

United States of America  
Department of Transportation—Federal Aviation Administration

# Supplemental Type Certificate

*Number* **ST01518SE**

*This certificate, issued to*

**Aviation Partners Boeing  
2811 South 102<sup>nd</sup> Street, Suite 200  
Seattle, WA 98168**

*certifies that the change in the type design for the following product with the limitations and conditions therefore as specified hereon meets the airworthiness requirements of Part 25\* of the Federal Aviation Regulations.*

\*See pages 3 through 10 of this STC for the Certification Basis

*Original Product — Type Certificate Number .:* A2NM  
*Make .:* Boeing  
*Model .:* 757-200, 757-300

*Description of the Type Design Change .:* Installation of winglets, wing structural reinforcement and related system changes on Boeing Model 757-200 and 757-300 series airplanes. Fabrication and installation of parts must be accomplished in accordance with the FAA-approved Aviation Partners Boeing Master Drawing Lists as listed in the following attached Approved Model List (AML) documents (revision levels as stated or later FAA-approved revisions):

Model	Description	Approved Model List (AML) Document #
757-200	Winglet or Partial Wing Retrofit Installation (757-200-1 kit and 757-200-2 kit)	AP57.2-AML1518, issue date March 13, 2009, or later FAA approved revision.
Model	Description	Approved Model List (AML) Document #
757-300	Winglet or Partial Wing Retrofit Installation (757-300-1 kit and 757-300-2 kit)	AP57.3-AML1518, issue date August 14, 2009, or later FAA approved revision.

*Limitations and Conditions .:* The limitations and conditions of Type Certificate A2NM apply, except as outlined on Pages 3 through 10 of this STC. A copy of this certificate must be included in the permanent records of each airplane modified in accordance with this STC. Approval of this change in type design applies only to Boeing 757-200 and 757-300 series airplanes that are otherwise unmodified (unless previously determined compatible STC). This approval should not be extended to other airplanes of these models unless it is determined that the relationship between this change and any of those other previously approved modifications, including changes in type design, will introduce no adverse effect upon the airworthiness of the airplane. (continued on page 3)

*This certificate and the supporting data which is the basis for approval shall remain in effect until surrendered, suspended, revoked, or a termination date is otherwise established by the Administrator of the Federal Aviation Administration.*

*Date of application .:* April 27, 2004

*Date reissued .:* December 23, 2009

*Date of issuance .:* March 25, 2005

*Date amended .:* May 23, 2005; August 30, 2005;

March 13, 2009, August 14, 2009



*By direction of the Administrator*

\_\_\_\_\_  
(Signature)

\_\_\_\_\_  
Manager, Seattle Aircraft Certification Office  
(Title)

Any alteration of this certificate is punishable by a fine of not exceeding \$1,000, or imprisonment not exceeding 3 years, or both.

This certificate may be transferred in accordance with FAR 21.47.

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This modification may not be installed after August 30, 2010 unless (1) previously approved electrical wiring interconnection system (EWIS) instructions for continued airworthiness (ICA) have been evaluated and determined to be adequate for this installation by the FAA, or (2) revised EWIS ICA have been approved by the FAA Oversigned Office (Refer to § 26.11)

The 757-300 installations are limited to 12 months, 2000 cycles or 3000 hours after kit installation, whichever comes first.

The 757-300 installation is FAA approved for airplanes equipped with Rolls Royce RB211-535 series engines only.

Airspeed Limits: See Type Certificate Data Sheet A2NM.

C.G. Range: See Type Certificate Data Sheet A2NM for the 757-200-1 kit and 757-300-1 kit, and the Airplane Flight Manual Supplement AP57.2-0601, latest FAA approved revision level for the 757-200-2 kit and Airplane Flight Manual Supplement AP57.3-0601, dated July 9, 2009, or latest FAA approved revision level for the 757-300-2 kit.

Maximum Weights: See Type Certificate Data Sheet A2NM for the 757-200-1 kit and 757-300-1 kit, and the Airplane Flight Manual Supplement AP57.2-0601, latest FAA approved revision level for the 757-200-2 kit and Airplane Flight Manual Supplement AP57.3-0601, dated July 9, 2009, or latest FAA approved revision level for the 757-300-2 kit.

Eligible S / N's: Refer to the applicable Aviation Partners Boeing Approved Model List (AML) document referenced above for the applicable Eligible Airplane Serial Number document.

Operational Requirements: This engineering approval of a changed type certificate limitation does not permit a change in operating rule applicability to the operator of the changed aircraft. An applicant for an operating rule applicability change must obtain any change in operating rule applicability through consultation with their responsible certificate management office (CMO).

