US Department of Transportation Federal Aviation Administration

MAJOR REPAIR AND ALTERATION
(Airframe, Powerplant, Propeller, or Appliance)

OMB No. 2120-0020 Exp: 07/31/2026 | Electronic Tracking Number

For FAA Use Only

INSTRUCTIONS: Print or type all entries. See Title 14 CFR §43.9, Part 43 Appendix B, and AC 43.9-1 (or subsequent revision thereof) for instructions and disposition of this form. This report is required by law (49 U.S.C. §44701). Failure to report can result in a civil penalty for each such violation. (49 U.S.C. §46301(a))

1. Aircraft

Nationality and Registration Mark	Serial No.	
N154TS	30515	
Make	**Model**	**Series**
Boeing	737-89L	

2. Owner

Name *(As shown on registration certificate)*	Address *(As shown on registration certificate)*
Falcon Aviation Holdings LLC	Address 1 Rocket Road
	City Hawthorne State CA
	Zip 90250 Country USA

3. For FAA Use Only

4. Type		5. Unit Identification			
Repair	Alteration	Unit	Make	Model	Serial No.
☐	☒	AIRFRAME	Boeing	*(As described in Item 1 above)*	30515
☐	☐	POWERPLANT			
☐	☐	PROPELLER			
☐	☐	APPLIANCE	Type / Manufacturer		

6. Conformity Statement

A. Agency's Name and Address

Name: TULARE AIRCRAFT SERVICES
Address: 2800 PROPELLER PLACE
City: ATWATER State: CA
Zip: 95301 Country: USA

B. Kind of Agency

	U. S. Certificated Mechanic		Manufacturer
	Foreign Certificated Mechanic	C. Certificate No.	
x	Certificated Repair Station	CL3R427L	
	Certificated Maintenance Organization		

D. I certify that the repair and/or alteration made to the unit(s) identified in item 5 above and described on the reverse or attachments hereto have been made in accordance with the requirements of Part 43 of the U.S. Federal Aviation Regulations and that the information furnished herein is true and correct to the best of my knowledge.

Extended range fuel per 14 CFR Part 43 App. B ☐

Signature/Date of Authorized Individual: [signature] 15 Dec 23

7. Approval for Return to Service

Pursuant to the authority given persons specified below, the unit identified in item 5 was inspected in the manner prescribed by the Administrator of the Federal Aviation Administration and is ☒ Approved ☐ Rejected

BY								
	☐	FAA Flt. Standards Inspector	☐	Manufacturer	☐	Maintenance Organization	☐	Persons Approved by Canadian Department of Transport
	☐	FAA Designee	X	Repair Station	☐	Inspection Authorization		Other *(Specify)*

Certificate or Designation No. CL3R427L

Signature/Date of Authorized Individual: [signature] 15 Dec 23

FAA Form 337 (10/06)

NOTICE

Weight and balance or operating limitation changes shall be entered in the appropriate aircraft record. An alteration must be compatible with all previous alterations to assure continued conformity with the applicable airworthiness requirements.

8. Description of Work Accomplished
(If more space is required, attach additional sheets. Identify with aircraft nationality and registration mark and date work completed.)

USA	
N154TS	December 15, 2023
Nationality and Registration Mark	Date

1. DESCRIPTION:

To document the installation of the Starlink Aviation System on the Boeing 737-89L, MSN 30515 only. Installation engineering data and analysis was performed in accordance with the guidelines of FAA Policy Statement PS-AIR-25-17 and FAA Memorandum dated Oct 19, 2012 providing Job Aid guidance related to FAA Order 8300.16 for determination of approval levels required for major repairs and alterations.

2. APPROVED DATA:

i) Drawing 06654102-501 Rev A. Dated 10/23/2023, Boeing 737-800 Top Level Assembly, Starlink Aviation by FAA Electrical Robert S Chupka DER-T, 117186691 and FAA Structural Venkat Ramachandran DER-T, 575001431
ii) Drawing 06654102-550 Rev C. Dated 12/10/2023, Boeing 737-800 Starlink Exterior Install, FS 500D, Starlink Aviation by FAA Structural Venkat Ramachandran DER-T, 575001431
iii) Drawing 06654102-551 Rev C. Dated 12/10/2023, Boeing 737-800 Starlink Exterior Install, FS 727G, Starlink Aviation by FAA Structural Venkat Ramachandran DER-T, 575001431
iv) Drawing 06654102-570 Rev B. Dated 12/10/2023, Boeing 737-800 Starlink Interior Install, Starlink Aviation by FAA Structural Venkat Ramachandran DER-T, 575001431
v) SPX-00005053 Rev. 2.0 Dated 12/12/2023, Starlink Aviation Structural Substantiation, Boeing 737-800 by FAA Structural Venkat Ramachandran DER-T, 575001431
vi) Drawing 06654102-202 Rev C. Dated 12/01/2023, B737, Aeroterminal, Wiring Schematic by FAA Electrical Robert S Chupka DER-T, 117186691
vii) Drawing 06654102-621 Rev B. Dated 12/01/2023, B737, Aeroterminal, Wire Routing by FAA Electrical Robert S Chupka DER-T, 117186691
viii) SPX-00004939 Rev. 1.0 Dated 11/13/2023, Starlink Aviation SpaceX B737-800 Electrical Load Analysis by FAA Electrical Robert S Chupka DER-T, 117186691
ix) SPX-00005051 Rev. 1.0 Dated 12/05/2023, Starlink Aviation Anti-Collision Light Blockage Analysis, Boeing 737-800 by FAA Electrical Robert S Chupka DER-T, 117186691
x) STR-00000553 Rev. 1.0 Dated 12/08/2023, Starlink Aviation B737 (N154TS) Functional Ground Test Report by FAA Electrical Robert S Chupka DER-T, 117186691
xi) STR-00000554 Rev. 1.0 Dated 12/08/2023, Starlink Aviation B737 (N154TS) EMC Ground Test Report by FAA Electrical Robert S Chupka DER-T, 117186691
xii) QSA-23084 Rev. Initial Release Dated 12/12/2023, Performance Limited Weight Decrement Due to Installation of the SpaceX Satcom Radomes on Boeing 737-800 Aircraft by FAA Flight Analyst Sky W Rudolph DER-T, 367575048
xiii) SPX-00005289 Rev. 1.0 Dated 1/04/2024, Starlink Aviation B737 System Safety Assessment, N154TS by FAA Electrical Robert S Chupka DER-T, 117186691

☑ Additional Sheets Are Attached

NOTICE

Weight and balance or operating limitation changes shall be entered in the appropriate aircraft record. An alteration must be compatible with all previous alterations to assure continued conformity with the applicable airworthiness requirements.

8. Description of Work Accomplished
(If more space is required, attach additional sheets. Identify with aircraft nationality and registration mark and date work completed.)

USA

N154TS — Nationality and Registration Mark

December 15, 2023 — Date

2. APPROVED DATA (cont.):

xiv) SPX-00005052 Rev. 2.0 Dated 1/09/2024, Starlink Aviation Fatigue and Damage Tolerance Report, Boeing 737-800 by FAA Structural Venkat Ramachandran DER-T, 575001431
xv) SPX-00005244 Rev. 1.0 Dated 12/27/2023, Starlink Aviation B737-800 (N154TS) Aircraft Flight Manual Supplement by FAA Flight Test Pilot James Acree DER-T, 098281043

3. OTHER DATA:
i) SPX-00004932 Rev. 5.0 Dated 1/12/2024, Starlink Aviation SpaceX 737-800 (N154TS) Master Data List
ii) SPX-00005050 Rev. 1.0 Dated 10/30/2023, Starlink Aviation Weight Balance Statement, Boeing 737-800
iii) STR-00000556 Rev. 1.0 Dated 12/14/2023, Starlink Aviation B737 Flight Test Report
iv) SPX-00005115 Rev. 2.0 Dated 1/09/2024, Starlink Aviation B737-800 Instructions for Continued Airworthiness (N154TS)
v) SPX-00005269 Rev. 2.0 Dated 1/12/2024, Starlink Aviation B737-800 (N154TS) Certification Summary Report
vi) SPX-00005292 Rev. 1.0 Dated 1/08/2024, Starlink Aviation B737 Qualification by Similarity Report, N154TS
viii) STR-00000532 Rev. 1.0 Dated 9/29/2023, Starlink Aviation PVC-Free Harnessing Flammability Test Report
ix) SPX-00005294 Rev. 1.0 Dated 1/08/2024, Starlink Aviation Bird Strike Qual by Similarity Report, Boeing 737-800

----------END----------

☐ Additional Sheets Are Attached

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

DETERMINATION OF COMPLIANCE WITH AIRWORTHINESS STANDARDS

1. PROJECT NO.(If applicable)

AIRCRAFT OR AIRCRAFT COMPONENT IDENTIFICATION

2. MAKE	3. MODEL NO.	4. TYPE (Aircraft, Engine, Propeller, Actuator etc.)	5. NAME OF APPLICANT
Boeing	737-89L	Aircraft	Space Exploration Technologies, Starlink Aviation

PURPOSE OF DATA

6. IN SUPPORT OF: ___ TC/ATC ___ STC ___ PMA ___ Major Repair X Major Alteration ___ Other (Explain)

PROJECT SPECIFIC INFORMATION: Boeing 737-800 Starlink System Provisions Installation

PURPOSE OF SUBMITTAL: To approve structural data for Starlink System provisions Installation

LIST OF DATA

List the data *for this submittal* including applicable drawings, material specifications, and process specifications and any other data that shows or contributes to a showing of compliance with the applicable requirements listed in block 9. A reference to a drawing list, including revision level, may be used.

7. IDENTIFICATION	8. TITLE OF DATA
06654102-501 Rev A Date: 23-OCT-2023	BOEING 737-800 TOP LEVEL ASSEMBLY, STARLINK AVIATION
06654102-550 Rev C Date: 10-DEC-2023	BOEING 737-800 STARLINK EXTERIOR INSTALL, FS 500D, STARLINK AVIATION
06654102-551 Rev C Date: 10-DEC-2023	BOEING 737-800 STARLINK EXTERIOR INSTALL, FS 727G, STARLINK AVIATION
06654102-570 Rev B Date: 10-DEC-2023	BOEING 737-800 STARLINK INTERIOR INSTALL, STARLINK AVIATION
	Notes: This approval is for engineering design data only. It indicates the data listed above demonstrates compliance only with the regulations specified by paragraph and subparagraph listed below as 'Applicable Requirements'. Structural design aspects only of the above data are approved herein. This approval is valid only for Boeing Model: 737-89L, S/N: 30515.

9. APPLICABLE REQUIREMENTS (List specific sections and amendment levels)

14 CFR 25.601 Amdt 25-0, 25.603(a)(b)(c) Amdt 25-46, 25.605(a) Amdt 25-46, 25.609(a)(b) Amdt 25-0, 25.611(a) Amdt 25-123,

10. FAA DESIGNEE APPROVAL - As directed by the Administrator and in accordance with the conditions and limitations of authorization under 14 CFR, Part 183, data listed above, and on attached sheets numbered _____, have been examined in accordance with established procedures. I therefore

☒ APPROVE the data above ☐ RECOMMEND APPROVAL of the data above

FOR MAJOR REPAIR OR MAJOR ALTERATION ONLY – Other data approvals ☒ ARE REQUIRED ☐ ARE NOT REQUIRED

EXPLAIN :

Electrical systems approval is required for the alteration.

