilots must receive differences training between EMB-505 aircraft equipped with Garmin Prodigy, G1000 avionics, and the EMB-505 equipped with Garmin Prodigy, G3000 avionics. The level of training is specified in Appendix 3, Differences Tables.

9.8.1 EMB-505 (G1000) to EMB-505 (G3000).

Minimum training time should be 3 hours ground school consisting of stand-up lecture plus 2 hours per pilot using a Level C systems device as specified in Appendix 1, Differences Legend. Use of the Garmin G3000 PC Trainer is highly recommended in order to execute commands required on the Garmin Touch Control (GTC) units. An airplane may be used, and a Line Oriented Flight (LOF) is recommended.

Special emphasis areas should include:

- Cockpit Preparation - Different Flow Pattern and Panels.
- Loss of Garmin Touch Screens.
- Electrical and Reversionary Emergency Procedures.
- Engine Fire.
- Alternate Gear Extension.

9.8.2 EMB-505 (G3000) to EMB-505 (G1000).

Minimum training time should be 3 hours ground school consisting of stand-up lecture plus 2 hours per pilot using a Level C systems device as specified in Appendix 1. Use of the Garmin G1000 PC Trainer is highly recommended in order to execute commands required on the Garmin G1000 concentric knobs. An airplane may be used. An LOF is recommended.

Special emphasis areas should include:

- Cockpit Preparation - Different Flow Pattern and Panels.
- Electrical and Reversionary Emergency Procedures.
- Engine Fire.
- Alternate Gear Extension.

9.9 Special Considerations for Training in the Actual Aircraft. The FSB has identified the following special considerations when conducting EMB-505 flight training:

9.9.1 Emergency Gear Extension. Activation of the emergency gear system should not be accomplished in the aircraft during training. If the emergency gear system is activated, the aircraft must be landed and inspected in accordance with the EMB-505 Airplane Maintenance Manual (AMM).

9.9.2 Engine Shutdown in Flight. For an intentional engine shutdown in flight, the throttle of the selected engine should be at idle for 2 minutes prior to shutdown and prior to selecting the engine Start/Stop knob to OFF. An airspeed allowing for a successful engine air start should be maintained for the weight/altitude/temperature condition as illustrated in the Engine Air Start Envelope in Section 3 of the AFM and the QRH. It is important to emphasize that the full-authority digital engine controller (FADEC) limiting protections are not available during an in-flight engine restart, so the instructor must monitor all engine restart indications and must be prepared to manually shut down the engine if needed before any limitations are exceeded.

After shutdown, the engine Interturbine Temperature (ITT) should be permitted to cool to 100 °C before attempting a restart. The engine should be operated at idle for an additional 2 minutes prior to applying engine thrust.

9.9.3 No-Flap Approaches and Landings. No-Flap approaches and landings may be trained in the aircraft. If trained in the aircraft, the instructor must be attentive to the flightcrew's airspeed control and available runway length and surface condition. It is important to note that the final approach speed with flaps in the UP position is V_{REF}+ 30, and additional runway length, approximately 1.9 times the V_{REF} Full Flap landing distance, is required. Bank angle in the EMB-505 is limited to 40°.

9.9.4 Stall Prevention/Stick Pusher. Preferred training for stick-pusher is in FFS. However, if it must be trained in the aircraft, the FSB recommends these maneuvers only be conducted with an appropriately qualified instructor. Instructors and pilots should be prepared for significant altitude loss if the stick pusher activates. Stick pusher activation in the aircraft can result in an altitude loss of 400-500 feet, and a secondary stall could occur. The FSB did not evaluate stalls at high altitudes, which may result in much greater loss of altitude than stalls at low altitude.

9.10 Transition Training Between Related Aircraft. As a part of the T-5 test, the FSB evaluated Embraer's proposed transition ground and flight training for applicants for the EMB-505 pilot type rating that already hold the EMB-500 pilot type rating. As a result of that evaluation, the FSB validated a shortened transition training program from the EMB-500 to the EMB-505 if the transition training is accomplished in an avionics package (G1000 or G3000) in which the pilot or crew is already qualified.

The FSB recommends a pilot meet the following when transitioning from the EMB-500 to the EMB-505:

9.10.1 Prerequisites.

a) Hold, minimum, a private pilot certificate with EMB-500 pilot type rating,

b) Meet the instrument recency of experience requirements specified in 14 CFR part 61, § 61.57, and

c) Meet one of the following:

- Completed initial EMB-500 training and type rating practical test within the last 12 months, or
- Completed a proficiency or competency check in the EMB-500 in accordance with 14 CFR § 61.58, part 135, § 135.293, or part 91, § 91.1065 within the preceding 12 months, or
- Have flown 25 hours in EMB-500 as PIC within the last 6 months.

