

Department of Transportation - Federal Aviation Administration

# Supplemental Type Certificate

*Number* **ST01219SE**

*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 \* of the \* Regulations .*

*\*See pages 5 and 6 for the complete type certification basis*

*Original Product—Type Certificate Number:* A16WE  
*Make:* Boeing  
*Model:* 737-300, 737-500

*Description of the Type Design Change :* Installation of winglets, wing structural reinforcement and related system changes on Boeing Model 737-300 and 737-500 airplanes. Fabrication and installation of parts must be accomplished in accordance with Federal Aviation Administration (FAA) approved Aviation Partners Boeing Master Drawing Lists as follows (revision levels as stated) or later FAA-approved revisions.

- 737-300 Winglet Installation (300-2), AP37.3-0609, Revision New, dated April 30, 2003
- 737-300 Standard Wingtips Installed (300-1), AP37.3-0609, Revision A, dated November 17, 2006
- 737-500 Winglet Installation (500-2) and Standard Wingtips Installed (500-1), AP37.3-0609, Revision C, dated April 23, 2007

*Limitations and Conditions :* The limitations and conditions of Type Certificate A16WE apply except as outlined on Pages 3 through 8 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 to the Boeing 737-300 and 737-500 airplanes that are otherwise unmodified. 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.

(See Continuation Sheets Pages 3 through 8)

*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:* January 12, 2002      *Date reissued:* December 23, 2009  
*Date of issuance:* May 29, 2003      *Date amended:* 2/16/07; 5/24/07; 6/26/13



*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.*

United States of America  
Department of Transportation - Federal Aviation Administration  
**Supplemental Type Certificate**  
(Continuation Sheet)

*Number* **ST01219SE**

**Aviation Partners Boeing**

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*Limitations and Conditions continued:*

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Airspeed Limits: See Type Certificate Data Sheet A16WE

C.G. Range: See the FAA Approved Airplane Flight Manual Supplement

Maximum Weights: See the FAA Approved Airplane Flight Manual Supplement

Eligible S / N's: See the following Aviation Partners Boeing drawing for eligible airplane serial numbers:

<u>Model</u>	<u>Drawing</u>
737-300, Winglet Installation (AP37.3-0609, 300-2)	737-3007
737-300, Standard Wingtips Installed (AP37.3-0609, 300-1)	737-3007
737-500, Winglet Installation (AP37.3-0609, 500-2)	737-5007
737-500, Standard Wingtips Installed (AP37.3-0609, 500-1)	737-5007

Operational Requirements: Airplane operation must be in accordance with the following Aviation Partners Boeing Airplane Flight Manual (AFM) Supplements:

<u>Model</u>	<u>AFM Supplement</u>
737-300, Winglet Installation (AP37.3-0609, 300-2)	AP37.3-0601, dated May 27, 2003 or later FAA-approved revision
737-300, Standard Wingtips Installed (AP37.3-0609, 300-1)	None
737-300, Winglet Installation (AP37.3-0609, 300-2)	AP37-CDLS, dated May 27, 2003 or later FAA-approved revision

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*Limitations and Conditions continued:*

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Operational  
Requirements ,  
(Cont'd):

737-500, Winglet Installation (AP37.3-0609, 500-2)	AP37.5 -0601, dated May 24, 2007 or later FAA-approved revision
737-500, Standard Wingtips Installed (AP37.3-0609, 500-1)	None
737-500, Winglet Installation (AP37.3-0609, 500-2)	AP37-CDLS, dated May 24, 2007 or later FAA-approved revision

Certification  
Basis:

For the 737-300 the certification basis as shown on Type Certificate Data Sheet A16WE (see Section VI of A16WE) plus compliance with the following later amendments:

25-23 (Section 25.301, 25.303, 25.337, 25.607, 25.611, 25.619);  
25-27 (Section 25.1397);  
25-38 (Section 25.675, 25.685, 25.1322, 25.1385);  
25-42 (Section 25.1501);  
25-46 (Section 25.603, 25.605, 25.901);  
25-54 (Section 25.1529);  
25-57 (Section 25.697);  
25-72 (Section 25.307(a), 25.613; 25.869)  
25-77 (Section 25.629);  
25-80 (Section 25.1316);  
25-86 (Section 25.321, 25.333, 25.341, 25.343, 25.445, 25.571(a), (b), and (e));  
25-91 (Section 25.331, 25.345, 25.351, 25.479, 25.491);  
25-94 (Section 25.349, 25.481);  
25-102 (Section 25.981, 25 Appendix H, Section H25.4).  
36-23 The 737-300 with winglets will be certified to Part 36 Amendments 36-1 through 36-23

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**Certification**

**Basis, (Cont'd):** For the 737-500 the certification basis as shown on Type Certificate Data Sheet A16WE (see Section VI of A16WE) plus compliance to Amendment 25-119 for all areas affected by the modification with the exceptions noted below:

25-0 (Section 25.105, 25.109, 25.115, 25.365, 25.471, 25.483, 25.485, 25.491, 25.1329);  
25-23 (Section 25.25.113, 25.473, 25.479, 25.493, 25.499, 25.1419);  
25-38 (Section 25.101);  
25-42 (Section 25.201)  
25-72 (Section 25.149, 25.1533)  
25-86 (Section 25.571)  
36-15 The 737-500 with winglets is certified to Part 36 Amendments 36-1 through 36-15

**Special**

**Conditions:** Special Condition Number 25-06-11-SC: Interaction of Systems and Structures (737-500-2 only)

**Equivalent  
Safety**

**Findings:** The following equivalent safety findings have been proposed and approved for FAR 25 in accordance with FAR 21.2 (These do not apply to the Standard Wingtips Installed, 737-300-1 and 737-500-1 only).