☐ MANAGING OFFICE WAS CONTACTED (required when approval was made outside the U.S and/or invloved critical or life limited parts)

11. DER/ODA NUMBER	12. PRINTED NAME	
575001431	Venkat Ramachandran	
13. TECHNICAL DISCIPLINE DER-T (Structural Engineering)	14. SIGNATURE *Venkat Ramachandran* Digitally Signed 12/13/2023	16. DATE 12/13/2023

FAA APPROVAL (For FAA use when designee recommends approval above, or when approval is reserved for the FAA)

17. PRINTED NAME/FAA OFFICE	18. TECHNICAL DISCIPLINE
19. SIGNATURE	20. DATE

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

DETERMINATION OF COMPLIANCE WITH AIRWORTHINESS STANDARDS

1. PROJECT NO.(if applicable)

AIRCRAFT OR AIRCRAFT COMPONENT IDENTIFICATION

2. MAKE	3. MODEL NO.	4. TYPE (Aircraft, Engine, Propeller, Actuator etc.)	5. NAME OF APPLICANT
Boeing	737-89L	Aircraft	Space Exploration Technologies, Starlink Aviation

PURPOSE OF DATA

6. IN SUPPORT OF: ___ TC/ATC ___ STC ___ PMA ___ Major Repair X Major Alteration ___ Other (Explain)

PROJECT SPECIFIC INFORMATION: Boeing 737-800 Starlink System Provisions Installation

PURPOSE OF SUBMITTAL: To approve structural analysis data for Starlink System provisions Installation

LIST OF DATA

List the data *for this submittal* including applicable drawings, material specifications, and process specifications and any other data that shows or contributes to a showing of compliance with the applicable requirements listed in block 9. A reference to a drawing list, including revision level, may be used.

7. IDENTIFICATION	8. TITLE OF DATA
SPX-00005053 Version 2.0 Date: 2023-12-12	Starlink Aviation Structural Substantiation, Boeing 737-800 Notes: This approval is for engineering design data only. It indicates the data listed above demonstrates compliance only with the regulations specified by paragraph and subparagraph listed below as 'Applicable Requirements'. Structural aspects only of the above data are approved herein. This approval is valid only for Boeing Model: 737-89L, S/N: 30515. Additional damage tolerance analysis and approval is required for this alteration and must be completed within 12 months after this approval.

9. APPLICABLE REQUIREMENTS (List specific sections and amendment levels)

14 CFR 25.301(a)(b) Amdt 25-23, 25.303 Amdt 25-23, 25.305(a)(b) Amdt 25-86, 25.307(a) Amdt 25-72, 25.365(a)(b)(d) Amdt 25-87, 25.561(a)(b)(c) Amdt 25-91, 25.613(a)(b)(c) Amdt 25-72, 25.625(a)(b)(c) Amdt 25-72, 25.789(a) Amdt 25-46

10. FAA DESIGNEE APPROVAL - As directed by the Administrator and in accordance with the conditions and limitations of authorization under 14 CFR, Part 183, data listed above, and on attached sheets numbered _____, have been examined in accordance with established procedures. I therefore

☑ APPROVE the data above ☐ RECOMMEND APPROVAL of the data above

FOR MAJOR REPAIR OR MAJOR ALTERATION ONLY – Other data approvals ☑ ARE REQUIRED ☐ ARE NOT REQUIRED
EXPLAIN :

Additional damage tolerance analysis and approval is required for this alteration and must be completed within 12 months after this approval.

☐ MANAGING OFFICE WAS CONTACTED (required when approval was made outside the U.S and/or invloved critical or life limited parts)

11. DER/ODA NUMBER	12. PRINTED NAME	
575001431	Venkat Ramachandran	
13. TECHNICAL DISCIPLINE	14. SIGNATURE	16. DATE
DER-T (Structural Engineering)	*Venkat Ramachandran* Digitally Signed 12/13/2023	12/13/2023

FAA APPROVAL (For FAA use when designee recommends approval above, or when approval is reserved for the FAA)

17. PRINTED NAME/FAA OFFICE	18. TECHNICAL DISCIPLINE
19. SIGNATURE	20. DATE

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

DETERMINATION OF COMPLIANCE WITH AIRWORTHINESS STANDARDS

1. PROJECT NO.(if applicable)

AIRCRAFT OR AIRCRAFT COMPONENT IDENTIFICATION

2. MAKE	3. MODEL NO.	4. TYPE (Aircraft, Engine, Propeller, Actuator etc.)	5. NAME OF APPLICANT
Boeing	737-800	Aircraft	SPACE EXPLORATION TECHNOLOGIES STARLINK AVIATION

PURPOSE OF DATA

6. IN SUPPORT OF: ___ TC/ATC ___ STC ___ PMA ___ Major Repair X Major Alteration ___ Other (Explain)

PROJECT SPECIFIC INFORMATION: In support of Major Alteration for AC SN 30515 for Starlink Aviation System Installation.

PURPOSE OF SUBMITTAL: In support of Major Alteration for AC SN 30515 for Starlink Aviation System Installation.

LIST OF DATA

List the data *for this submittal* including applicable drawings, material specifications, and process specifications and any other data that shows or contributes to a showing of compliance with the applicable requirements listed in block 9. A reference to a drawing list, including revision level, may be used.

7. IDENTIFICATION	8. TITLE OF DATA
06654102-501 Rev. A Dated 10/23/2023	Boeing 737-800 Top Level Assembly, Starlink Aviation
06654102-202 Rev. C Dated 12/1/2023	B737, Aeroterminal, Wiring Schematic
06654102-621 Rev. B Dated 12/1/2023	B737, Aeroterminal, Wire Routing
	Notes: This approval is for engineering design data only. It indicates the data listed above demonstrates compliance only with the regulations specified by paragraph and subparagraph listed below as 'Applicable Requirements'. Approval is for Electrical Aspects Only. This approval is in support of major alteration to Boeing 737-800 AC SN 30515 for Starlink Aviation System Installation.

9. APPLICABLE REQUIREMENTS (List specific sections and amendment levels)

14CFR Part 25: 25.899 [Amdt. 25-123]; 25.981([Amdt. 25-146]; 25.1301(a)(b)(c) [Amdt. 25-0]; 25.1307 [Amdt. 25-72]; 25.1309(a)(b)(c) [Amdt. 25-41]; 25.1353(a)(b) [Amdt. 25-113]; 25.1357 (a)(c)(d) [Amdt. 25-0]; 25.1431(a)(c) [Amdt. 25-0]

10. FAA DESIGNEE APPROVAL - As directed by the Administrator and in accordance with the conditions and limitations of authorization under 14 CFR, Part 183, data listed above, and on attached sheets numbered _____, have been examined in accordance with established procedures. I therefore

☑ APPROVE the data above ☐ RECOMMEND APPROVAL of the data above

FOR MAJOR REPAIR OR MAJOR ALTERATION ONLY – Other data approvals ☑ ARE REQUIRED ☐ ARE NOT REQUIRED
EXPLAIN :

Additional approvals may be required for this alteration.

☐ MANAGING OFFICE WAS CONTACTED (required when approval was made outside the U.S and/or invloved critical or life limited parts)

11. DER/ODA NUMBER	12. PRINTED NAME	
117186691	Robert S Chupka	
13. TECHNICAL DISCIPLINE	14. SIGNATURE	16. DATE
DER-T (Electrical Systems Engineering)	Robert S Chupka Digitally Signed 12/12/2023	12/12/2023

FAA APPROVAL (For FAA use when designee recommends approval above, or when approval is reserved for the FAA)

17. PRINTED NAME/FAA OFFICE	18. TECHNICAL DISCIPLINE
19. SIGNATURE	20. DATE

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

DETERMINATION OF COMPLIANCE WITH AIRWORTHINESS STANDARDS

1. PROJECT NO.(if applicable)

AIRCRAFT OR AIRCRAFT COMPONENT IDENTIFICATION

2. MAKE	3. MODEL NO.	4. TYPE (Aircraft, Engine, Propeller, Actuator etc.)	5. NAME OF APPLICANT
Boeing	737-800	Aircraft	SPACE EXPLORATION TECHNOLOGIES STARLINK AVIATION

PURPOSE OF DATA

6. IN SUPPORT OF: ___ TC/ATC ___ STC ___ PMA ___ Major Repair X Major Alteration ___ Other (Explain)

PROJECT SPECIFIC INFORMATION: In support of Major Alteration for AC SN 30515 for Starlink Aviation System Installation.

PURPOSE OF SUBMITTAL: In support of Major Alteration for AC SN 30515 for Starlink Aviation System Installation.

LIST OF DATA

List the data *for this submittal* including applicable drawings, material specifications, and process specifications and any other data that shows or contributes to a showing of compliance with the applicable requirements listed in block 9. A reference to a drawing list, including revision level, may be used.

7. IDENTIFICATION	8. TITLE OF DATA
SPX-00004939 Rev. 1.0 Dated 11/13/23	Starlink Aviation SpaceX B737-800 Electrical Load Analysis
SPX-00005051 Rev. 1.0 Dated 12/05/23	Starlink Aviation Anti-Collision Light Blockage Analysis, Boeing 737-800
	Notes: This approval is for engineering design data only. It indicates the data listed above demonstrates compliance only with the regulations specified by paragraph and subparagraph listed below as 'Applicable Requirements'. Approval is for Electrical Aspects Only. This approval is in support of major alteration to Boeing 737-800 AC SN 30515 for Starlink Aviation System Installation.

9. APPLICABLE REQUIREMENTS (List specific sections and amendment levels)

14CFR Part 25: 25.1351(a)(1) [Amdt. 25-72]; 25.1401(b) [Amdt. 25-41]

10. FAA DESIGNEE APPROVAL - As directed by the Administrator and in accordance with the conditions and limitations of authorization under 14 CFR, Part 183, data listed above, and on attached sheets numbered _____, have been examined in accordance with established procedures. I therefore

☒ APPROVE the data above ☐ RECOMMEND APPROVAL of the data above

FOR MAJOR REPAIR OR MAJOR ALTERATION ONLY – Other data approvals ☒ ARE REQUIRED ☐ ARE NOT REQUIRED

EXPLAIN :

Additional approvals may be required for this alteration.

☐ MANAGING OFFICE WAS CONTACTED (required when approval was made outside the U.S and/or invloved critical or life limited parts)

11. DER/ODA NUMBER	12. PRINTED NAME	
117186691	Robert S Chupka	
13. TECHNICAL DISCIPLINE	14. SIGNATURE	16. DATE
DER-T (Electrical Systems Engineering)	Robert S Chupka Digitally Signed 12/14/2023	12/14/2023

FAA APPROVAL (For FAA use when designee recommends approval above, or when approval is reserved for the FAA)

17. PRINTED NAME/FAA OFFICE	18. TECHNICAL DISCIPLINE
19. SIGNATURE	20. DATE

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

DETERMINATION OF COMPLIANCE WITH AIRWORTHINESS STANDARDS

1. PROJECT NO.(if applicable)

AIRCRAFT OR AIRCRAFT COMPONENT IDENTIFICATION

2. MAKE	3. MODEL NO.	4. TYPE (Aircraft, Engine, Propeller, Actuator etc.)	5. NAME OF APPLICANT
Boeing	737-800	Aircraft	SPACE EXPLORATION TECHNOLOGIES STARLINK AVIATION

PURPOSE OF DATA

6. IN SUPPORT OF: ___ TC/ATC ___ STC ___ PMA ___ Major Repair X Major Alteration ___ Other (Explain)

PROJECT SPECIFIC INFORMATION: In support of Major Alteration for AC SN 30515 for Starlink Aviation System Installation.

PURPOSE OF SUBMITTAL: In support of Major Alteration for AC SN 30515 for Starlink Aviation System Installation.

LIST OF DATA

List the data *for this submittal* including applicable drawings, material specifications, and process specifications and any other data that shows or contributes to a showing of compliance with the applicable requirements listed in block 9. A reference to a drawing list, including revision level, may be used.

7. IDENTIFICATION	8. TITLE OF DATA
STR-00000553 Rev. 1.0 Dated 12/08/23	Starlink Aviation B737 (N154TS) Functional Ground Test Report
STR-00000554 Rev. 1.0 Dated 12/08/23	Starlink Aviation B737 (N154TS) EMC Ground Test Report

Notes:

This approval is for engineering design data only. It indicates the data listed above demonstrates compliance only with the regulations specified by paragraph and subparagraph listed below as 'Applicable Requirements'.

Approval is for Electrical Aspects Only. This approval is in support of major alteration to Boeing 737-800 AC SN 30515 for Starlink Aviation System Installation.

