



U.S. Department of Transportation  
Federal Aviation Administration  
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## Flight Standardization Board Report

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Revision: 1  
Date: 07/22/2020

Manufacturer:  
**Gulfstream Aerospace LP**

Type Certificate Data Sheet (TCDS)	TCDS Identifier	Marketing Name	Pilot Type Rating
A53NM	Galaxy Gulfstream 200	IAI Galaxy/G-200	G-200

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## 1. RECORD OF REVISIONS

Revision Number	Section(s)	Page(s) Affected	Date
Original	All	All	04/21/1999
1	All	All	07/22/2020

## 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 reformat the entire document, update the content, and clarify the aircraft approach category in Section 13.2.1

## 4. BACKGROUND

The Transport Aircraft Long Beach AEG formed a Flight Standardization Board (FSB) that evaluated the Israel Aerospace Industries (IAI) Galaxy/Gulfstream 200 as defined in FAA Type Certificate Data Sheet (TCDS) No. A53NM. The evaluation was conducted during January 1999 using the methods described in FAA Advisory Circular (AC) 120-53, Crew Qualification and Pilot Type Rating Requirements for Transport Category Aircraft Operated under FAR Part 121.

## 5. ACRONYMS

- 14 CFR Title 14 Code of Federal Regulations
- AC Advisory Circular
- ACFT Aircraft
- AEG Aircraft Evaluation Group
- AFM Airplane Flight Manual
- APU Auxiliary Power Unit
- AV Audiovisual Presentation

- CPT Cockpit Procedures Trainer
- CRM Crew Resource Management
- EFIS Electronic Flight Instrument System
- EICAS Engine Indicating and Crew Alerting System
- FAA Federal Aviation Administration
- FFS Full Flight Simulator
- FMS Flight Management System
- FSB Flight Standardization Board
- FSTD Flight Simulation Training Device
- FTD Flight Training Device
- HO Handout
- IAI Israel Aerospace Industries
- ICBI Interactive Computer-Based Instruction
- KIAS Knots Indicated Airspeed
- MAC Mean Aerodynamic Chord
- MDR Master Differences Requirements
- NAS National Airspace System
- PTT Part Task Trainer
- SU Stand-Up Instruction
- TC Type Certificate
- TCBI Tutorial Computer-Based Instruction
- TCDS Type Certificate Data Sheet
- $V_1$  Takeoff Decision Speed
- $V_{MC}$  Minimum Control Speed With the Critical Engine Inoperative
- $V_{MCG}$  Minimum Control Speed With The Critical Engine Inoperative During Takeoff Roll

## 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.** These 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).** These requirements specify 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 Suitability.** An AEG determination during certification 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, and 135).
- 6.7 Operational Evaluation.** An AEG determination of pilot type rating, minimum crewmember training, checking and currency requirements, and unique or special airman certification requirements (e.g., specific flight characteristics and no-flap landing).
- 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 (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 stress or 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 IAI Galaxy/G-200 type rating designation is G-200. Prior to the G-200 type rating designation, this aircraft had a type rating designation of GALAXY.
- 7.2 Common Type Ratings.** Not applicable.
- 7.3 Military Equivalent Designations.** Military aircraft that qualify for the G-200 type rating designation can be found at [www.faa.gov](http://www.faa.gov) under “Licenses & Certificates,” “Airmen Certification,” “Online Services,” “Aircraft Type Rating Designators.” This webpage is kept up-to-date and can be found at [https://www.faa.gov/licenses\\_certificates/airmen\\_certification/](https://www.faa.gov/licenses_certificates/airmen_certification/).

## **8. RELATED AIRCRAFT**

**8.1 Related Aircraft on Same TCDS.** Not applicable.

**8.2 Related Aircraft on Different TCDS.** Not applicable.

## **9. PILOT TRAINING**

**9.1 Airman Experience.** Airmen receiving initial or transition training in the G-200 should have multiengine transport turbojet aircraft, new generation avionics, high altitude operations, and flight management system (FMS) experience with no center thrust limitation. Pilots without this experience may require additional training. Airmen receiving differences or upgrade, G-200 training is required to have previous experience in the G-200.

### **9.2 Special Emphasis Areas.**

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

9.2.1.1 Switches in the overhead panel of the G-200 are homogenous, making them difficult to identify based on their function. Light switches are indistinguishable from those switches used for de-icing, windshield heat, generator, electrical, engine and auxiliary power unit (APU) start, etc. Training should support the positive and safe identification of the proper switches. Training of flight deck flows may help mitigate the inadvertent selection of incorrect switches. This item must be included in initial training.

9.2.1.2 The airspeed indicator is not a speed tape that moves up or down, but rather a speed scale that stays fixed but contains a speed bug that moves up or down to reflect the actual speed of the aircraft. Between 180 to 190 knots indicated airspeed (KIAS), the speed scale “flips” scales. The use of this EFIS application is not difficult to learn, but the student should be trained to interpret the airspeed indicator. This item must be included in initial training.

9.2.1.3 Some autopilot flight controls are located on the center pedestal to include the speed turn knob which is near the barometric display selection knobs. Crew Resource Management (CRM) is essential to ensure the correct knobs are being chosen when changing desired bugged speeds and/or barometric information. This item must be included in initial training.