9.10.2 Ground Training.

The FSB recommends a minimum of 8 hours of transition ground training. Special emphasis should be on the new systems and procedures such as hydraulics, pneumatics, flight controls, anti-ice systems, normal, abnormal, and emergency procedures, system controls and operations, OPERA, and flight planning differences.

To help with transfer of learning between the two aircraft types, a table is included in Appendix 4, Transition Training, of this report.

9.10.3 Flight Training.

The FSB recommends a minimum of three 2-hour training flights when transitioning from the EMB-500 to EMB-505 with emphasis on the following maneuvers:

- Normal Takeoff.
- Stall Prevention (Approaches to Stall/Stall Recovery).
- Engine Failure on Takeoff at V_1.
- Single Engine Instrument Landing System (ILS).
- Single Engine Missed Approach.
- Two Engine Missed Approach.
- Landing or Balked Landing from a Circling Approach.
- No-Flap Balked Landing.
- No-Flap Approach.
- Single Engine Landing from an ILS.

10. PILOT CHECKING

10.1 Landing from a No-Flap or Nonstandard Flap Approach. The probability of flap extension failure on the EMB-505 is not extremely remote due to system design. Therefore, demonstration of a no-flap approach and landing during pilot certification is required. During a 14 CFR §§ 61.58 proficiency check, 91.1065 competency check or 135.293 competency check, this task may be required. Refer to Order 8900.1, Volume 5, Airman Certification, when the test or check is conducted in an aircraft versus an FFS.

10.2 Specific Flight Characteristics. Maneuvers or procedures required to be checked as referenced in the ATP and Type Rating for Airplane ACS.

There are no specific flight characteristics.

10.3 Seat-Dependent Tasks. There are no seat-dependent tasks. However, the minimum crew determination listed in the AFM and the TCDS is one pilot in the left seat. As such, the pilot must occupy the left cockpit seat for all PIC checking.

10.4 Other Checking Items. Not applicable.

10.5 Flight Simulation Training Devices (FSTD). There are no specific systems, procedures, or maneuvers that are unique to the EMB-505 that require a specific FSTD for checking.

10.6 Equipment. There are no specific systems or procedures that are unique to the EMB-505 that require specific equipment.

10.7 Differences Checking Between Related Aircraft. Pilots must receive differences checking between the EMB-505 equipped with Garmin Prodigy, G1000 avionics and the EMB-505 equipped with Garmin Prodigy, G3000 avionics. The level of checking is specified in Appendix 3, Differences Tables. The check should require demonstration of the ability to accomplish normal and abnormal tasks related to the avionics system, including alternate means to accomplish the same task.

10.8 Special Considerations for Checking in the Actual Aircraft. The FSB has identified the following special considerations when conducting EMB-505 checking in flight:

10.8.1 Circuit Breakers (CB). The FSB recommends that examiners not pull CB during the administration of a practical test since pulling certain CB may induce the unwanted loss of other equipment due to the complexity of systems integration.

10.8.2 Emergency Gear Extensions. Activation of the emergency gear system should not be accomplished in the aircraft during checking. If the emergency gear system is activated, the aircraft must be landed and inspected in accordance with the EMB-505 AMM.

10.8.3 Engine Shutdown in Flight. For an intentional engine shutdown in flight, the throttle of the selected engine should be at idle for 2 minutes prior to shutdown

and prior to selecting the engine Start/Stop knob to OFF. An airspeed allowing for a successful engine air start should be maintained for the weight/altitude/temperature condition as illustrated in the Engine Air Start Envelope in Section 3 of the AFM and the QRH. It is important to emphasize that the FADEC limiting protections are not available during an in-flight engine restart, so the examiner must monitor all engine restart indications and must be prepared to manually shut down the engine if needed before any limitations are exceeded.

After shutdown, the engine ITT should be permitted to cool to 100 °C before attempting a restart. The engine should be operated at idle for an additional 2 minutes prior to applying engine thrust.

10.8.4 No-Flap Approaches and Landings. No-Flap approaches and landings may be checked in the aircraft. If checked in the aircraft, the examiner must be attentive to the flightcrew's airspeed control and available runway length and surface condition. It is important to note that the final approach speed with flaps in the UP position is V_{REF}+ 30, and additional runway length, approximately 1.9 times the V_{REF} Full Flap landing distance, is required. Bank angle in the EMB-505 is limited to 40°.

