



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

Flight Standardization Board (FSB) Report

Revision: 1
Date: 04/02/2018

Manufacturer
Saab AB, Saab Aeronautics

Type Certificate Data Sheet (TCDS)	TCDS Identifier	Marketing Name	Pilot Type Rating
A47NM	SAAB 2000	SAAB 2000	SA-2000

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1. RECORD OF REVISIONS

Revision Number	Sections(s)	Page(s) Affected	Date
Original	ALL	ALL	12/08/1995
1	ALL	ALL	04/02/2018

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

This report is a new format and has been completely modified from the previous revision. Major modifications include the deletion of currency levels depicted in the Master Differences Requirements (MDR) table, renaming of Operator Differences (ODR) Tables to Differences Tables, and deleting regulatory repetitive information.

4. BACKGROUND

The Seattle AEG formed a Flight Standardization Board (FSB) that evaluated the Saab SA-2000 as defined in FAA Type Certificate Data Sheet (TCDS) # A47NM. The evaluation was conducted December 8, 1995, 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

AC	Advisory Circular
ACS	Airman Certification Standards
AEG	Aircraft Evaluation Group
CFR	Code of Federal Regulations
FAA	Federal Aviation Administration

FFS	Full Flight Simulator
FSB	Flight Standardization Board
FSTD	Flight Simulation Training Device
FTD	Flight Training Device
MDR	Master Differences Requirements
OEI	One Engine Inoperative
POI	Principal Operations Inspector
PTS	Practical Test Standards
TCDS	Type Certificate Data Sheet
TCPM	Training Center Program Manager

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 SAAB 2000 type rating designation is SA-2000.
- 7.2. Common type ratings. Not applicable.
- 7.3. Military equivalent designations. Military aircraft that qualify for the SA-2000 can be found on the [faa.gov](http://www.faa.gov/licenses_and_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_and_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.

The provisions of this section apply to all SAAB 2000 training programs for airmen who are experienced in both part 121 air carrier operations and multiengine transport category turboprop aircraft. For airmen not having such experience (e.g., recent “ab initio” program graduates), additional requirements may be necessary as determined by the Principal Operations Inspector (POI), Training Center Program Manager (TCPM), FSB, and the Air Transportation Division (AFS-200).

- 9.2. Special Emphasis Areas.

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

- a) Effect of Type II and Type IV Deicing/Anti-Icing Fluids.
- b) Function of the Automatic Flap Retract (AFR) System.

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

- a) Effect of Type II and Type IV Deicing/Anti-Icing Fluids.
- b) Function of the AFR System.
- c) Effect of large power changes on aircraft yaw, with and without yaw damper operational.
- d) One Engine Inoperative (OEI) operation with yaw damper inoperative.

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 Appendix F of part 121.

There are no specific flight characteristics.

9.4. Seat Dependent Tasks.

- a) Operation of Nose Wheel Steering (NWS) (initial, transition, upgrade, and recurrent training), (Left Seat).
- b) Emergency Landing Gear Extension (initial, transition, upgrade, and recurrent training), (Left and Right Seat).

9.5. Regulatory Training Requirements which are Not Applicable to the SAAB 2000.

- a) Fuel Jettisoning. Not applicable to the Saab 2000. There is no substitute available.
- b) Tuck and Mach Buffet. Not applicable to the Saab 2000. There is no substitute available.
- c) Operation of systems and controls at the flight engineer's station. Not applicable to the Saab 2000. There is no substitute available.
- d) Turns with and without spoilers. Not applicable to the Saab 2000. There is no substitute available.

9.6. Flight Simulation Training Devices (FSTD).

There are no specific systems, procedures, or maneuvers that are unique to the Saab 2000 that require a specific FSTD for training.

9.7. Training Equipment.

There are no specific systems or procedures that are unique to the Saab 2000 that require specific training equipment.

9.8. Differences Training Between Related Aircraft.

Not applicable.

10. PILOT CHECKING

10.1. Landing from a No Flap or Non Standard Flap Approach.

The probability of flap extension failure on the Saab 2000 is not extremely remote due to system design. Therefore, demonstration of a no 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 FAA 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 Appendix F of part 121.

There are no specific flight characteristics.

10.3. Seat Dependent Tasks.

Pilots must be checked in these seat dependent tasks:

- a) Operation of NWS (initial, transition, upgrade, and recurrent checking, (Left Seat).
- b) Emergency Landing Gear Extension (initial, transition, upgrade, and recurrent checking, (Left and Right Seat).

10.4. Other Checking Items.

Not applicable.

10.5. FSTD.

There are no specific systems, procedures, or maneuvers that are unique to the Saab 2000 that require a specific FSTD for checking.

10.6. Equipment.

There are no specific systems or procedures that are unique to the Saab 2000 that require specific equipment.

10.7. Differences Checking Between Related Aircraft.

Not applicable.

11. PILOT CURRENCY

There are no additional currency requirements for the SAAB 2000 other than those already specified in parts 61, 121, 125, and 135.

11.1. Differences Currency Between Related Aircraft.

Not applicable.

12. OPERATIONAL SUITABILITY

The Saab 2000 is operationally suitable for operations under parts 91, 121, 125, and 135. The list of operating rules evaluated is on file at the Seattle AEG.

13. MISCELLANEOUS

13.1. Forward Observer Seat.

The Saab 2000 forward observer seat has been evaluated and determined to meet requirements of §§ 121.581(a), 125.317(b), 135.75(b) and FAA AC 120-83, Flight Deck Observer Seat and Associated Equipment.

13.2. Landing Minima Categories.

Reference 14 CFR part 91, § 97.3. The Saab 2000 is considered Category C aircraft for the purposes of determining “straight-in landing weather minima”.

13.3. Emergency Evacuation.

A full scale emergency evacuation was successfully completed on the Saab 2000 aircraft by Saab AB manufacturer and observed by the Seattle AEG on March 6, 1993. The aircraft was configured with 58 passenger seats and two flight attendants. The demonstration complied with § 121.291(a).

13.4. Aircraft Proving Tests.

Proving tests in accordance with §§ 135.145, 121.163 are appropriate when the Saab 2000 is new to an operator.

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**

Not applicable.

APPENDIX 3. DIFFERENCES TABLES

Not Applicable.