

United States of America
Department of Transportation -- Federal Aviation Administration
Supplemental Type Certificate

Number ST03103CH

This certificate issued to

Astronics Armstrong Aerospace
1437 Harmony Court
Itasca, IL 60143

certifies that the change in the type design for the following product with the limitations and conditions therefor as specified hereon meets the airworthiness requirements of Part 25 of the Federal Aviation Regulations. (See Page 3 of 4 for complete certification basis.)

Original Product -- Type Certificate Number: A28NM

Make: Airbus

Model: A319 Series, A320 Series, A321Series

Description of Type Design Change:

Certification of Compatibility with Cellular and Wireless Data Technologies in accordance with Astronics Armstrong Aerospace Master Data List, Doc. No. DC104-9046-00, Revision P, dated July 15, 2015 or later FAA approved revision.

Limitations and Conditions:

- 1) The installer must determine whether this design change is compatible with previously approved modifications.

Limitations and Conditions Continued on Page 3 of 4

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: June 23, 2011

Date reissued: August 1, 2014; April 20, 2015

Date of issuance: September 6, 2012

Date amended: April 15, 2013; July 17, 2015

By direction of the Administrator



(Signature)

Brenda L. Litchfield
ODA Administrator
Envoy Aerospace, LLC ODA-831240-CE

(Title)

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

Number ST03103CH

Date of issuance: September 6, 2012
Date Amended: April 15, 2013; July 17, 2015

Certification Basis: (continued)

The certification basis for the changed Airbus A319 Series, A320 Series and A321 Series aircraft as described in this certificate is as follows:

- a. The type certification basis for the Airbus A319 Series, A320 Series and A321 Series aircraft is shown on TCDS A28NM for parts not changed or not affected by this change.
- b. The certification basis for the parts changed or affected by this change since the reference date of application, June 23, 2011, is shown on TCDS A28NM. In addition, the applicant has complied with 14 CFR Part 25 as amended by Amendment 25-119 and 14 CFR Part 26 amended by Amendment 26-1.

14 CFR Part 25 Regulations at the latest amendment 25-0 through 25-119

25.1309(a); 25.1529.

14 CFR Part 26 Regulations

Based on 14 CFR § 21.101(g), applicable provisions of 14 CFR Part 26 are included in the certification basis. For any future 14 CFR Part 26 amendments, the holder of this STC must demonstrate compliance with the applicable sections. As of the latest amendment date of this STC, compliance has been found for the following regulations: 14 CFR § 26.11(c) [Amdt. No. 26-0]; §26.47(c) [Amdt. No. 26-1]. This modification does not affect or create fatigue critical baseline structure.

Limitations and Conditions: (continued)

- 2) Limitations for installations utilizing both Cellular and Wireless Data Technologies compatibility aspects of this STC, as defined in Group 1 of Astronics Armstrong Aerospace Master Data List, Doc. No DC104-9046-00, Revision P, dated July 15, 2015, or later approved revision:
 - (a) This STC may only be applied to an aircraft when an airplane installed base station using cellular technologies is concurrently installed in accordance with a separate FAA approval.
 - (b) This STC does not constitute installation approval of an airplane mobile base station using cellular technologies or a wireless radio frequency system using wireless data technologies. It only provides data that may partially support their installations or activations.
 - (c) The installer must comply with limitations listed in Sections 2 and 3 of Astronics Armstrong Aerospace "Aircraft Equipment Compatibility List", Doc. No. DC370-9046-01.
 - (d) The operator is responsible to ensure changes to the aircraft equipment remain compatible in accordance with Sections 3 and 5 of Astronics Armstrong Aerospace "Aircraft Equipment Compatibility List", Doc. No. DC370-9046-01.

Limitations and Conditions Continued on Page 4 of 4

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

Number ST03103CH

Date of issuance: September 6, 2012

Date Amended: April 15, 2013; July 17, 2015

Limitations and Conditions: (continued)

- 3) Limitations for installations utilizing the Wireless Data Technologies compatibility aspects of this STC, as defined in Group 2 of Astronics Armstrong Aerospace Master Data List, Doc. No DC104-9046-00, Revision P, dated July 15, 2015, or later approved revision:
 - (a) This STC does not constitute installation approval of a wireless radio frequency system using wireless data technologies. It only provides data that may partially support their installations or activations.
 - (b) The installer must comply with limitations listed in Sections 2 and 3 of Astronics Armstrong Aerospace "Aircraft Equipment Compatibility List", Doc. No. DC370-9046-02.
 - (c) The operator is responsible to ensure changes to the aircraft equipment remain compatible in accordance with Sections 3 and 5 of Astronics Armstrong Aerospace "Aircraft Equipment Compatibility List", Doc. No. DC370-9046-02.
- 4) Limitations for installations utilizing Cellular Technologies compatibility aspects of this STC, as defined in Group 3 of Astronics Armstrong Aerospace Master Data List, Doc. No DC104-9046-00, Revision P, dated July 15, 2015, or later approved revision:
 - (a) This STC may only be applied to an aircraft when an airplane installed base station using cellular technologies is concurrently installed in accordance with a separate FAA approval.
 - (b) This STC does not constitute installation approval of an airplane mobile base station using cellular technologies. It only provides data that may partially support their installations or activations.
 - (c) The installer must comply with limitations listed in Sections 2 and 3 of Astronics Armstrong Aerospace "Aircraft Equipment Compatibility List", Doc. No. DC370-9046-01.
 - (d) The operator is responsible to ensure changes to the aircraft equipment remain compatible in accordance with Sections 3 and 5 of Astronics Armstrong Aerospace "Aircraft Equipment Compatibility List", Doc. No. DC370-9046-01.
- 5) Limitations for installations utilizing both Cellular and Wireless Data Technologies compatibility aspects of this STC, as defined in Group 4 of Astronics Armstrong Aerospace Master Data List, Doc. No DC104-9046-00, Revision P, dated July 15, 2015, or later approved revision:
 - (a) This STC may only be applied to an aircraft when an airplane installed base station using cellular technologies that include LTE frequencies is concurrently installed in accordance with a separate FAA approval.
 - (b) This STC does not constitute installation approval of an airplane mobile base station using cellular technologies or a wireless radio frequency system using wireless data technologies. It only provides data that may partially support their installations or activations.
 - (c) The installer must comply with limitations listed in Sections 2 and 3 of Astronics Armstrong Aerospace "Aircraft Equipment Compatibility List", Doc. No. DC370-9046-03.
 - (d) The operator is responsible to ensure changes to the aircraft equipment remain compatible in accordance with Sections 3 and 5 of Astronics Armstrong Aerospace "Aircraft Equipment Compatibility List", Doc. No. DC370-9046-03.
- 6) If the holder agrees to permit another person to use this certificate to alter a product, the holder must give the other person written evidence of that permission.

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