11. PILOT CURRENCY

There are no additional currency requirements for the EMB-505 other than those already specified in 14 CFR parts 61 and 135.

11.1 Differences Currency Between Related Aircraft. Not applicable.

12. OPERATIONAL SUITABILITY

The EMB-505 is operationally suitable for operations under 14 CFR parts 91 and 135. The FSB determined operational compliance by conducting an evaluation of the EMB-505. The list of operating rules evaluated is on file at the AED General Aviation Branch.

13. MISCELLANEOUS

13.1 Forward Observer Seat. The EMB-505 right cockpit seat, as installed by TC-A60CE, has been evaluated and determined to meet requirements of 14 CFR § 135.75(b) for use by the Administrator during enroute inspections and for the administration of flight tests leading to pilot certification or operating privileges.

While the right cockpit seat is the primary seat in the EMB-505 to meet the regulations cited above, if that seat is occupied (i.e., for dual crew operations), the nearest available passenger seat in the cabin is acceptable to perform enroute inspections if communications, oxygen, adequate visibility, lighting, and ventilation are available. Depending upon the cabin configuration, the nearest available passenger seat may also be acceptable for the administration of flight tests leading to pilot certification or

operating privileges. Certain limitations to perform specific checks may apply and will be determined by the Administrator for the specific cabin configuration.

13.2 Aircraft Approach Category. The EMB-505 is considered Category B aircraft for the purpose of determining the appropriate instrument approach procedure category in accordance with 14 CFR § 97.3.

Straight-in Landing.

AIRCRAFT SPEED	FLAP POSITION	APPROACH CATEGORY
100 KIAS	Landing Flaps (3 or 4)	Category B

Circling Approaches.

AIRCRAFT SPEED	FLAP POSITION	APPROACH CATEGORY
130 KIAS MINIMUM	Landing Flaps (3)	Category determined by speed flown.

13.3 Normal Landing Flaps. The EMB-505 normal "final flap setting" per 14 CFR § 91.126(c) is Landing Flaps 3 or 4.

13.4 Aircraft Proving Test. Proving tests in accordance with 14 CFR § 135.145 are appropriate when the EMB-505 is new to an operator.

13.5 ECLs. The EMB-505 has a Class III EFB installed which consists of the following functions:

13.5.1 ECL. An ECL was included as part of the original certification of the EMB-505. The checklist is viewable on the multifunction display (MFD). It is of the open loop type as the pilot or crewmember must acknowledge the accomplishment of all checklist items. All Normal, Abnormal, and Emergency Procedures contained in the QRH are included. There are some variations of format, but the information is functionally identical. The ECL was evaluated in accordance with guidance contained in FAA AC 120-64, Operational Use and Modification of Electronic Checklists, and found to be compliant. The information contained in the ECL cannot be modified by the operator. It is not integrated into any aircraft systems or the CAS. Operators must continue to have the paper backup checklist available. Principal Operations Inspectors (POI) should review AC 120-64 for Training, Checking, and Currency requirements prior to issuing operational approval for the use of the ECL by the operator's crews.

13.5.2 Electronic Charts. Three electronic chart applications have been evaluated: SafeTaxi, FliteCharts, and ChartView.

APPENDIX 1. DIFFERENCES LEGEND

Training Differences Legend

Differences Level	Type	Training Method Examples	Conditions
A	Self-Instruction	• Operating manual revision (handout (HO)) • Flightcrew operating bulletin (HO)	• 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	• Audiovisual presentation (AV) • Tutorial computer-based instruction (TCBI) • Stand-up instruction (SU)	• Systems are functionally similar. • Crew understanding required. • Issues need emphasis. • Standard methods of presentation required.
C	Systems Devices	• 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)	• 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	• Level 6 or 7 flight training device (FTD 6-7) • Level A or B full flight simulator (FFS A-B)	• 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	• Level C or D full flight simulator (FFS C-D) • Aircraft (ACFT)	• 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	• Oral or written exam • Tutorial computer-based instruction (TCBI) self-test	Individual systems or related groups of systems.
C	• 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)	• Checking can only be accomplished using systems devices. • Checking objectives focus on mastering individual systems, procedures, or tasks.
D	• Level 6 or 7 flight training device (FTD 6-7) • Level A or B full flight simulator (FFS A-B)	• 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	• Level C or D full flight simulator (FFS C-D) • Aircraft (ACFT)	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.