9. APPLICABLE REQUIREMENTS (List specific sections and amendment levels)

14CFR Part 25: 25.1301(d) [Amdt. 25-0]; 25.1309(a) [Amdt. 25-41]; 25.1353(a) [Amdt. 25-113]; 25.1431(c) [Amdt. 25-113]

10. FAA DESIGNEE APPROVAL - As directed by the Administrator and in accordance with the conditions and limitations of authorization under 14 CFR, Part 183, data listed above, and on attached sheets numbered _____, have been examined in accordance with established procedures. I therefore

☑ APPROVE the data above ☐ RECOMMEND APPROVAL of the data above

FOR MAJOR REPAIR OR MAJOR ALTERATION ONLY – Other data approvals ☑ ARE REQUIRED ☐ ARE NOT REQUIRED
EXPLAIN :

Additional approvals may be required for this alteration.

☐ MANAGING OFFICE WAS CONTACTED (required when approval was made outside the U.S and/or invloved critical or life limited parts)

11. DER/ODA NUMBER	12. PRINTED NAME	
117186691	Robert S Chupka	
13. TECHNICAL DISCIPLINE	14. SIGNATURE	16. DATE
DER-T (Electrical Systems Engineering)	Robert S Chupka Digitally Signed 12/14/2023	12/14/2023

FAA APPROVAL (For FAA use when designee recommends approval above, or when approval is reserved for the FAA)

17. PRINTED NAME/FAA OFFICE	18. TECHNICAL DISCIPLINE
19. SIGNATURE	20. DATE

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

DETERMINATION OF COMPLIANCE WITH AIRWORTHINESS STANDARDS

1. PROJECT NO.(if applicable)

AIRCRAFT OR AIRCRAFT COMPONENT IDENTIFICATION

2. MAKE	3. MODEL NO.	4. TYPE (Aircraft, Engine, Propeller, Actuator etc.)	5. NAME OF APPLICANT
Boeing	737-89L	Aircraft	Space Exploration Technologies, Starlink Aviation

PURPOSE OF DATA

6. IN SUPPORT OF: ___ TC/ATC ___ STC ___ PMA ___ Major Repair X Major Alteration ___ Other (Explain)

PROJECT SPECIFIC INFORMATION: Boeing 737-800 Starlink System Provisions Installation

PURPOSE OF SUBMITTAL: Approve analysis of performance decrements due to additional drag caused by external antenna radomes. Use of presented weight decrements ensures that the takeoff, landing, and climb performance in all certified phases of flight is equivalent to the unmodified aircraft.

LIST OF DATA

List the data *for this submittal* including applicable drawings, material specifications, and process specifications and any other data that shows or contributes to a showing of compliance with the applicable requirements listed in block 9. A reference to a drawing list, including revision level, may be used.

7. IDENTIFICATION	8. TITLE OF DATA
QSA-23084 Initial Release 12 December 2023	Performance Limited Weight Decrement Due to Installation of the SpaceX Satcom Radomes on Boeing 737-800 Aircraft Notes: This approval is for engineering design data only. It indicates the data listed above demonstrates compliance only with the regulations specified by paragraph and subparagraph listed below as 'Applicable Requirements'.

9. APPLICABLE REQUIREMENTS (List specific sections and amendment levels)

14 CFR 25.109 Amdt 25-42, 25.111 Amdt 25-72, 25.113 Amdt 25-23, 25.115 Amdt 25-0, 25.117 Amdt 25-0, 25.119 Amdt 25-0, 25.121 Amdt 25-0, 25.123 Amdt 25-0, 25.125 Amdt 25-72.

10. FAA DESIGNEE APPROVAL - As directed by the Administrator and in accordance with the conditions and limitations of authorization under 14 CFR, Part 183, data listed above, and on attached sheets numbered _____, have been examined in accordance with established procedures. I therefore

☑ APPROVE the data above ☐ RECOMMEND APPROVAL of the data above

FOR MAJOR REPAIR OR MAJOR ALTERATION ONLY – Other data approvals ☑ ARE REQUIRED ☐ ARE NOT REQUIRED

EXPLAIN :

Performance decrements presented must be incorporated into AFMS as described.

☐ MANAGING OFFICE WAS CONTACTED (required when approval was made outside the U.S and/or invloved critical or life limited parts)

11. DER/ODA NUMBER	12. PRINTED NAME
367575048	Sky W Rudolph
13. TECHNICAL DISCIPLINE	**14. SIGNATURE** / **16. DATE**
DER-T (Flight Analyst)	*Sky W Rudolph* Digitally Signed 12/14/2023 — 16. DATE 12/14/2023

FAA APPROVAL (For FAA use when designee recommends approval above, or when approval is reserved for the FAA)

17. PRINTED NAME/FAA OFFICE	18. TECHNICAL DISCIPLINE
19. SIGNATURE	20. DATE

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

DETERMINATION OF COMPLIANCE WITH AIRWORTHINESS STANDARDS

1. PROJECT NO.(if applicable)

AIRCRAFT OR AIRCRAFT COMPONENT IDENTIFICATION

2. MAKE	3. MODEL NO.	4. TYPE (Aircraft, Engine, Propeller, Actuator etc.)	5. NAME OF APPLICANT
Boeing	737-800	Aircraft	SPACE EXPLORATION TECHNOLOGIES STARLINK AVIATION

PURPOSE OF DATA

6. IN SUPPORT OF: ___ TC/ATC ___ STC ___ PMA ___ Major Repair X Major Alteration ___ Other (Explain)

PROJECT SPECIFIC INFORMATION: In support of Major Alteration for AC SN 30515 for Starlink Aviation System Installation.

PURPOSE OF SUBMITTAL: In support of Major Alteration for AC SN 30515 for Starlink Aviation System Installation.

LIST OF DATA

List the data *for this submittal* including applicable drawings, material specifications, and process specifications and any other data that shows or contributes to a showing of compliance with the applicable requirements listed in block 9. A reference to a drawing list, including revision level, may be used.

7. IDENTIFICATION	8. TITLE OF DATA
SPX-00005289 Rev. 1.0 Dated 01/04/2024	Starlink Aviation B737 System Safety Assessment, N154TS Notes: This approval is for engineering design data only. It indicates the data listed above demonstrates compliance only with the regulations specified by paragraph and subparagraph listed below as 'Applicable Requirements'. Approval is for Electrical Aspects Only. This approval is in support of major alteration to Boeing 737-800 AC SN 30515 for Starlink Aviation System Installation.

9. APPLICABLE REQUIREMENTS (List specific sections and amendment levels)

14CFR Part 25: 25.1309(b)(c)(d) [Amdt. 25-41]; 25.1431(a)(c) [Amdt. 25-0]

10. FAA DESIGNEE APPROVAL - As directed by the Administrator and in accordance with the conditions and limitations of authorization under 14 CFR, Part 183, data listed above, and on attached sheets numbered _____, have been examined in accordance with established procedures. I therefore

☑ APPROVE *the data above* ☐ RECOMMEND APPROVAL *of the data above*

FOR MAJOR REPAIR OR MAJOR ALTERATION ONLY – Other data approvals ☑ ARE REQUIRED ☐ ARE NOT REQUIRED

EXPLAIN :

Additional approvals may be required for this alteration.

☐ MANAGING OFFICE WAS CONTACTED (required when approval was made outside the U.S and/or invloved critical or life limited parts)

11. DER/ODA NUMBER	12. PRINTED NAME
117186691	Robert S Chupka
13. TECHNICAL DISCIPLINE	**14. SIGNATURE** / **16. DATE**
DER-T (Electrical Systems Engineering)	Robert S Chupka Digitally Signed 01/08/2024 — 01/08/2024

FAA APPROVAL (For FAA use when designee recommends approval above, or when approval is reserved for the FAA)

17. PRINTED NAME/FAA OFFICE	18. TECHNICAL DISCIPLINE
19. SIGNATURE	20. DATE

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

DETERMINATION OF COMPLIANCE WITH AIRWORTHINESS STANDARDS

1. PROJECT NO.(if applicable)

AIRCRAFT OR AIRCRAFT COMPONENT IDENTIFICATION

2. MAKE	3. MODEL NO.	4. TYPE (Aircraft, Engine, Propeller, Actuator etc.)	5. NAME OF APPLICANT
Boeing	737-89L	Aircraft	Space Exploration Technologies, Starlink Aviation

PURPOSE OF DATA

6. IN SUPPORT OF: ___ TC/ATC ___ STC ___ PMA ___ Major Repair X Major Alteration ___ Other (Explain)

PROJECT SPECIFIC INFORMATION: Boeing 737-800 Starlink System Provisions Installation

PURPOSE OF SUBMITTAL: To approve damage tolerance analysis data for Starlink System provisions Installation

LIST OF DATA

List the data *for this submittal* including applicable drawings, material specifications, and process specifications and any other data that shows or contributes to a showing of compliance with the applicable requirements listed in block 9. A reference to a drawing list, including revision level, may be used.

7. IDENTIFICATION	8. TITLE OF DATA
SPX-00005052 Version 2.0 Date: 2024-01-09	Starlink Aviation Fatigue and Damage Tolerance Report, Boeing 737-800 Notes: This approval is for engineering design data only. It indicates the data listed above demonstrates compliance only with the regulations specified by paragraph and subparagraph listed below as 'Applicable Requirements'. Damage tolerance aspects only of the above data are approved herein. This approval is valid only for Boeing Model: 737-89L, S/N: 30515. Additional inspections are required for the Starlink system installations. See Instructions for Continued Airworthiness Document no. SPX-00005115, Rev. 2.0, dated 2024-01-09 for details of the required inspections.

9. APPLICABLE REQUIREMENTS (List specific sections and amendment levels)

14 CFR 25.571(a)(b) Amdt 25-86

10. FAA DESIGNEE APPROVAL - As directed by the Administrator and in accordance with the conditions and limitations of authorization under 14 CFR, Part 183, data listed above, and on attached sheets numbered _____, have been examined in accordance with established procedures. I therefore

☒ APPROVE the data above ☐ RECOMMEND APPROVAL of the data above

FOR MAJOR REPAIR OR MAJOR ALTERATION ONLY – Other data approvals ☒ ARE REQUIRED ☐ ARE NOT REQUIRED
EXPLAIN :

Additional static analysis and approval is required for this alteration.

☐ MANAGING OFFICE WAS CONTACTED (required when approval was made outside the U.S and/or invloved critical or life limited parts)

11. DER/ODA NUMBER	12. PRINTED NAME
575001431	Venkat Ramachandran
13. TECHNICAL DISCIPLINE	**14. SIGNATURE** / **16. DATE**
DER-T (Structural Engineering)	*Venkat Ramachandran* Digitally Signed 01/12/2024 — 01/12/2024

FAA APPROVAL (For FAA use when designee recommends approval above, or when approval is reserved for the FAA)

17. PRINTED NAME/FAA OFFICE	18. TECHNICAL DISCIPLINE
19. SIGNATURE	20. DATE

U.S. DEPARTMENT OF TRANSPORTATION
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DETERMINATION OF COMPLIANCE WITH AIRWORTHINESS STANDARDS

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AIRCRAFT OR AIRCRAFT COMPONENT IDENTIFICATION

2. MAKE	3. MODEL NO.	4. TYPE (Aircraft, Engine, Propeller, Actuator etc.)	5. NAME OF APPLICANT
The Boeing Company	737-800	Aircraft	Space Exploration Technologies

PURPOSE OF DATA

6. IN SUPPORT OF: ___ TC/ATC ___ STC ___ PMA ___ Major Repair X Major Alteration ___ Other (Explain)

PROJECT SPECIFIC INFORMATION: Installation of an In-flight Internet System.

PURPOSE OF SUBMITTAL: AFMS Approval.

LIST OF DATA

List the data *for this submittal* including applicable drawings, material specifications, and process specifications and any other data that shows or contributes to a showing of compliance with the applicable requirements listed in block 9. A reference to a drawing list, including revision level, may be used.