Airplane operation must be in accordance with the applicable Aviation Partners Boeing Airplane Flight Manual (AFM) Supplement, Configuration Deviation List (CDL) Supplement, and Weight and Balance Manual Supplement listed in the applicable Approved Model List (AML) document referenced above.

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**Certification Basis for the 757-200:**

The certification basis for the APB design for structural modification for provision and installation of winglets on Boeing Model 757-200 Series airplanes is based on 14 CFR 21.115, 21.19, and 21.101, and FAA guidance in Order 8110.48, is as follows:

For parts not changed or not affected by the design for provision and installation of the winglets, the type certification basis is as shown on the Type Certificate Data Sheet (TCDS) A2NM for the 757-200.

For parts changed or affected by the design change, the certification basis is 14 CFR part 25, as amended by amendment 25-113, since the reference date of application is April 27, 2004. Based on § 21.115 and § 21.101, and the FAA policy for significant changes in Order 8110.48, the certification basis for the APB design for provision and installation of the winglets was determined to be as follows:

**Compliance to Amendment 25-113**

| Part/Paragraph h |
|------------------|------------------|------------------|------------------|------------------|------------------|
| 25.1             | 25.331           | 25.503           | 25.677           | 25.1309          | 25.1431          |
| 25.21            | 25.333           | 25.507           | 25.683           | 25.1316          | 25.1443          |
| 25.23            | 25.337           | 25.509           | 25.685           | 25.1321          | 25.1501          |
| 25.25            | 25.341           | 25.519           | 25.697           | 25.1322          | 25.1503          |
| 25.27            | 25.343           | 25.581           | 25.699           | 25.1329          | 25.1505          |
| 25.29            | 25.345           | 25.601           | 25.703           | 25.1337 (b)      | 25.1507          |
| 25.117           | 25.349           | 25.603           | 25.777           | 25.1351          | 25.1513          |
| 25.123           | 25.351           | 25.605           | 25.779           | 25.1353          | 25.1519          |
| 25.171           | 25.367           | 25.607           | 25.863           | 25.1355          | 25.1529          |
| 25.173           | 25.373           | 25.609           | 25.869           | 25.1357          | 25.1541          |
| 25.203           | 25.391           | 25.611           | 25.901(a)(b)(c)  | 25.1363          | 25.1553          |
| 25.235           | 25.427           | 25.613           | 25.954           | 25.1385          | 25.1555          |
| 25.251           | 25.445           | 25.619           | 25.955 (a)(2)    | 25.1387          | 25.1581          |
| 25.253           | 25.457           | 25.621           | 25.959           | 25.1389          | 25.1583          |
| 25.255           | 25.459           | 25.623           | 25.975 (a)(3)    | 25.1391          | 25.1585          |
| 25.301           | 25.471           | 26.625           | 25.981*          | 25.1393          | Appendix C       |
| 25.303           | 25.481           | 25.629           | 25.979 (c)       | 25.1395          | Appendix G       |
| 25.305           | 25.483           | 25.671           | 25.1011          | 25.1397          | Appendix H       |
| 25.307           | 25.489           | 25.672           | 25.1301          | 25.1401          |                  |
| 25.321           | 25.495           | 25.675           | 25.1307 (c)      | 25.1403          |                  |

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*Date Amended:* May 23, 2005; August 30, 2005, March 13, 2009, August 14, 2009

*\*Original Cert Basis, Amendment. 25-45, is applied to Section 25.981 with respect to the lightning protection features of the fuel tank structure only. Other aspects of the STC comply with Amendment. 25-102*

The 14 CFR part 25 paragraphs where APB demonstrated compliance to a later amendment than the original 757-200 certification basis, but not to Amendment 25-113 are provided in the following table:

### Compliance to Later Amendments

FAR	Amendment	FAR	Amendment	FAR	Amendment
25.107	25-92	25.143	25-84	25.233	25-94
25.111	25-94	25.145	25-98	25.571	25-54
25.119	25-84	25.147	25-72	25.1323	25-57
25.121	25-84	25.177	25-72	25.1533	25-72
25.125	25-84	25.181	25-72	25.1587	25-105

The 14 CFR part 25 paragraphs where APB demonstrated compliance to the original 757-200 certification basis are provided in the following table:

### Compliance to Original Certification Basis, Amendment 25-45

Part/Paragraph	Part/Paragraph	Part/Paragraph	Part/Paragraph	Part/Paragraph
25.101	25.115	25.207	25.473	25.499
25.103	25.149	25.231	25.479	25.1325
25.105	25.161	25.237	25.485	25.1419
25.109	25.175	25.335	25.491	
25.113	25.201	25.365	25.493	