To Related Aircraft ↓	From Base Aircraft →	EMB-505 (G1000)	EMB-505 (G3000)
EMB-505 (G1000)		(1) A/A	C/C
EMB-505 (G3000)		C/C	(2) A/A (3) D/A (4) B/A (5) B/A (6) B/A (7) B/B (8) A/A

Notes:

1. G1000 Load 8X and Load 9X software upgrades.
2. G3000 Load 1X, 2X, 2X+, and 2X++ software upgrades, performance enhancement, ROAAS, CSC.
   a) Garmin G3000 Load 2X (System Version 3305.00), compared to the base Load 1X (System Version 1633.16) is A/A.
   b) Garmin G3000 Load 2X+ (System Version 3305.02), compared to the base Load 2X (System Version 3305.00) is A/A.
   c) Garmin G3000 Load 2X++ (System Version 3305.07), compared to the base Load 2X+ (System Version 3305.02) is A/A.
   d) Runway Overrun Awareness and Alerting System (ROAAS) is A/A.
   e) Performance Enhancement is. A/A.
   f) FCE Recovery System is A/A.
   g) Current Speed Control (CSC) is A/A.
3. Autothrottle (AT).
4. Lithium-Ion Main Batteries.
5. Autobrake (Initial Type Training in aircraft with autobrakes should include iterations with autobrake disengaged).
6. Emergency Autoland System.

7. Rudder by Wire System.
8. G3000 Avionics Software Phase 3.

APPENDIX 3. DIFFERENCES TABLES

This Design Differences Table, from the EMB-505 (G1000) to the EMB-505 (G3000), was proposed by Embraer S.A. 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: EMB-505 (G1000) TO RELATED AIRCRAFT: EMB-505 (G3000)	DESIGN	REMARKS	FLT CHAR	PROC CHNG	TRAINING	CHECKING
	Panel Layout	EMB-505 (G3000) panel has two touch-screen controllers instead of audio panels and FMS control panel. Display units are bigger (14.1” instead of 12”). There are dedicated panels for barometric correction adjustment, Ice Protection/Heating/TAWS panel has been split in two different panels, Engine/Fire/Trim control panel has also been split in two different panels and central console has increased.	No	Yes	B TCBI or SU	B

FROM BASE AIRCRAFT: EMB-505 (G1000) TO RELATED AIRCRAFT: EMB-505 (G3000)	DESIGN	REMARKS	FLT CHAR	PROC CHNG	TRAINING	CHECKING
	ATA 21 Air Conditioning	PRESN/AIR Conditioning Panel: EMB-505 (G1000) has independent knobs for cockpit and cabin temperature control. EMB-505 (G3000) has concentric knobs for cockpit and cabin temperature control.	No	No	A HO	A
	ATA 23 Communications	Frequency tuning and audio control are executed through touch-screen controllers.	No	Yes	C FTD and SU	C
	ATA 26 Fire Protection	Engine/Fire Control Panel has a different controls layout and is installed in the central console, after the power levers.	No	No	C FTD and SU	B
	ATA 27 Flight Controls	There is a dedicated Trim Control Panel which has a different controls layout and is installed in the central console, below the touch-screen controllers.	No	No	A HO	A

FROM BASE AIRCRAFT: EMB-505 (G1000) TO RELATED AIRCRAFT: EMB-505 (G3000)	DESIGN	REMARKS	FLT CHAR	PROC CHNG	TRAINING	CHECKING
	ATA 30 Ice and Rain Protection	Ice Protection/Heating Control Panel has a different control layout.	No	No	A HO	A
	ATA 31 Instruments	Different display units and touch-screen controllers are installed in the cockpit.	No	Yes	C FTD and SU	C
	ATA 32 Landing Gear	Landing Gear lever is shorter and dislocated to the left.	No	Yes	A HO	A
	ATA 32 Landing Gear	Landing Gear Free Fall Lever has different shape and actuation mechanism.	No	Yes	B AV and SU	B
	ATA 33 Lights	Lighting Control Panel has a new controls layout, and the addition of inspection light switch.	No	Yes	A HO	A

FROM BASE AIRCRAFT: EMB-505 (G1000) TO RELATED AIRCRAFT: EMB-505 (G3000)	DESIGN	REMARKS	FLT CHAR	PROC CHNG	TRAINING	CHECKING
	ATA 34 Navigation	Barometric adjustment is done by dedicated Baro Control Panel, one for each pilot. Frequency tuning, flight plan editing, and transponder configuration are executed through touch-screen controllers. TAWS/Reversion Control Panel installed on the central console, in front of the power levers. Different weather radar is installed.	No	Yes	C FTD and SU	C
	ATA 71 Poweplant	Engine/Fire Control Panel has a different controls layout and is installed in the central console, after the power levers.	No	No	C FTD and SU	B