7. IDENTIFICATION	8. TITLE OF DATA
SPX-00005244 (Rev IR), 11 January 2024.	Airplane Flight Manual Supplement for Boeing 737-89L Aircraft with Starlink System. Notes: This approval is for engineering design data only. It indicates the data listed above demonstrates compliance only with the regulations specified by paragraph and subparagraph listed below as 'Applicable Requirements'. This approval is for serial number 30515 AFMS data only.

9. APPLICABLE REQUIREMENTS (List specific sections and amendment levels)

14 CFR: 25.1581 amdt. 25-72, 25.1583(h) amdt. 25-130, 25.1585(a)(b) amdt. 25-105, 25.1587(b)(3)(i)(ii) amdt. 25-108.

10. FAA DESIGNEE APPROVAL - As directed by the Administrator and in accordance with the conditions and limitations of authorization under 14 CFR, Part 183, data listed above, and on attached sheets numbered _____, have been examined in accordance with established procedures. I therefore

☑ APPROVE the data above ☐ RECOMMEND APPROVAL of the data above

FOR MAJOR REPAIR OR MAJOR ALTERATION ONLY – Other data approvals ☑ ARE REQUIRED ☐ ARE NOT REQUIRED
EXPLAIN :

DER-approved airplane Performance data.

☐ MANAGING OFFICE WAS CONTACTED (required when approval was made outside the U.S and/or invloved critical or life limited parts)

11. DER/ODA NUMBER	12. PRINTED NAME	
098281043	James Nelson Acree	
13. TECHNICAL DISCIPLINE	14. SIGNATURE	16. DATE
DER-T (Flight Test Pilot)	James Nelson Acree Digitally Signed 01/11/2024	01/11/2024

FAA APPROVAL (For FAA use when designee recommends approval above, or when approval is reserved for the FAA)

17. PRINTED NAME/FAA OFFICE	18. TECHNICAL DISCIPLINE
19. SIGNATURE	20. DATE

FAA APPROVED

AIRPLANE FLIGHT MANUAL SUPPLEMENT

for

Boeing 737-89L Aircraft

with

Starlink System

Serial Number: 30515

Registration Number: N154TS

This supplement must be attached to the FAA Approved Airplane Flight Manual when the airplane is modified by the installation of a Starlink System in accordance with FAA Form 337 dated 15 December 2023.

The information contained herein supplements or supersedes the basic Airplane Flight Manual only in those areas listed. For limitations, procedures and performance not contained in this supplement, consult the basic Airplane Flight Manual.

James N. Acree, DER 098281043, per enclosed 8110-3 for
Manager, Flight Test & Human Factors Branch, AIR-710
Federal Aviation Administration

11 January 2024
Approved Date

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

DETERMINATION OF COMPLIANCE WITH AIRWORTHINESS STANDARDS

1. PROJECT NO.(if applicable)

AIRCRAFT OR AIRCRAFT COMPONENT IDENTIFICATION

2. MAKE	3. MODEL NO.	4. TYPE (Aircraft, Engine, Propeller, Actuator etc.)	5. NAME OF APPLICANT
The Boeing Company	737-800	Aircraft	Space Exploration Technologies

PURPOSE OF DATA

6. IN SUPPORT OF: ___ TC/ATC ___ STC ___ PMA ___ Major Repair X Major Alteration ___ Other (Explain)

PROJECT SPECIFIC INFORMATION: Installation of an In-flight Internet System.

PURPOSE OF SUBMITTAL: AFMS Approval.

LIST OF DATA

List the data *for this submittal* including applicable drawings, material specifications, and process specifications and any other data that shows or contributes to a showing of compliance with the applicable requirements listed in block 9. A reference to a drawing list, including revision level, may be used.

7. IDENTIFICATION	8. TITLE OF DATA
SPX-00005244 (Rev IR), 11 January 2024.	Airplane Flight Manual Supplement for Boeing 737-89L Aircraft with Starlink System. Notes: This approval is for engineering design data only. It indicates the data listed above demonstrates compliance only with the regulations specified by paragraph and subparagraph listed below as 'Applicable Requirements'. This approval is for serial number 30515 AFMS data only.

9. APPLICABLE REQUIREMENTS (List specific sections and amendment levels)

14 CFR: 25.1581 amdt. 25-72, 25.1583(h) amdt. 25-130, 25.1585(a)(b) amdt. 25-105, 25.1587(b)(3)(i)(ii) amdt. 25-108.

10. FAA DESIGNEE APPROVAL - As directed by the Administrator and in accordance with the conditions and limitations of authorization under 14 CFR, Part 183, data listed above, and on attached sheets numbered _____, have been examined in accordance with established procedures. I therefore

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EXPLAIN :

DER-approved airplane Performance data.

☐ MANAGING OFFICE WAS CONTACTED (required when approval was made outside the U.S and/or invloved critical or life limited parts)

11. DER/ODA NUMBER	12. PRINTED NAME
098281043	James Nelson Acree
13. TECHNICAL DISCIPLINE	14. SIGNATURE / 16. DATE
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FAA APPROVAL (For FAA use when designee recommends approval above, or when approval is reserved for the FAA)

17. PRINTED NAME/FAA OFFICE	18. TECHNICAL DISCIPLINE
19. SIGNATURE	20. DATE

LOG OF REVISIONS

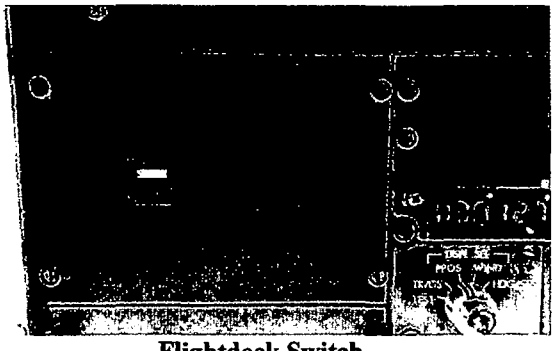
REV.	FAA APPROVAL	SUMMARY DESCRIPTION
IR	James N. Acree, DER 098281043, 11 January 2024	Initial Release

TABLE OF CONTENTS

INTRODUCTION

The *Starlink Aviation System* is installed. The system provides satellite connection for in-flight internet services and interfaces with the cabin wi-fi system. The system is standalone does not interface with any aircraft flight systems.

There is an ON/OFF switch on the Flightdeck overhead panel and 3 relevant circuit breakers on the right-side flightdeck circuit breaker panel. The system requires approximately 5 minutes to operate when powered on. There are 2 upper-fuselage antennas and relevant cabin electronics including 4 routers. The system is powered through the IFE/PASS system. Figures below apply:

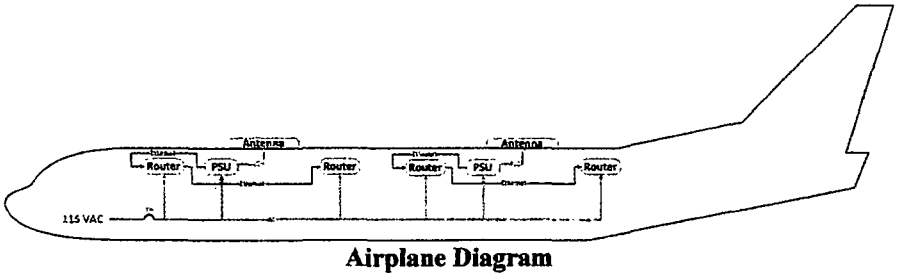


Flightdeck Switch

P6-1 (F/O) Electrical System Panel

	Location	Number Name	Power	Current
B 11	C9001	STARLINK 1	115 VAC	5 Amps
B 12	C9002	STARLINK 2	115 VAC	5 Amps
B 13	C9003	STARLINK CNTL	28 VDC	2 Amps

Circuit Breakers



Airplane Diagram

NOT FAA APPROVED

SECTION 1 – CERTIFICATE LIMITATIONS

A. Use of the Starlink Aviation System is prohibited for flight crew operations.

B. Use of the Starlink Aviation System is prohibited as a substitute for flight crew Satellite Voice (SATVOICE) communications.

C. Use of the Starlink Aviation System is prohibited as a substitute for Air Traffic Service (ATS) communications.

D. This does not constitute operational approval for the use of Portable Electronic Devices (PEDs).

CAUTION

Due to radiation hazard, personnel should maintain a distance of 2 feet from the antennas when the system is in operation.

SECTION 2 – NON-NORMAL PROCEDURES

ABNORMAL PROCEDURES

Condition: The flight crew determines the need to de-power the entire Starlink system in flight. (suspected EMI, unknown source of smoke, etc.)

STARLINK switch .....OFF.

NOTE

This action removes electrical power from the complete Starlink System.

NOTE

The Starlink System can also be turned OFF by selecting the IFE/PASS SEAT switch to OFF.

SECTION 3 – NORMAL PROCEDURES

To operate the Starlink System:

STARLINK switch.....ON

IFE/SEAT power switch.....ON

NOTE

Power to the Starlink System can be removed at any time by setting any (or any combination) of the above switches to OFF.

SECTION 4 - PERFORMANCE

The performance decrements due to installation of the Starlink antennas are provided below:

Flight Segment	Weight Penalty
Takeoff Climb	Negligible
Final Climb	Negligible
Enroute Climb	125 lbs.
Approach Climb	Negligible
Landing Climb	Negligible

Example: On departure, the aircraft's planned enroute climb weight is 167,250 lbs. Applying the Enroute penalty this becomes 167,375 lbs.

FAA APPROVED

REVISION / CHANGE RECORD

Version	Description	Release Date
1.0	INITIAL RELEASE	2023-12-14
2.0	Added Airworthiness Limitations data (section 9) and related inspections. Updated Section 6 Scheduled maintenance. Updated errors in document references and fixed formatting.	*See Approval Date*

STARLINK

STARLINK AVIATION B737-800 INSTRUCTIONS FOR CONTINUED AIRWORTHINESS (N154TS)

X-Files Document	Version	Date
SPX-00005115	**2.0**	*2024-01-09*

Approved Version	*2.0*
Approved By	*Kalpa Semasinghe*
Approval Date	*2024-01-09*
Current Version	*2.0*
Prepared By	*Kalpa Semasinghe*

TABLE OF CONTENTS

1 PURPOSE

1.1 Scope & Purpose

In compliance to §14 CFR Part 25, Appendix H on Instructions for Continued Airworthiness, a maintenance instruction will be provided for the installation of the SpaceX Starlink Aviation System in the Boeing 737-800. There are certain provisions for this model in Type Certificate Data Sheet A16WE. This document is developed for return to service of the 737-800 airplane to standard airworthiness. This document does not provide the instructions for the inspection's programs required to maintain the structural integrity, required by the damage tolerance evaluation.

1.2 Applicability

This document is applicable to aircraft altered by this installation as listed in Section 1.1, and further described in Section 2.

NOTE: The applicability of the current AMM Maintenance instructions, system descriptions, component locations, and testing regarding all systems has not been impacted by the application of this alteration.

1.3 Distribution

The aircraft owner/operator/installer is furnished these Instructions for Continued Airworthiness upon installation of the SpaceX Starlink Aviation System.

1.4 Updates and Revisions

The Design Approval Holder will distribute manual updates upon revision of the ICA. The revised sections will be highlighted for ease of identification. Print this document in color or grey scale. If highlighted text is not legible, contact the Design Approval Holder holder for a printed copy of this document.

Inquiries relating to this ICA, its revisions, or revision services are to be in writing to the Design Approval Holder. Contact details are listed in Section 11. The following information is to be provided with all inquiries:

Subject ICA Document Number: SPX-00005115
Current Revision Status of Document
Aircraft Model, Serial Number and Registration Number
Name
Address
City, State and Zip Code
Contact phone
Email address

1.5 Definitions and Abbreviations

CIC	Corrosion Inhibiting compound
DET	Detailed Visual Inspection
GVI	General Visual Inspection
HFEC	High Frequency Eddy Current
ICA	Instructions for Continued Airworthiness
IPA	Isopropyl Alcohol
LFEC	Low Frequency Eddy Current
LRU	Line Replaceable Unit
PED	Portable Electronic Device
POE	Power Over Ethernet
PSU	Power Supply Unit
SDE	Special Detailed Inspection
STC	Supplemental Type Certificate
LRU	Line Replaceable Unit

1.6 General Safety Precautions

⚠ Observe all general safety precautions concerning ground power operations.