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The 14 CFR part 25 paragraphs which are not affected by the modification are provided in the following table:

**Not Affected by the Modification**

Part/ Paragraph	Part/ Paragraph	Part/ Paragraph	Part/ Paragraph	Part/ Paragraph	Part/ Paragraph	Part/ Paragraph
25.2	25.727	25.819	25.961	25.1121	25.1326	25.1455
25.361	25.729	25.831	25.963	25.1123	25.1327	25.1457
25.363	25.731	25.832	25.965	25.1141	25.1331	25.1459
25.371	25.733	25.833	25.967	25.1142	25.1333	25.1461
25.393	25.735	25.841	25.969	25.1143	25.1335	25.1511
25.395	25.771	25.843	25.975(a)(1),	25.1145	25.1337(a),	25.1515
25.397	25.772	25.851	(2),(4)-(6),(b)	25.1155	(c)-(f)	25.1516
25.399	25.773	25.853	25.977	25.1163	25.1381	25.1517
25.405	25.775	25.854	25.979	25.1165	25.1383	25.1522
25.415	25.781	25.855	(a)(b)(d)(e)	25.1167	25.1411	25.1523
25.477	25.783	25.856	25.991	25.1181	25.1413	25.1525
25.487	25.785	25.857	25.993	25.1182	25.1453	25.1527
25.511	25.787	25.858	25.994	25.1183	25.1415	25.1531
25.561	25.789	25.865	25.995	25.1185	25.1421	25.1543
25.562	25.791	25.867	25.997	25.1187	25.1423	25.1545
25.563	25.793	25.871	25.999	25.1189	25.1433	25.1547
25.631	25.795	25.901 (d)	25.1013	25.1191	25.1435	25.1549
25.651	25.801	25.903	25.1015	25.1193	25.1438	25.1557
25.655	25.803	25.933	25.1017	25.1195	25.1439	25.1561
25.657	25.805	25.934	25.1019	25.1197	25.1441	25.1563
25.679	25.807	25.939	25.1021	25.1199	25.1445	App A
25.681	25.809	25.941	25.1023	25.1201	25.1447	App B
25.689	25.810	25.943	25.1025	25.1203	25.1449	App D
25.693	25.811	25.951	25.1041	25.1207	25.1450	App F
25.701	25.812	25.952	25.1043	25.1303	25.1451	App J
25.721	25.813	25.953	25.1045	25.1305	25.1453	
25.723	25.815	25.955(a)(1) , (3),(4), (b)	25.1091	25.1307(a), (b), (d), (e)		
25.725	25.817	25.957	25.1093			

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The 14 CFR part 25 paragraphs which are not applicable to the modification are provided in the following table:

**Not Applicable to the Modification**

Part/Paragraph	Part/Paragraph	Part/Paragraph	Part/Paragraph	Part/Paragraph
	h	h	h	
25.31	25.751-25.755	25.937	25.1107	25.1159
25.33	25.875	25.945	25.1125	25.1161
25.407	25.904	25.1001	25.1127	25.1192
25.409	25.905	25.1027	25.1147	25.1399
25.497	25.907	25.1101	25.1149	App E
25.521-25.537	25.925	25.1103	25.1153	App I
25.737	25.929	25.1105	25.1157	

Special Conditions: None

Equivalent Safety Findings: 25.1419 Ice Protection ELOS ST8664SE-T-S-1  
 25.303 Applied Factor of Safety ELOS ST8664SE-T-A-1  
 25.103, 25.207 Stall Speeds and Stall Warning ELOS ST8664SE-T-F-1  
 25.1389(b)(2)(3), Position Lights Intensities ELOS ST8664SE-T-S-2  
 25.1393, 25.1395

Exemptions: None

Certification Maintenance Requirements and Airworthiness Limitations: Airplane maintenance must be in accordance with the applicable Aviation Partners Boeing Maintenance Planning Document (MPD) Supplement Certification Maintenance Requirements and Airworthiness Limitations documents listed in the applicable Approved Model List (AML) document referenced above.

Required Equipment: See Type Certificate Data Sheet A2NM

Service Information: Refer to the applicable Aviation Partners Boeing Approved Model List (AML) document referenced above for the applicable Structural Repair Manual Supplement, Airplane Maintenance Manual Supplement, Maintenance Planning Data Document, and Fault Isolation Manual Supplement documents.