This Maneuver Differences Table, from the EMB-505 (G1000) to the EMB-505 (G3000), was proposed by Embraer S.A. 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: EMB-505 (G1000) **TO RELATED AIRCRAFT: EMB-505 (G3000)**	**MANEUVER**	**REMARKS**	**FLT CHAR**	**PROC CHNG**	**TRAINING**	**CHECKING**
	Preparation	Different system panels position.	No	Yes	C FTD and SU	C
	Preparation	Different FLOW From G1000.	No	Yes	C FTD	B
	Preparation	Map Configurations.	No	Yes	C FTD	C
	Preparation	Flight Plan Entry, Eng Data Set, LFE, WX Radar Set Up, Weight Planning.	No	Yes	C FTD	C
	Abnormal Procedures	AFM Supplement for Annunciated and Non-Annunciated Procedures Specific to the Reversion and Loss of GTC – Electrical Emergency.	No	Yes	C FTD	C
	Abnormal Procedures	Engine Fire.	No	No	C FTD and SU	B
	Abnormal Procedures	Alternate Gear Extension.	No	Yes	B AV and SU	B

This Design Differences table, from the EMB-505 (G3000) to the EMB-505 (G1000), was proposed by Embraer S.A. 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: EMB-505 (G3000) TO RELATED AIRCRAFT: EMB-505 (G1000)	DESIGN	REMARKS	FLT CHAR	PROC CHNG	TRAINING	CHECKING
	Panel Layout	EMB-505 (G1000) panel has two audio panels and a FMS control panel instead of two touch-screen controllers. Display units are smaller (12” instead of 14.1”). Barometric correction adjustment is performed by knobs on display units, Ice Protection/Heating and TAWS panels have been combined in one single panel, Engine/Fire and Trim control panels have been combined in one single panel and central console is shorter.	No	Yes	B TCBI or SU	B

FROM BASE AIRCRAFT: EMB-505 (G3000) TO RELATED AIRCRAFT: EMB-505 (G1000)	DESIGN	REMARKS	FLT CHAR	PROC CHNG	TRAINING	CHECKING
	ATA 21 Air Conditioning	PRESN/AIR Conditioning Panel: EMB-505 (G3000) has concentric knobs for cockpit and cabin temperature control. EMB-505 (G1000) has independent knobs for cockpit and cabin temperature control.	No	No	A HO	A
	ATA 23 Communications	Frequency tuning is executed through displays knobs or FMS panel, audio control is executed through audio panels.	No	Yes	C FTD and SU	C
	ATA 26 Fire Protection	Engine/Fire/Trim Control Panel has a different controls layout and is installed in the main panel, in front of the power levers.	No	No	A HO	A
	ATA 27 Flight Controls	Trim controls are integrated into the Engine/Fire/Trim Control Panel, which has a different controls layout and is installed in the main panel, in front of the power levers.	No	No	C FTD and SU	C

FROM BASE AIRCRAFT: EMB-505 (G3000) TO RELATED AIRCRAFT: EMB-505 (G1000)	DESIGN	REMARKS	FLT CHAR	PROC CHNG	TRAINING	CHECKING
	ATA 30 Ice and Rain Protection	Ice Protection/Heating/TAWS Control Panel has a different controls layout.	No	No	A HO	A
	ATA 31 Instruments	Different display units, audio panels, and FMS control panel are installed on the cockpit.	No	Yes	C FTD and SU	C
	ATA 32 Landing Gear	Landing Gear lever is longer and dislocated to the right.	No	Yes	A HO	A
	ATA 32 Landing Gear	Landing Gear Free Fall Lever has different shape and actuation mechanism.	No	Yes	B TCBI or SU	B
	ATA 33 Lights	Lighting Control Panel has a different control layout. Inspection light switch moves to Ice Protection/Heating/TAWS Control Panel.	No	Yes	A HO	A

FROM BASE AIRCRAFT: EMB-505 (G3000) TO RELATED AIRCRAFT: EMB-505 (G1000)	DESIGN	REMARKS	FLT CHAR	PROC CHNG	TRAINING	CHECKING
	ATA 34 Navigation	Barometric adjustment is done by knobs located on the display bezels. Frequency tuning, flight plan editing, and transponder configuration are executed displays bezel knobs/buttons, and FMS panel. TAWS inhibit buttons are integrated on the Ice Protection/Heating/TAWS Control Panel. Different weather radar is installed.	No	Yes	C FTD and SU	C
	ATA 71 Powerplant	Engine/Fire Control/Trim Panel has a different controls layout and is installed in the main panel, in front of the power levers.	No	No	C FTD and SU	B