⚠ Check that all aircraft electrical power is switched OFF prior to performing maintenance.

⚠ Open the breakers C9001, C9002, and C9003 at the P6-1 panel during inspections, component removals, and wiring troubleshooting procedures other than power checks or normal operational tests.

⚠ For wiring maintenance, component removal or repairs other than inspections requiring removal of the aircraft battery refer to Ch 20 of the AMM and SWPM.

⚠ Upon completion of inspections and/or maintenance reconnect battery power and ensure the C9001, C9002, and C9003 at the P6-1 panel are closed.

⚠ Do not stand on the Aero Terminal Unit. It is not a step.

⚠ 

⚠ ESD Sensitive devices are subject to damage by excessive levels of voltage and/or current in order to adequately protect against electrostatic damage, the device and anything that comes in contacts with it must be brought to ground potential by providing a conductive surface and discharge path. The following precautions must be followed:

- Place the LRU and Antennas on a grounded conductive surface while ESD protection caps are not installed.
- Use ESD protection caps on the connectors when the LRU or Antennas are being stored or moved.

- Store the LRU and Antennas in an ESD shielding bag.

2 SCOPE

The Starlink Aviation System provides satellite connection for in-flight internet services. These services are non-safety critical. The Starlink Aviation System is generally considered for In Flight Entertainment applications. The Starlink Aero Terminals are LRUs that are comprised of the upper-fuselage-mounted Starlink antennas. The antennas communicate with the WiFi Router via Ethernet through the Power Supply Unit and provides necessary information for the antenna to accurately establish communication. A depiction of the equipment locations is shown below in Figure 2-1.

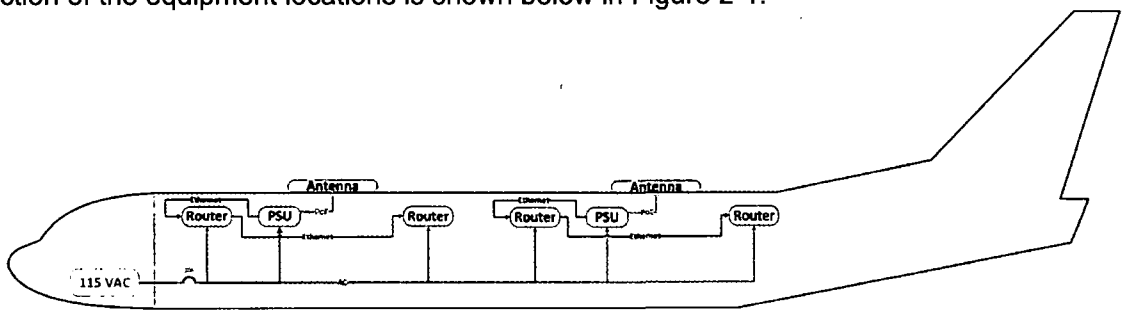


Figure 2-1: System Reference

The Starlink system installation on Boeing 737-800 consists of 2x antennas mounted on top of fuselage crown, along with associated Power-over-Ethernet (PoE) cable routed through existing wire, that runs into the Wi-Fi Routers mounted beneath the ceiling panels.

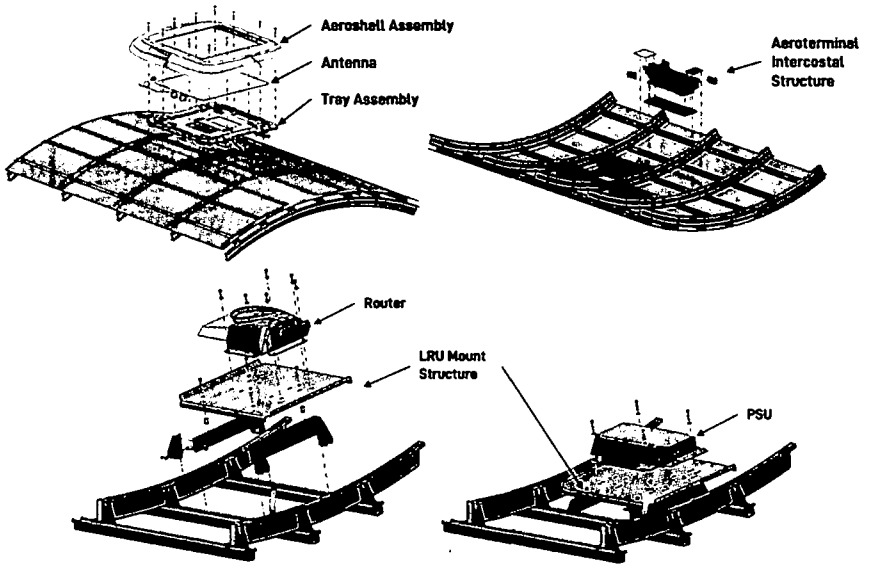


Figure 2-2: Starlink Aviation System

3 DIAGRAMS AND DRAWINGS

The Applicable wiring diagrams, drawings, and other installation data can be found in the MDL pertaining to this installation. (please refer to SPX-00004932 for B737-800 MDL)

4 OPERATION INFORMATION

There are no special operation instructions for the Starlink Aviation System during normal or maintenance operations. Maintenance tasks are detailed in Section 7 of this document. The damaged or inoperable components are replaced and returned to authorized Repair Station.

4.1 Activation and Deactivation

The Starlink Aviation system can be turned on or off using the Starlink ON/OFF switch located in the cockpit.

4.2 Software Updates

The software contained within the Starlink Aviation Aero Terminal is reviewed, tested and updated through a proprietary process by Starlink. If deemed necessary by Starlink, software changes that meet the requirements defined by Starlink will be sent to the aircraft for an over-the-air update per SPX-00003661.

Router and SSID configurations are controlled through the Starlink Enterprise portal and will automatically update once set.

5 SERVICE INFORMATION

5.1 List of Special Tools

No special tools are required. Access procedures referenced from applicable aircraft manuals may require specialized tools or equipment that is outside the scope of this document.

5.2 Lubricants and Sealants

The lubricants and sealants listed in Table 1 constitute the list of SpaceX approved materials for use in servicing components of the Starlink Aviation Aero Terminal and Associated system components. Alternatives may be listed.

Table 1 Lubricants and Sealants

Reference	Description	Material	Supplier
D001	MOLYKOTE 33 Medium Extreme Low Temperature Grease	MOLYKOTE 33	Dupont
D002	KRYTOX 240AC	Perflouropolyether (PFPE) with PTFE	The Chemours Company
S001	SnapSil RTV230 Adhesive	RTV230	Momentive
S002	RESERVED		

5.3 General Maintenance

5.3.1 Exterior

The exterior of the Aero Terminal should be cleaned and washed during regular aircraft cleaning at whatever interval cleaning already takes place. No special washing interval beyond the normally scheduled aircraft cleaning is required. The Aero Terminal may be either wet or dry washed per the following procedures.

5.3.1.1 Wet Wash

Equipment:

- Low - pressure spray gun, not to exceed 175 psi - Commercially available
- Source of filtered compressed air, not to exceed 175 psi - Commercially available
- Sponge - Commercially available
- Soft cloth rag - Commercially available

Materials:

- Neutral liquid detergent or equivalent - AMS 1526 or MIL-PRF-87937
- Isopropyl alcohol (IPA) - Commercially available

Procedure:

1. Prepare the cleaning solution in a dilution ratio of 10% by volume of neutral detergent to the amount of water.
2. Apply cleaning solution with spray gun, wet rag, sponge, or equivalent.
3. Allow cleaning solution to soak on the surface for sufficient time to soften soil (about 5 minutes).
4. Rinse the area thoroughly with clean water until free of cleaning solution. Always proceed from the upper surface downward.
5. Dry the surface with forced air or dry rags.
6. After general cleaning and drying, IPA wipe the Starlink Antenna Outer Surface with a clean rag with no debris. Refer to Figure 3 for highlighted Starlink Antenna Outer Surface.

NOTE: NO EQUIPMENT WHICH DEVELOPS MORE THAN 175 PSI NOZZLE PRESSURE SHOULD BE USED. MAINTAIN MINIMUM 2 FEET (24 IN) AWAY FROM AERO TERMINAL WHILE

5.3.2 Interior

Clean the exposed surfaces of the cockpit switch components per the following procedure. No special cleaning interval beyond regular aircraft cleaning is required.

Equipment:

- Sponge - Commercially available
- Soft cloth rag - Commercially available

Materials:

- Neutral liquid detergent or equivalent - AMS 1526 or MIL-PRF-87937

Procedure:

1. Prepare the cleaning solution in a dilution ratio of (1 oz.) of neutral detergent to (1 gallon) of water.
2. Apply cleaning solution with damp rag, sponge, or equivalent.
3. Dry the surface with dry rags.

6 SCHEDULED MAINTENANCE

Below is the scheduled maintenance and inspection tasks for the SpaceX Starlink Aviation System. Initial inspection task should be completed prior to threshold (if applicable) and repeat at a frequency not to exceed the specified interval. The operator may choose to shorten intervals as desired. For each task, ensure to observe all precautions as outlined in Section 1.6.

NOTE: For replacement of any of the compliant wiring or associated components, see Section 8 of this ICA for the appropriate drawing or document associated with the action to be performed. If it is determined there is a functional for safety issue with a harness, replace the identified harness.

6.1 Inspection Tasks

6.1.1 Visual Type Inspection

Visually examine the specific structural area, system, installation, or assembly indicated to detect damage, failure, or irregularity. Available lighting is normally supplemented with a direct source of good lighting at intensity deemed appropriate by the inspector. Inspection aids such as mirror, magnifying lenses, etc., may be used. Surface cleaning and elaborate access procedures may be required.

6.2 Scheduled Maintenance and Inspections

The maintenance tasks and inspections are listed in Table 2.

PRESSURE WASHING. DO NOT USE MEK OR ACETONE ON ANY PART OF THE STARLINK SYSTEM. DO NOT USE BRUSHES TO CLEAN THE STARLINK ANTENNA SURFACE. ONLY USE CLEAN RAG WITH NO DEBRIS. AVOID APPLYING DIRECT SPRAY TO INTERNAL CAVITIES.

5.3.1.2 Dry Wash

Equipment:

- Soft cloth rag - Commercially available
- Polishing cloth - Commercially available

Materials:

- Aircraft dirt and grime remover - Commercially available
- Aircraft Polish - Commercially available
- Isopropyl alcohol (IPA) - Commercially available

Procedure:

1. Apply dirt and grime remover with cloth rag or equivalent. Re apply until surface is clean and free of visible dirt and grime.
2. [OPTIONAL] Apply aircraft polish to the Aero Terminal with clean polishing cloth.

NOTE: Do not apply polish to the Starlink Antenna Radome Surface as shown in Figure 5-1.

3. After general cleaning, IPA wipe the Starlink Antenna Outer Surface with a clean rag with no debris. Refer to Figure 3 for highlighted Starlink Antenna Outer Surface.

NOTE: DO NOT USE MEK OR ACETONE ON ANY PART OF THE STARLINK SYSTEM. DO NOT USE BRUSHES TO CLEAN THE STARLINK ANTENNA SURFACE. ONLY USE CLEAN RAG WITH NO DEBRIS.