25.303, 25.305, 25.307, 25.331, 25.337, 25.333, 25.373	Wing Aerodynamic Loads and Applied Factors of Safety for Maneuvering Conditions with the Speed Brake Wing Load Alleviation System Failed (737-300-2 only)
25.103, 25.207	Use of the 1-g Stall Speed as a means to Validate $V_{min}$ Stall Speeds for APB Winglet Equipped Airplanes (737-300-2 only)
25.1389(b)(2), 25.1393 & (b)(3), 25.1395	Position Lights Minimum Intensities Maximum Overlap Intensities
25.1419	Use of Analysis to Demonstrate Safe Flight in Icing Conditions

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*Limitations and Conditions continued:*

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Exemptions: See Type Certificate Data Sheet A16WE

Certification Maintenance  
Requirements and  
Airworthiness

Limitations: See the following Aviation Partners Boeing Maintenance Planning Data Document Supplements for Certification Maintenance Requirements and Airworthiness Limitations (Revision Levels as stated or latest FAA approved revision):

737-300, Winglet Installation (AP37.3-0609, 300-2)	AP37.3-0604, Rev B
737-300, Standard Wingtips Installed (AP37.3-0609, 300-1)	AP37.3-0604, Rev D
737-500, Winglet Installation (AP37.3-0609, 500-2)	AP37.3-0604, Rev E
737-500, Standard Wingtips Installed (AP37.3-0609, 500-1)	AP37.3-0604, Rev E

Required  
Equipment: See Type Certificate Data Sheet A16WE

Service  
Information: The following Aviation Partners Boeing documents contain service information.

737-300 Winglet Installation (AP37.3-0609, 300-2):

AP37.3-0602	Structural Repair Manual Supplement, Rev A, or later FAA-approved revision.
AP37.3-0600	Maintenance Manual Supplement, Rev B or later FAA-approved revision.
AP37.3-0604	Maintenance Planning Data Document Supplement, Rev B, or later FAA-approved revision.
AP37.3-0610	Fault Isolation Manual Supplement, Initial Release or later FAA-approved revision.

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**Service  
Information  
(Cont'd):**

**737-300 Standard Wingtips Installed (AP37.3-0609, 300-1):**

AP37.3-0602	Structural Repair Manual Supplement, Rev B, or later FAA-approved revision.
AP37.3-0600	Maintenance Manual Supplement, Rev D or later FAA-approved revision.
AP37.3-0604	Maintenance Planning Data Document Supplement, Rev D, or later FAA-approved revision.

**737-500 Winglet Installation (AP37.3-0609, 500-2):**

AP37.5-0602	Structural Repair Manual Supplement, Rev A, or later FAA-approved revision.
AP37.3-0600	Maintenance Manual Supplement, Rev E or later FAA-approved revision.
AP37.3-0604	Maintenance Planning Data Document Supplement, Rev E, or later FAA-approved revision.
AP37.3-0610	Fault Isolation Manual Supplement, Rev B or later FAA-approved revision.

**737-500 Standard Wingtips Installed (AP37.3-0609, 500-1):**

AP37.5-0602	Structural Repair Manual Supplement, Rev A, or later FAA-approved revision.
AP37.3-0600	Maintenance Manual Supplement, Rev E or later FAA-approved revision.
AP37.3-0604	Maintenance Planning Data Document Supplement, Rev E, or later FAA-approved revision.

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Notes pertaining to 737-300 Winglet Installation (AP37.3-0609, 300-2 and AP37.3-0609, 300-1):

1. See Aviation Partners Boeing Weight & Balance Supplement, AP37.3-0603-XXX (where XXX is specific customer designator), Revision New or later approved revision for loading and control requirements.
2. The speedbrake load alleviation system must be maintained in accordance with the periodic inspection requirements contained in Aviation Partners Boeing (APB) report AP37.3-0604 Installation (applies to AP37.3-0609, 300-2 only)
3. All applicable APB documents noted in the service information section of this STC must be FAA approved or accepted, as required, and provided to the operator of airplanes modified in accordance with this STC, prior to the aircraft entering revenue service.
4. STC ST00040SE (Rockwell Collins Head-Ups Guidance System Model 2300) has been determined to be compatible with this STC. Please refer to Rockwell Collins Installation Drawing List 9701-0861, Revision AB, dated August 2003, or later FAA approved revisions. Also refer to the appropriate FAA approved Airplane Flight Manual Supplement for this installation (applies to AP37.3-0609, 300-2 only).

Notes pertaining to 737-500 Winglet Installation (AP37.3-0609, 500-2 and AP37.3-0609, 500-1):

1. See Aviation Partners Boeing Weight & Balance Supplement, AP37.5-0603-XXX (where XXX is specific customer designator), Revision New or later approved revision for loading and control requirements.
2. The speedbrake load alleviation system must be maintained in accordance with the periodic inspection requirements contained in Aviation Partners Boeing (APB) report AP37.3-0604 Installation (applies to AP37.3-0609, 500-2 only)
3. All applicable APB documents noted in the service information section of this STC must be FAA approved or accepted, as required, and provided to the operator of airplanes modified in accordance with this STC, prior to the aircraft entering revenue service.

-END -

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