This Maneuver Differences table, from the EMB-505 (G3000) to the EMB-505 (G1000), was proposed by Embraer S.A. 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: EMB-505 (G3000) TO RELATED AIRCRAFT: EMB-505 (G1000)	MANEUVER	REMARKS	FLT CHAR	PROC CHNG	TRAINING	CHECKING
	Preparation	Different system panels position.	No	Yes	C HO, FTD and SU	C
	Preparation	Different FLOW From G3000.	No	Yes	C FTD	B
	Preparation	Map Configurations.	No	Yes	C FTD	C
	Preparation	Flight Plan Entry, Eng Data Set, LFE, WX Radar Set Up, Weight Planning.	No	Yes	C FTD	C
	Abnormal Procedures	Procedures Specific to Reversion and Electrical Emergency. (i.e., COM/NAV Equipment available).	No	Yes	C FTD	C
	Abnormal Procedures	Engine Fire.	No	No	C FTD and SU	B
	Abnormal Procedures	Alternate Gear Extension.	No	Yes	B SU	B

This Design Differences table, from the EMB-505 (G1000, Load 8x) to the EMB-505 (G1000, Load 9x), was proposed by Embraer S.A. and validated by the FSB in March 2017. It lists the minimum differences levels operators must use to conduct differences training and checking of flightcrew members.

FROM BASE AIRCRAFT: EMB-505 (G1000, Load 8x) **TO RELATED AIRCRAFT: EMB-505 (G1000, Load 9x)**	**DESIGN**	**REMARKS**	**FLT CHAR**	**PROC CHNG**	**TRAINING**	**CHECKING**
	ATA 22 Autoflight	EMB-505 G1000 Avionics Software Load 9x has the Emergency Descend Mode (EDM) autopilot feature.	No	No	A HO (POH/AFM)	A
	ATA 34 Navigation	EMB-505 G1000 Avionics Software Load 9x has three new radar features: • Altitude Compensate Tilt; • Ground Clutter Suppression (Optional); • Turbulence Detection (Optional).	No	No	A HO (POH/AFM)	A
	ATA 71 Powerplant	EMB-505 G1000 Avionics Software Load 9x has a new ENG THRUST DISAG CAS message.	No	No	A HO (POH/AFM)	A

APPENDIX 4. TRANSITION TRAINING

The following Design and Maneuver Tables were proposed by Embraer S.A. and validated by the FSB in accordance with AC 120-53B, Appendix 3, paragraph 7. They are included in the FSB report to help with transfer of learning from the EMB-500 to the EMB-505.

TRANSITION FROM: EMB-500 TO: EMB-505	DESIGN	REMARKS	FLT CHAR	PROC CHNG
	Dimensions	Increased Dimensions: • Length = + 9 ft. 3 in (2.82 m). • Height = + 2 ft. 5.8 in (0.75 m). • Wing span = + 11 ft. 9.7 in (3.61 m). **EMB-505:** • Length = 51 ft. 4in (15.64 m). • Height = 16 ft. 9 in (5.10m). • Wing span = 52 ft. 2 in (15.91 m). **EMB-500:** • Length = 42 ft. 1 in (12.82 m). • Height = 14 ft. 3.2 in (4.35 m). • Wing span = 40 ft. 4.3 in (12.30 m).	No	No
	ATA 44 Cabin Systems	Maximum occupants: **EMB-500** = up to 8 seats. **EMB-505** = up to 11 seats.	No	No
	ATA 50 Cargo and Accessory Compartments	Cargo capacity increased by 0.405 cubic meters (m^3). **EMB-500** = 1.705 m^3 (total). **EMB-505** = 2.11 m^3 (total).	No	No

TRANSITION FROM: EMB-500 TO: EMB-505	DESIGN	REMARKS	FLT CHAR	PROC CHNG
	Limitations Weight	Weight Limitations Increased: **EMB-505:** • Maximum Ramp Weight (MRW): 8,200 kg. • Maximum Takeoff Weight (MTOW): 8,150 kg. • Maximum Landing Weight (MLW): 7,650 kg. • Maximum Zero Fuel Weight (MZFW): 6,350 kg. **EMB-500:** • MRW: 4,770 kg. • MTOW: 4,750 kg. • MLW: 4,430 kg. • MZFW: 3,803 kg.	No	No
	Limitations Center of Gravity	Limits for conditions of cruise with flaps and gear ups. **EMB-500:** • 23.5% to 36.9% at MTOW. • 21.5% to 38.5% at MZFW. **EMB-505:** • 19% to 32% at MTOW. • 22% to 39% at MZFW.	No	No
	Limitations Speeds	Maneuvering Speed (V_A) increased. Refer to specific model AFM for VMCA and VMCG values.	No	No
	Noise Levels in EPNdb	**EMB-500:** • 70.4 Flyover. • 81.4 Lateral. • 86.1 Approach. **EMB-505:** • 69.9 Flyover. • 88.8 Lateral. • 88.5 Approach.	No	No