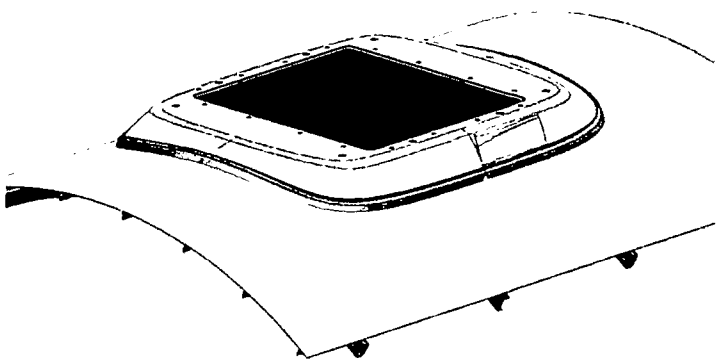


Figure 5-1: Radome Surface

5. If signs of corrosion are present, remove the lug pins and bushings
   - Clean and perform visual inspection inside bore of the clevises. See DWG 06654102-550, and 06654102-551.
   - Re-apply lubricant D001 to bores and bushings
   - Re-assemble joint per Figure 6-2. Ensure thread protrusion of joint measures between 1.06mm and 2.41mm. Additional NAS1149C0532R washers up to a maximum of 2 may be used to ensure correct thread protrusion.
   - Torque all bolts to 70 in-lbs +/- 5 in-lbs including running torque.

6. Reinstall Aeroshell per Section 8.1 this document
   - Perform a detailed visual inspection of the cable pass through bulkhead, ensuring nut is uncorroded and secured. DWG 06654102-550, and 06654102-551.

7. Perform visual inspection on seal

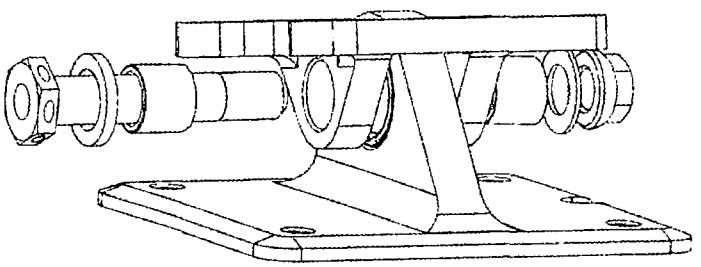


Figure 6-2: Exploded lug and clevis joint. (Rear Right shown, others similar)

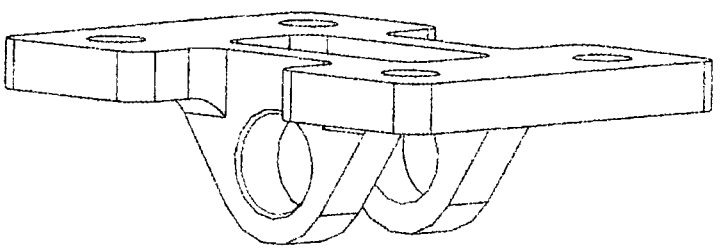


Figure 6-3: Clevis Inspection Surfaces

6.3.2 Electrical Bonding Check

1. Remove aeroshell and place to the side per Section 8.1 of this document.

Table 2: Scheduled Maintenance and Inspection

TASK TYPE	THRESHOLD/ INTERVAL	TASK DESCRIPTION	LOCATION	INSPECTION TASK
DET	T: - I: 20000FC / 15 MO	Internally inspect the Starlink Aviation Aero Terminal installation joints	FWD: STA 500D AFT: STA 727G	Detailed Visual Inspection
DET	T: - I: 15 MO	Check Starlink Aviation System bond path to airframe.	FWD: STA 500D AFT: STA 727G	Detailed Visual Inspection
GVI	T: - I: 15 MO	Externally inspect the Starlink Aviation System installation at the fuselage seal	FWD: STA 500D AFT: STA 727G	Perform general visual inspection See Figure 6-1

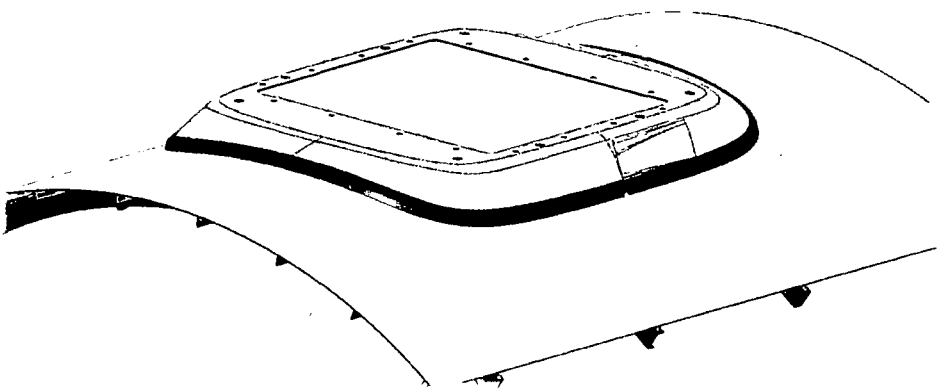


Figure 6-1: Fuselage Seal

6.3 Maintenance Tasks

The maintenance tasks for mechanical and system components are in section 6.3.1 and 6.3.2 respectively.

6.3.1 Aero Terminal Joints Inspection

1. Remove aeroshell and place to the side per Section 8.1 this document.
   NOTE: Take care with antenna harness when disconnecting.

2. Perform a detailed visual inspection at all the lug joints

3. Look for signs of corrosion

4. Look for cracks

NOTE: Be careful with the antenna harness when disconnecting.

2. Visually inspect ground contact areas (masked areas without paint) on both aeroshell and tray.

3. Check for electrical bonding by placing one probe on 1 of the 2 forward contact area on tray and the other on an uncoated rivet head (removal of CIC over rivet heads may be necessary) connected to the bonding strap nearest to the selected contact area. Maximum resistance allowed is 1 milliohm per SWPM 20-20-00.

4. Repeat electrical bonding check for aft contact areas on tray.

5. If electrical bonding cannot be established, attempt test again via another rivet head.

6. Reapply CIC if required to rivets in accordance with the Install Drawing.

7. Reinstall Aeroshell per Section 8.1 of this document.

8. Perform visual inspection on seal.

7 SYSTEM TESTING & TROUBLESHOOTING

7.1 System Testing

Verity system function by performing the following test:

- Power cycle the system by toggling the Starlink ON/OFF Switch in the cockpit or breaker. Connect to the Wi-Fi router SSID with any PED. Connect to internet and perform any internet speed test when the aircraft and antenna have a clear view of the sky.

7.2 System Troubleshooting

Should the system not function or connect to internet, troubleshoot with the following steps:

1. Ensure connection to the Starlink Wi-Fi network on the aircraft

2. Ensure the antenna has a clear view of the sky. If the PED is connected to the Wi-Fi but not able to access to internet, the antenna may be obstructed by buildings around the aircraft.

If connection to Starlink Wi-Fi network is available and clear view of the sky is available:

3. Power cycle system by toggling the Starlink ON/OFF switch in the cockpit

4. Verify all cables and connectors are plugged in at the Power Supply and Wi-Fi router.

5. With system power enabled, look to see if indicator lights on the Wi-Fi routers are visible (indicating).

If these steps do not result in connection to the internet contact SpaceX Starlink support for assistance.

8 REMOVAL AND REPLACEMENT

NOTE: FOR ALL REMOVAL AND REPLACEMENT OPERATIONS, ENSURE ALL AIRCRAFT ELECTRICAL POWER IS OFF.

Follow all general safety precautions when performing maintenance.

8.1 Starlink Aero Terminal

- If the currently installed Aero Terminal is being replaced, rather than just removed and reinstalled for maintenance, create a support ticket with Starlink noting the Serial Number of the new Aero Terminal so it can be activated.

- Reconnect harnessing per Starlink System Wiring Diagram, 06654102-202.

8.3 Starlink WIFI Router

- Gain access to the WiFi Router by removing interior cabin panels as required.
- Cut any Zip-Ties restraining the data cable and unplug.
- The power cable may either be fully removed and disconnected on the PSU end or cut and spliced on the WIFI Router end.
- Loosen the 6 fasteners retaining the unit to the mounting tray.
- Lubricate fasteners with D002
- Re-install the Router by torqueing the 6x fasteners to 28 in-lbs. +/- 2 in-lbs per. Replace fasteners as required.
- Reconnect harnessing per Starlink System Wiring Diagram, 06654102-202.

8.4 Wi-Fi Data Cable Wiring

This replacement task is applicable to SpaceX part numbers 02768667-6XX and 02782456-6XX, where XX varies based on the cable length.

- Remove any zip ties or cable clamps securing the cable (See Figure 8-2 and Figure 8-3)
- Unplug the cable at both ends from the Wi-Fi and PSU units
- Remove the cable from the aircraft, mark it "Not For Flight", and send it to SpaceX
- Route a new cable of the same part number according to SpaceX drawing 06654102-621
- Secure the new cable to the LRU units with zip ties

- Remove aeroshell by picking away gap fill sealant at the fastener locations in Figure 8-1.
- Loosen the fasteners.
- Carefully lift and disconnect the connector from the pass-thru.

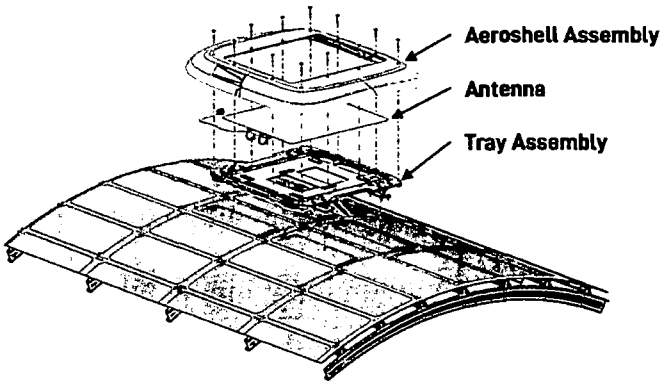


Figure 8-1: Aeroshell removal

- Reconnect the connector to the pass-through
- Reinstall by aligning Aero Terminal so that the harness connection is on the correct side.
- Mate exterior harness to witness line
- Lubricate fasteners with D002
- Torque 12x fasteners (start with inner most ones) to 170 in-lbs +/- 10 in-lbs including running torque per AMM TASK 20-70-11. Replace fasteners as required per install drawing 06654102-550 and 06654102-551 drawings. If prevailing torque on reinstall is below 5 in-lbs. or above 60 in-lbs.
- Apply sealant S001 over fastener heads and make flush with surface
- Perform a system test per Section 7.1. If a new Aero Terminal was installed, it will not connect to the network until activated by Starlink support.

8.2 Starlink Power Supply Unit (PSU)

- Gain access to PSU by removing interior cabin panels as required.
- Cut any Zip-Ties restraining the power and network harnesses. See DWG 06654102-570
- Disconnect ring terminals on PSU terminal strips.
- Disconnect connectors on the PSU.
- Loosen the 4 fasteners retaining the unit to the mounting tray.
- Lubricate fasteners with D002
- Re-install PSU by torqueing the 4x fasteners to 28 in-lbs. +/- 2 in-lbs. Replace fasteners as required per 06654102-570.

8.5 PSU Power Cable Wiring

This replacement task is applicable to SpaceX part number 02645978-601.

