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Flight Standardization Board (FSB) Report

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Manufacturer:
Lockheed Martin Corporation

Type Certificate Data Sheet (TCDS)	TCDS Identifier	Marketing Name	Pilot Type Rating
A1SO	382J	LM-100J	L382J

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1. RECORD OF REVISIONS

Revision Number	Sections(s)	Page(s) Affected	Date
Original	All	All	01/14/2020

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

This is the original L382J Flight Standardization Board Report (FSBR).

4. BACKGROUND

The Transport Aircraft Long Beach AEG formed a Flight Standardization Board (FSB) that evaluated the 382J as defined in amended FAA Type Certificate Data Sheet (TCDS) No. A150. The evaluation was conducted using the methods described in 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
- AFM Airplane Flight Manual
- AV Audiovisual Presentation
- CNI-MU Communications, Navigation, and Identification Management Unit
- CPDLC Controller-Pilot Data Link Communications

- CPT Cockpit Procedures Trainer
- ECHS Enhanced Cargo Handling System
- FAA Federal Aviation Administration
- FFS Full Flight Simulator
- FSB Flight Standardization Board
- FSBR Flight Standardization Board Report
- FSIMS Flight Standards Information Management System
- FSTD Flight Simulation Training Device
- FTD Flight Training Device
- GHC Get Home Controller
- HDD Head-Down Display
- HO Handout
- HUD Head-Up Display
- ICBI Interactive Computer-Based Instruction
- MDR Master Differences Requirements
- MFCD Multifunction Control/Display
- PFA Pedal Force Augmentation
- PFD Primary Flight Display
- PTT Part Task Trainer
- SU Stand-Up Instruction
- TACAN Tactical Air Navigation System
- TC Type Certificate
- TCBI Tutorial Computer-Based Instruction
- TCDS Type Certificate Data Sheet
- W&B Weight and Balance

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.** Describes the differences between a pair of related aircraft and the minimum levels operators must use to conduct differences training and checking of crewmembers. Differences levels range from A to E.
- 6.4 Master Differences Requirements (MDR).** Specifies the highest training and checking differences 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 and 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, and 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 (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 training devices, or training equipment.
- 6.12 Specific Flight Characteristics.** Maneuvers or procedures with unique handling or performance characteristics that the FSB has determined must be checked.

7. PILOT TYPE RATING

- 7.1 Type Rating.** The pilot type rating for the 382J type-certificated aircraft evaluated is designated L382J.

NOTE: Care should be exercised when issuing this type rating as it closely resembles others.

- 7.2 Common Type Ratings.** Not applicable.
- 7.3 Military Equivalent Designations.** Military aircraft that qualify for the L382J type rating can be found at [www.faa.gov](http://www.faa.gov/licenses_certificates/airmen_certification/) under “Licenses & 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.** Not applicable.

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

9. PILOT TRAINING

9.1 **Airman Experience.** Pilots receiving initial L382J training will benefit from prior experience operating turboprop multiengine transport category aircraft. Additionally, a working knowledge of advanced avionics systems including head-up display (HUD) is highly recommended. Pilots without this experience may require additional training.

9.2 **Special Emphasis Areas:**

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

- HUD,
- Controller-Pilot Data Link Communications (CPDLC),
- Tactical Air Navigation System (TACAN) Pairing,
- Communications, Navigation, and Identification Management Unit (CNI-MU) Soft Panel functions,
- Get Home Controller (GHC), and
- Multifunction Control/Display (MFCD) (Enhanced Cargo Handling System (ECHS) only).

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

- Pedal Force Augmentation (PFA),
- HUD,
- Radios or Intercom System,
- Fuel Management,
- CPDLC, and
- MFCD (ECHS only).

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). There are no specific flight characteristics.

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

- a) Tiller usage (left seat): initial, recurrent, and upgrade training.
- b) GHC (right seat): initial training.
- c) Manual nose landing gear extension (right seat): initial, recurrent, and upgrade training.
- d) Takeoff procedures and crew coordination (right seat): initial, recurrent, and upgrade training.

9.5 Regulatory Training Requirements Which Are Not Applicable to the L382J.

None.

9.6 Flight Simulation Training Devices (FSTD). There are no specific systems, procedures, or maneuvers that are unique to the L382J that require a specific FSTD for training.

9.7 Training Equipment. A cargo-loading trainer is a specific systems and procedures trainer unique to the L382J that is required for training.

9.8 Differences Training Between Related Aircraft. Not applicable.

10. PILOT CHECKING

10.1 Landing from a No-Flap or Nonstandard Flap Approach. The probability of flap extension failure on the L382J is not extremely remote due to system design. Therefore, demonstration of a landing from a no-flap or a nonstandard flap approach during pilot certification, part 61, § 61.58 proficiency check or a part 125, § 125.287 competency check is required.

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

NOTE: There are no specific flight characteristics.

10.3 Seat Dependent Tasks. Pilots must be checked in the seat dependent task of Tiller Usage (Left Seat): initial, recurrent, and upgrade.

10.4 Other Checking Items. Not applicable.

10.5 FSTD. There are no specific systems, procedures, or maneuvers that are unique to the L382J that require a specific FSTD for checking.

10.6 Equipment. A cargo-loading trainer is unique to the L382J in calculating Weight and Balance (W&B) data.

10.7 Differences Checking Between Related Aircraft. Not applicable.

10.8 Special Considerations for Checking in the Actual Aircraft. The FSB has identified the following special considerations when conducting L382J checking in flight:

- a) Partial panel failure may be simulated by failing the applicant's HUD or head-down display (HDD) 1.
- b) If a check is conducted from the forward observer seat, the primary flight display (PFD) must be displayed when safe to do so on HDD 3.

11. PILOT CURRENCY

There are no additional currency requirements for the L382J other than those already specified in parts 61 and 125.

12. OPERATIONAL SUITABILITY

The L382J is operationally suitable for operations under parts 91 and 125. The FSB determined operational compliance by conducting an evaluation of aircraft serial number 5818 on October 24, 2019.

13. MISCELLANEOUS

13.1 Forward Observer Seat. The L382J forward observer seat as installed by TCDS No. A1SO has been evaluated and determined to meet requirements of §§ 121.581(a), 125.317(b), 135.75(b), and AC 120-83, Flight Deck Observer Seat and Associated Equipment.

13.2 Landing Minima Categories. The L382J is considered a Category C aircraft for the purposes of determining “straight-in landing weather minima” (refer to 14 CFR part 97, § 97.3).

13.3 Normal Landing Flaps. The L382J normal “final flap setting” per § 91.126(c) is Flap Setting 100.

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 (handout (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 (TCBI) self-test 	<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.