TRANSITION FROM: EMB-500 TO: EMB-505	DESIGN	REMARKS	FLT CHAR	PROC CHNG
	ATA 21 Air Conditioning	**EMB-500** • Max alt = 41,000 ft. • Max alt cabin 8,000 ft. • Delta-p = 8.34 psid. **EMB-505** • Max alt = 45,000 ft. • Max alt cabin 6,640 ft. • Delta-p = 9.36 psid. **PRENS/AIR Conditioning Panel:** **EMB-500** Switch name "BLEED" commands Pressure Regulating Shutoff Valves (PRSOV). **EMB-505** Switch name "ECS" commands Flow Control Shutoff Valves (FCSOV). **Ground Operation:** **EMB-500** If switch "BLEED" is active, FCSOVs appears open in Synoptic. **EMB-505** Has one cross-bleed valve, that allows one bleed valve to work for two FCSOVs. ECS switch controls FCSOVs directly. Additional automated logic and additional CAS message.	No	Yes
	ATA 22 Autoflight	EMB-505 has additionally: • Ventral Rudder Control.	No	Yes
	ATA 23 Communications	EMB-505 FMS panel allows frequency selection of COM and NAV, and configuration of XPDR.	No	No

TRANSITION FROM: EMB-500 TO: EMB-505	DESIGN	REMARKS	FLT CHAR	PROC CHNG
	ATA 24 Electrical Power	**EMB-505:** One additional Shed Bus. One additional CB Panel behind pilot seat. Generator: Two 400A, Limited to 350A when on ground. Battery: One 34 Amp Hour and one 36 Amp Hour (engine start). **EMB-500:** Generator: Two 325A. Battery: Two Valve-Regulated Lead Acid, 27 Amp Hour.	No	No
	ATA 26 Fire Protection	EMB-505 Engine Fire Test switch has different locations and additional functions: Ice, Stall, Alarms. Baggage compartment smoke detection system is presented on EMB-505 with “BAG SMK”, “BAG SMK FAIL”, and “BAG SMK FAULT” messages on CAS.	No	Yes
	ATA 27 Flight Controls	EMB-505 has additionally: • Hydraulically operated spoilers; • Rudder Booster System; • Ventral Fin and Ventral Rudder; • Two additional flap panels; • Stick Pusher is hydraulic (EMB-500 is electrical).	Yes	Yes

TRANSITION FROM: EMB-500 TO: EMB-505	DESIGN	REMARKS	FLT CHAR	PROC CHNG
	ATA 28 Fuel	Increased max usable quantity per wing-tank. Fuel LO LEVEL message trigger point changed. EMB-505 has pressurized refueling. Imbalance message trigger changed. Imbalance procedure difference.	No	Yes
	ATA 29 Hydraulic Power	EMB-505 has two engine driven pumps with one Shutoff Valve before each, while EMB-500 has one Motor Pump in Power pack concept, with just one Shutoff Valve. Hydraulic Pump Panel has different operation. EMB-505 has three additional CAS messages.	No	Yes
	ATA 30 Ice and Rain Protection	EMB-505 has, optionally, an Ice Detector. EMB-505 has thermal anti-ice system for wings and leading edges surfaces. (Horizontal Stabilizer).	No	Yes

TRANSITION FROM: EMB-500 TO: EMB-505	DESIGN	REMARKS	FLT CHAR	PROC CHNG
	ATA 32 Landing Gear	EMB-505 Landing Gear Free Fall Lever has different position and shape. EMB-505 Brake System has different pedal to brake pressure transfer function. Different Landing Gear Speeds (KIAS): **EMB-505:** • Maximum Landing gear Extended (V_{LE}): 250. • Maximum Landing gear Operating (V_{LO}) (Extend): 250. • V_{LO} (Retract): 250. **EMB-500:** • V_{LE}: 275. • V_{LO} (Extend): 180. • V_{LO} (Retract): 180. Different Brake Component Construction: **EMB-505:** • Brake Assembly: Carbon Heat Sink. • Emergency/Parking Brake Accumulator: Bellow type, maintenance free. • Shutoff Valve: Open once after landing gear extension. **EMB-500:** • Brake Assembly: Steel Heat Sink. • Emergency/Parking Brake Accumulator: Piston type, requires nitrogen recharge. • Shutoff Valve: Cycles every pedal actuation.	No	Yes