- Remove any zip ties or cable clamps securing the cable (see Figure 8-4).
- Disconnect the ring terminals for the wires of the AC PLUG
- Unplug the cable from the PSU unit
- Remove the cable from the aircraft, mark it "Not For Flight", and send it to SpaceX
- Route a new cable of the same part number according to SpaceX drawing 06654102-621
- Secure the new cable to the LRU unit with zip ties

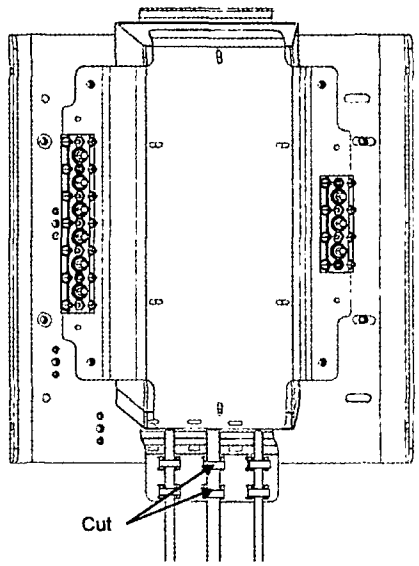


Figure 8-4: PSU Power Cable Zip Ties

8.6 PSU Data Cable Wiring

This replacement task is applicable to SpaceX part number 02687325-6XX

- Remove antenna per Section 8.1 of this document
- Cut safety wire and remove hex nut that holds the 'FUSELAGE INT' connector on the outside of the fuselage
- Remove the 'FUSELAGE INT' connector from the inside of the fuselage
- Remove any zip ties or cable clamps securing the cable (see Figure 8-5)
- Unplug the cable from the PSU unit
- Remove the cable from the aircraft, mark it "Not For Flight", and send it to SpaceX
- Route a new cable of the same part number according to SpaceX drawing 06654102-620
- Secure the new cable to the LRU unit with zip ties

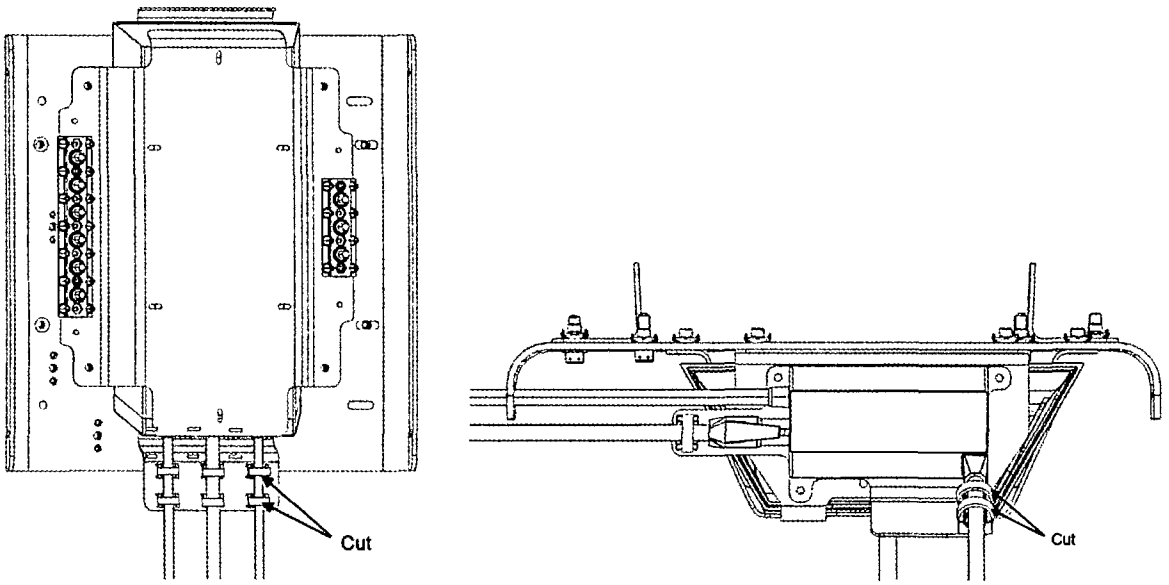


Figure 8-2: 02768667-6XX Zip Ties

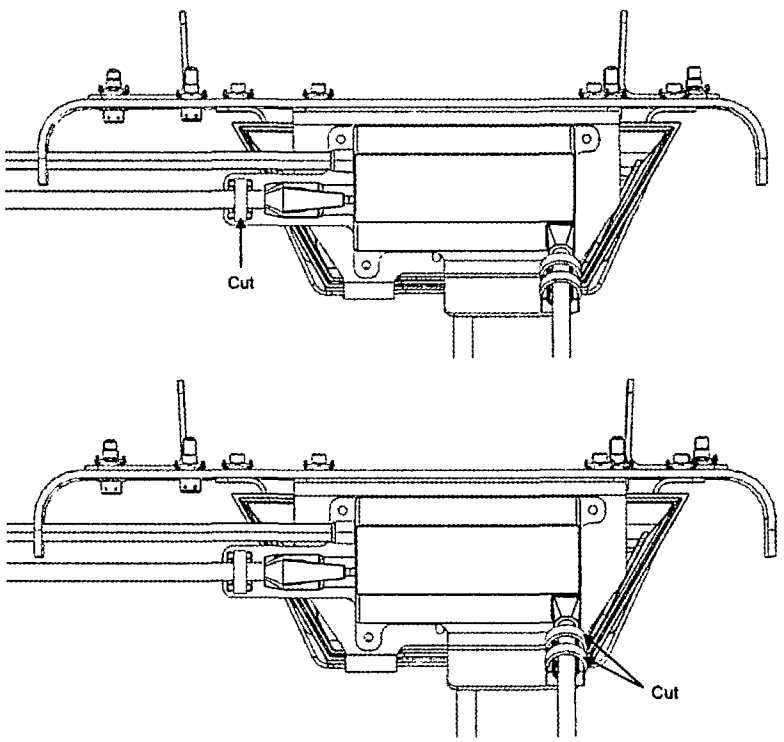


Figure 8-3: 02782456-6XX Zip Ties

9 AIRWORTHINESS LIMITATIONS

This section is in development and provides instructions to ensure the continued airworthiness of structural repairs on certain transport category airplanes. The intent of this AC is to ensure that damage tolerant structure will remain damage tolerant after it has been altered with major modification. The damage tolerance evaluation will be used to define the approved airworthiness limitations and specifies maintenance required under 14 CFR §§ 43.16 and 91.403 of the Federal Aviation Regulations.

9.1 Inspection Requirements

Below are the structural inspection tasks for the SpaceX Starlink Aviation System in order to remain compliant with 14 CFR §§ 25.571. Initial inspection task should be completed prior to threshold (if applicable) and repeat at a frequency not to exceed the specified interval. The operator may choose to shorten intervals as desired. For each task, ensure to observe all precautions as outlined in Section 1.6.

TASK TYPE	NAME	THRESHOLD/ INTERVAL	TASK DESCRIPTION	ZONE	INSPECTION TASK
SDE	FWD Aeroterminal Doublers	T: 14640 I: 4660	External inspection of Fuselage Skin Panel and Doubler Connection in way of Aeroterminal installation at STA 500D between stringer S-2R and S-2L.	231/232	Perform eddy current inspection around fastener heads on outer rivets of each doubler per NDT 51-00-00 Procedure 4. See Figure 9-1.
SDE	AFT Aeroterminal Doublers	T: 10150 I: 2290	External inspection of Fuselage Skin Panel and Doubler Connection in way of Aeroterminal installation at STA 727G between stringer S-2R and S-2L.	241/242	
SDE	FWD Shear Plates	T: 37500 I: 18750	Internal inspection of fuselage frames in way of Aeroterminal installation at STA 500D between stringer S-2R and S-2L.	231/232	Perform eddy current inspection around fastener heads on frames per NDT 51-00-00 Procedure 4. See Figure 9-2.
SDE	FWD Shear Clips	T: 37500 I: 18750	Internal inspection of fuselage frames in way of Aeroterminal installation at STA 500D between stringer S-2R and S-2L.	231/232	Perform eddy current inspection around fastener heads on frames per NDT 51-00-00 Procedure 4. See Figure 9-3.
SDE	AFT Shear Plates	T: 37500 I: 18750	Internal inspection of fuselage frames in way of Aeroterminal installation at STA 727G between stringer S-2R and S-2L.	241/242	Perform eddy current inspection around fastener heads on outer rivets of each doubler per NDT 51-00-00 Procedure 4. See Figure 9-2.

- Follow instructions of SpaceX drawing 06654102-550 and 06654102-551 for the installation of the 'FUSELAGE' connector.
- Reinstall the Aero Terminal per Section 8.1 of this document

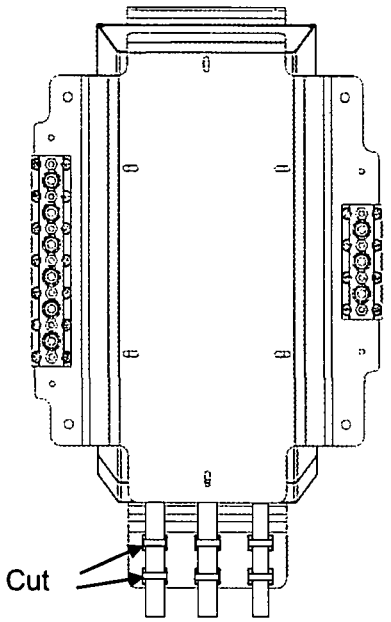


Figure 8-5: PSU Data Cable Zip Ties

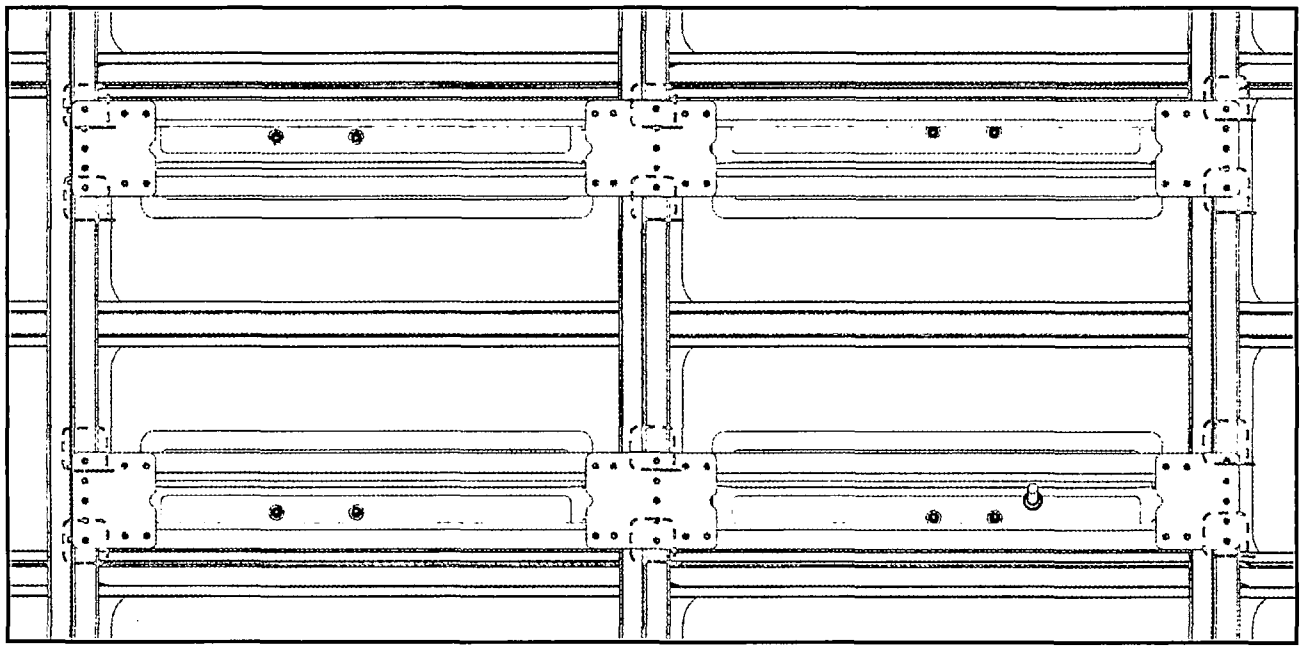


Figure 9-2: Areas of special interest for HFEC Inspection – Shear Plates

TASK TYPE	NAME	THRESHOLD/ INTERVAL	TASK DESCRIPTION	ZONE	INSPECTION TASK
SDE	AFT Shear Clips	T: 37500 I: 18750	Internal inspection of fuselage frames in way of Aeroterminal installation at STA 727G between stringer S-2R and S-2L.	241/242	Perform eddy current inspection around fastener heads on frames per NDT 51-00-00 Procedure 4. See Figure 9-3.
SDE	Stringer Clips	T: 37500 I: 18750	Internal inspection of fuselage stringers in way of PSU/ Router installation between stringers S-2L and S-3L and between: • STA 460 and STA 480 • STA 500B and STA 500C • STA 559 and STA 578 • STA 727A and STA 727B • STA 727D and STA 727E • STA 787 and STA 807	231 241	Perform eddy current inspection around fastener heads on stringers per NDT 51-00-00 Procedure 4. See Figure 9-4.