9.2.1.4 The design of the electrical system centers on the emergency bus system, a bus that powers a myriad of vital systems critical to the safe operation of the aircraft. The emergency bus system in the most critical

scenario, is powered by the emergency battery bus should all other electrical feed source redundancies fail. Training that provides clear understanding of the electrical system is essential in order to safely operate this aircraft. This item must be included in initial training.

9.2.1.5 Due its design and weight distribution, the G-200 is prone to a rear Mean Aerodynamic Chord (MAC). Additionally, due to the G-200's small rudder design, the aircraft requires a minimum control speed with the critical engine inoperative during takeoff roll ( $V_{MCG}$ ) of 108 KIAS in order to have sufficient aerodynamic forces to counter any asymmetric thrust. In most loading configurations, takeoff decision speed ( $V_1$ ) is higher than  $V_{MCG}$ . This item must be included in initial training.

9.2.1.6 The cabin entry door requires very specific handling in order to open and close it properly. If not done correctly, it can severely damage the door and possibly expose the passengers and crew to catastrophic failure. This item must be included in initial training.

9.2.1.7 FMS operation and failures (initial and recurrent).

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

9.2.2.1 Use of switches in the overhead panel. This item must be included in initial training.

9.2.2.2 Use of proper interpretation of the airspeed indicator. This item must be included in initial training.

9.2.2.3 Use of autopilot controls. This item must be included in initial training.

9.2.2.4 Use of electrical system, including non-normal and emergency operations. This item must be included in initial training.

9.2.2.5 Proper takeoff technique emphasizing the criticality of maintaining solid Nosewheel contact with the runway surface in order to maintain aircraft controllability on the ground. This item must be included in initial training.

**9.3 Specific Flight Characteristics.** Maneuvers or procedures required to be checked as referenced in the Airline Transport Pilot and Type Rating for Airplane Airman Certification Standards (ACS), as applicable. There are no specific flight characteristics.

**9.4 Seat-Dependent Tasks.** Pilots must receive training in these seat-dependent tasks:

- a) Passenger oxygen system activation (right seat) (initial training),
- b) Manual landing gear extension (left seat) (initial training), and
- c) Nosewheel steering (left seat) (initial training).

**9.5 Regulatory Training Requirements Which Are Not Applicable to the G-200.** None.

**9.6 Flight Simulation Training Devices (FSTD).** Training of the pitch and roll disconnect procedure should only be accomplished in a full flight simulator (FFS) and not in the aircraft.

**9.7 Training Equipment.** There are no specific systems or procedures that are unique to the G-200 that require specific training equipment.

**9.8 Differences Training Between Related Aircraft.** There are no differences training required.

## **10. PILOT CHECKING**

**10.1 Landing From a No-Flap or Nonstandard Flap Approach.** The probability of flap extension failure on the G-200 is not extremely remote due to system design. Therefore, demonstration of a no-flap approach and landing is required during the following:

- a) Pilot certification;
- b) A part 61, § 61.58 proficiency check;
- c) A part 91, § 91.1065 competency check;
- d) A part 121, § 121.441 proficiency check; or
- e) A part 135, § 135.293 competency check.

**NOTE:** 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.** There are no specific flight characteristics.

**10.3 Seat-Dependent Tasks.** Pilots must be checked in these seat-dependent tasks:

- a) Passenger oxygen system activation (right seat) (initial),
- b) Manual landing gear extension (left seat) (initial), and
- c) Nosewheel steering (left seat) (initial).

**10.4 Other Checking Items.** Other items include FMS operation and failures (initial and recurrent).

**10.5 FSTD.** There are no specific systems, procedures, or maneuvers that are unique to the G-200 that require a specific FSTD for checking.

**10.6 Equipment.** There are no specific systems or procedures that are unique to the G-200 that require specific equipment.

**10.7 Differences Checking Between Related Aircraft.** Not applicable.

## **11. PILOT CURRENCY**

There are no additional currency requirements for the G-200 other than those already specified in parts 61, 121, and 135.

**11.1 Differences Currency Between Related Aircraft.** Not applicable.

## **12. OPERATIONAL SUITABILITY**

The G-200 is operationally suitable for operations under parts 91, 121, and 135. The FSB determined operational compliance by conducting an aircraft evaluation. The list of operating rules evaluated is on file at the Transport Aircraft Long Beach AEG.

## **13. MISCELLANEOUS**

**13.1 Forward Observer Seat.** No forward observer seat was evaluated.

### **13.2 Landing Minima Categories.**

13.2.1 The G-200 is considered as Category C aircraft for the purposes of determining straight-in landing weather minima.

13.2.2 Pilots are responsible for determining if a higher approach category applies. If the requirement for a faster approach speed places the aircraft in a higher speed approach category, the minimums for the appropriate higher category must be used (e.g., emergency returns requiring overweight landing, approaches made with inoperative flaps or in icing conditions. Category C aircraft may be required to apply Category D minimums.

**13.3 Normal Landing Flaps.** The G-200 normal “final flap setting” per § 91.126(c) is Flaps 40.

## APPENDIX 1. DIFFERENCES LEGEND

### Training Differences Legend

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

### Checking Differences Legend

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

**APPENDIX 2. MASTER DIFFERENCES REQUIREMENTS (MDR)  
TABLE**

Not applicable.

### **APPENDIX 3. DIFFERENCES TABLES**

Not applicable.