TRANSITION FROM: EMB-500 TO: EMB-505	DESIGN	REMARKS	FLT CHAR	PROC CHNG
	ATA 33 Lights	EMB-505 has a Refueling Panel Light. Lights Panel.	No	No
	ATA 34 Navigation	EMB-505 has additionally radio altimeter and TCAS II. EMB-500 has MDA/DA alerting based only on the barometric altitude (referred the landing field elevation) whereas for EMB-505 the MDA/DA alerting may be based either on the barometric altitude or on the radar altimeter height. EMB-505 FMS panel allows frequency selection of COM and NAV, and configuration of XPDR.	No	Yes
	ATA 35 Oxygen	The EMB-505 oxygen cylinder has an additional capacity of 27 cu ft. (optional). • EMB-500 - 50 cu ft. • EMB-505 - 77 cu ft.	No	No

TRANSITION FROM: EMB-500 TO: EMB-505	DESIGN	REMARKS	FLT CHAR	PROC CHNG
	ATA 36 Pneumatic	EMB-505 has one panel in the cockpit dedicated to the Pneumatic System. Through the panel the pilot has control over the PRSOV 1 and 2 as well as XBV. There is an AMS Controller which is responsible for controlling and monitoring the Pneumatic System, Wing and Horizontal Stabilizer Anti-Ice System, as well as providing open loop control for both FCSOVs. Besides BLEED 1(2) FAIL, BLEED 1(2) OFF and BLEED 1(2) LEAK, the pneumatic system also comprises the following CAS messages: • AMS CTRL FAIL. • AMS CTRL FAULT. • BLEED 1(2) OVERPRES. • XBLEED FAIL. • XBLEED SW OFF. • EBAY LEAK. • A-I WINGSTB LEAK. Even though, BLEED 1(2) FAIL and BLEED 1(2) LEAK exist in the EMB-500, the EMB-505 pilot's procedures are different.	No	Yes

TRANSITION FROM: EMB-500 TO: EMB-505	DESIGN	REMARKS	FLT CHAR	PROC CHNG
	ATA 71 Powerplant	**EMB-500 - P&W 617F-E:** • Thrust: 1,695 lbs. • Dual Channel FADEC – Airframe mounted. • High bypass ratio 2.7. • Low speed spool (Single-stage direct drive low pressure compressor, single stage low pressure turbine). • High speed spool (Two-stage high pressure compressor, Single-stage high pressure turbine). **EMB-505 - P&W 535-E** • PW535E Thrust: 3,360 lbs. • High bypass ratio 3.0. • Low speed spool (Single stage fan, Single stage booster, Two-stage low pressure turbine). • High speed spool (Three-stage high pressure compressor, Single-stage high pressure turbine). Parameters for the following are different: N_1, N_2, START ITT, NORMAL T/O ITT, Max T/O ITT, MAX. CONTINUOUS ITT.	Yes	No
	ATA 79 Engine Oil	EMB-505 has additional CAS message (OIL IMP BYPASS), procedure.	No	No
	ATA 80 Engine Start	EMB-505 has Windmill Start.	No	Yes

TRANSITION FROM: EMB-500 TO: EMB-505	MANEUVER	REMARKS	FLT CHAR	PROC CHNG
	Preparation	Different systems panels positions and systems operation.	No	Yes
	Preparation	Different external inspection.	No	Yes
	Start	Different engines, different limitations with similar procedures.	Yes	No
	Normal Takeoff	Different takeoff angles due to different performance: **EMB-505:** • Flap 1: 10.5° Pitch Angle. • Flap 2: 8° Pitch Angle. **EMB-500:** • Flap 1: 9.5º Pitch Angle. • Flap 2: 9° Pitch Angle.	Yes	No
	Climb	Different performance.	Yes	No
	Cruise	Different performance – ability to exceed V_{MO}/M_{MO} in level flight.	Yes	No
	Approach	Maneuverability at low speed.	Yes	No
	Non-Normal Maneuvers	Different systems, more complex with different and additional procedures.	Yes	Yes
	Non-Normal Maneuvers	Engine airstart with wind milling capability.	No	Yes
	Non-Normal Maneuvers	• Flight Controls. • Ventral rudder. • Rudder booster with one engine.	Yes	Yes
	Non-Normal Maneuvers	Landing with one engine inoperative with different flap position.	No	Yes
	Non-Normal Maneuvers	Engine fail, more pronounced rolling moment.	Yes	No