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Previously Determined Compatible Supplemental Type Certificates (STC): Refer to the applicable Aviation Partners Boeing Approved Model List (AML) document referenced above for notes identifying certain STC's that have already been determined to be compatible with this STC.

**Certification Basis for 757-300:**

Based on 14 CFR 21.115 and 21.101, and the FAA policy for significant changes in FAA Order 8110.48, the certification basis for the winglet modification of Boeing Model 757-300 series is as follows:

- a. The type certification basis for Boeing Model 757-300 series airplanes is shown on TCDS A2NM for parts **not changed or not affected** by the change.
- b. The certification basis for parts **changed or affected** by the change since the reference date of application, October 5, 2007, is based upon part 25 as amended by Amendment 25-120. Based on 14 CFR 21.115 and 21.101, and the FAA policy for significant changes in FAA Order 8110.48, the certification basis for this modification of the 757-300 is as follows:

*Regulations at the latest amendment 25-0 through 25-120*

25.1, 25.21 – 25.29, 25.101 – 25.237, 25.251 – 25.351, 25.367 – 25.391, 25.427 – 25.473, 25.479 – 25.485, 25.489 – 25.495, 25.499 – 25.509, 25.519, 25.581 – 25.619, 25.623 – 25.629, 25.671 – 25.672, 25.863, 25.869, 25.901, 25.954 – 25.955, 25.959, 25.975, 25.979, 25.981\*, 25.1011, 25.1301, 25.1309 – 25.1316, 25.1351 – 25.1353, 25.1385 – 25.1397, 25.1401 – 25.1403, 25.1419, 25.1431, 25.1443, 25.1501, 25.1513, 25.1519, 25.1529, 25.1533 – 25.1535, 25.1581 – 25.1587, Appendices C, G, H and K

**Regulations at an intermediate amendment**

25.571\*\* (modified & affected wing structure) Amendment 25-86

**Regulations at the amendment level in TCDS A2NM**

25.365, 25.571\*\*, 25.981(a)(3)\*, 25.1329

\*Lightning protection features of the fuel tank structural fasteners comply with § 25.981, Amendment 25-11. All other aspects of the change comply with § 25.981, Amendment 25-102.

\*\*Wing center section wing skin panel structure complies with § 25.571, Amendment 25-45. All other modified and affected wing structure complies with § 25.571, Amendment 25-86.

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**Part 26 regulations**

Based on § 21.101(g), applicable provisions of part 26 are included in the certification basis. For any future part 26 amendments, the holder of this STC must demonstrate compliance with the applicable sections.

The 14 CFR part 26 paragraphs which are applicable to the modification are provided in the following table:

Part/Paragraph	Part/Paragraph	Part/Paragraph	Part/Paragraph	Part/Paragraph	Part/Paragraph
26.1	26.3	26.5	26.41	26.47	26.49

Special Conditions: See Type Certificate Data Sheet A2NM

Equivalent Safety Findings:  
 757-300-1 kit See Type Certificate Data Sheet A2NM  
 757-300-2 kit 25.1419 Ice Protection ELOS ST10302SE-T-ES-1  
 25.1389(b)(2)(3), Position Lights Intensities ELOS ST8664SE-T-S-2  
 25.1393, 25.1395

Exemptions: See Type Certificate Data Sheet A2NM

Certification Maintenance Requirements and Airworthiness Limitations: Airplane maintenance must be in accordance with the applicable Aviation Partners Boeing Maintenance Planning Document (MPD) Supplement Certification Maintenance Requirements and Airworthiness Limitations documents listed in the applicable Approved Model List (AML) document referenced above.

Required Equipment: See Type Certificate Data Sheet A2NM

Service Information: Refer to the applicable Aviation Partners Boeing Approved Model List (AML) document referenced above for the applicable Structural Repair Manual Supplement, Airplane Maintenance Manual Supplement, Maintenance Planning Data Document, and Fault Isolation Manual Supplement documents.

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**Previously Determined**

**Compatible** Refer to the applicable Aviation Partners Boeing Approved Model List (AML) document  
**Supplemental Type** referenced above for notes identifying certain STC's that have already been determined  
**Certificates (STC):** to be compatible with this STC.

**Rights to Design Data and Installation of the Data**

Possession of the STC document does not constitute rights to the design data or installation of the approved design data. The STC and its supporting data (drawings, instructions, specifications, etc.) are the property of the STC holder. It is incumbent upon the user to contact the STC holder to obtain rights for the use of the STC and the design data contained herein. If the holder agrees to permit another person to use this certificate to alter the product, the holder shall give the other person written evidence of that permission.

- END -