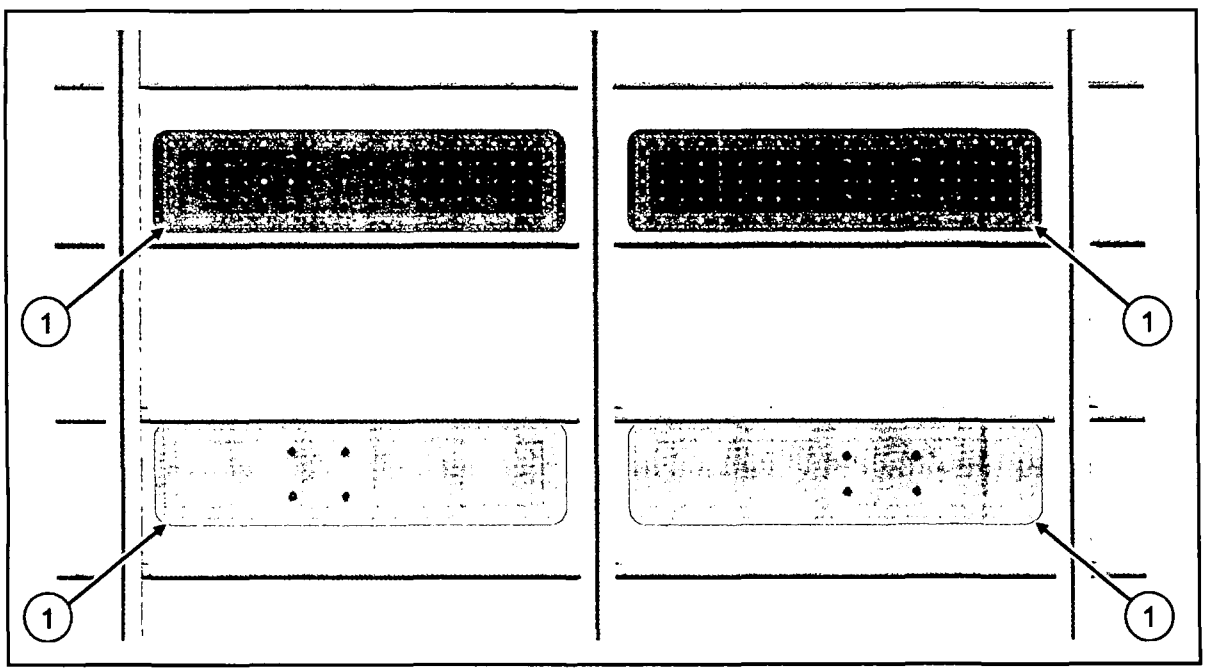


Figure 9-1: Areas of special interest for HFEC inspection – Skin Doublers

9.1.2 Visual Inspection

Perform a visual inspection at indicated areas of interest to detect cracks in aircraft skin/ components.

10 MANUFACTURER INFORMATION

For service difficulties, contact the Design Approval Holder and refer all communications, inquiries, and data requests to:

Space Exploration Technologies
3976 Jack Northrop Road
Hawthorne, CA, 90250
https://www.spacex.com/
AWCertification@spacex.com

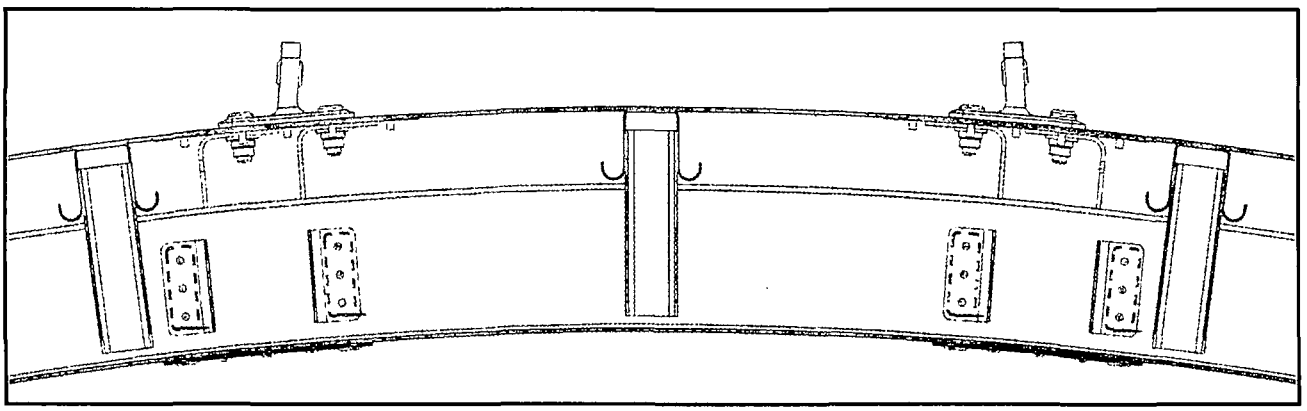


Figure 9-3: Areas of special interest for HFEC inspection – Shear Clips

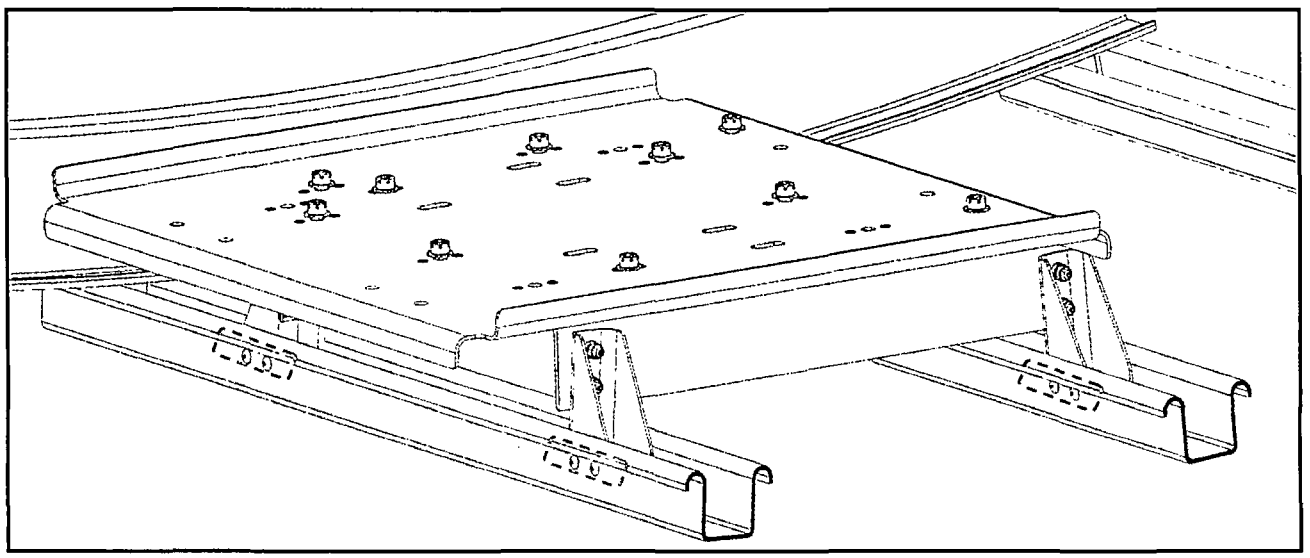


Figure 9-4: Areas of special interest for HFEC inspection – Stringer Clips

9.1.1 Eddy Current Inspection

Perform a detailed visual inspection and high frequency eddy current at indicated areas of interest to detect cracks in the aircraft skin. Ensure special attention is directed at fastener holes. Perform per Part 6 of Boeing NDT Manual.

Table 3: Eddy Current Inspection Reference

REFERENCE	DESCRIPTION
NDT 51-00-26	Aluminum Part Subsurface Inspection - Multilayer
NDT 51-00-00	Procedure 4 – Surface Inspection of Aluminum Parts

STARLINK

STARLINK AVIATION B737-800 (N154TS)
CERTIFICATION SUMMARY REPORT

X-Files Document	Version	Date
SPX-00005269	**2.0**	*2024-01-12*

Approved Version	*2.0*
Approved By	*Zachary Rohland*
Approval Date	*2024-01-12*
Current Version	*2.0*
Prepared By	*Kalpa Semasinghe*

REVISION / CHANGE RECORD

Version	Description
1.0	INITIAL RELEASE
2.0	Revision to 8110-3 from DER for the Fatigue and Damage Tolerance Report

TABLE OF CONTENTS

TABLES

FIGURES

1.0 INTRODUCTION

1.1 Purpose

The purpose of this document is to provide a certification summary for the Major Modification project that installs the SpaceX Starlink Aviation System on the Boeing 737-800 series.

1.2 Scope

This certification summary outlines the activities and methods used to show compliance in support of the Major Modification project to install the SpaceX Starlink Aviation System on the Boeing 737-800 aircraft.

1.3 Applicability

This Major Modification is applicable to Boeing 737-800 aircraft, which includes only the *B737-89L*. The specific tail number is N154TS with MSN 30515.

1.4 Acronyms and Abbreviations

(A)	Approval
AFMS	Aircraft Flight Manual Supplement
Amdt	Amendment
CCL	Compliance Checklist
CFR	Code of Federal Regulation
COS	Continued Operational Safety
Elect.	Electrical
FAA	Federal Aviation Administration
ICA	Instructions for Continued Airworthiness
Mech.	Mechanical
MDL	Master Data List
Para.	Paragraph
PED	Portable Electronic Devices
PSCP	Project Specific Certification Plan
PSU	Power Supply Unit
(RA)	Recommend Approval
STC	Supplemental Type Certificate
STIR	Supplemental Type Inspection Report
Stru.	Structural
T-PED	Transmitting Portable Electronic Devices
TIA	Type Inspection Authorization
TIR	Type Inspection Report

2.0 PROJECT DESCRIPTION

This Major Modification project installs the SpaceX Starlink Aviation System on Boeing 737-800 series aircraft. The SpaceX Starlink provides a non-essential in-flight internet for passengers using the Starlink Satellite Constellation. The SpaceX Starlink Aviation System provides Wi-Fi over IEEE 802.11 a/b/g/n/ac 2.4 GHz and 5 GHz Wi-Fi connectivity between passenger Transmitting Portable Electronic Devices (T-PEDs).

This project includes the certification of two separate Starlink Aviation Systems, each including one externally mounted Electronically Steered phased array, one internally mounted power supply, and two separate Starlink Wi-Fi Routers with all connecting harnessing as described in Section0 3.0 of this certification summary report.

The installation was performed on a Boeing 737-89L aircraft.

2.1 Project Information

Applicant Name	Space Exploration Technologies, Starlink Aviation
Type of Project	Major Modification (Form 337)
Project Description	Install Starlink Aviation Systems on Boeing 737-800 Series Aircraft
Model-Series Designation	Boeing 737-800 series
Type Certification Data Sheet (TCDS)	A16WE
Aircraft Data (Aircraft model number and S/N)	B737-89L MSN: 30515

3.1 Aero Terminal

The Starlink Aero Terminal is comprised of the upper-fuselage-mounted Aero Shell Assembly, Starlink antenna, and tray assembly.

Unit function:

The Starlink Aero Terminal function is to establish a link to the Starlink satellites in low earth orbit. It contains a modem, up-converters, RF amplifiers, and phased array. It has one Power-over-Ethernet interface, through which it receives power from the power supply and sends data to and from the cabin network (WI-FI router).

Power (per Aero Terminal):

- Power IN: 49V DC, max 360 W (7.35 A) Power-over-Ethernet interface

Signals (per Aero Terminal):

- One Gigabit Ethernet (8 data wires) to the power supply (Power-over-Ethernet interface)

Designed Failure Safety Characteristics:

- Input Surge Protection
- Input Overvoltage Protection
- Over-temperature Protection

The overall weight of each Starlink Aero Terminal is 38 lbs max., and its overall dimensions are 39.8" length, 31" width, and 2.5" height.

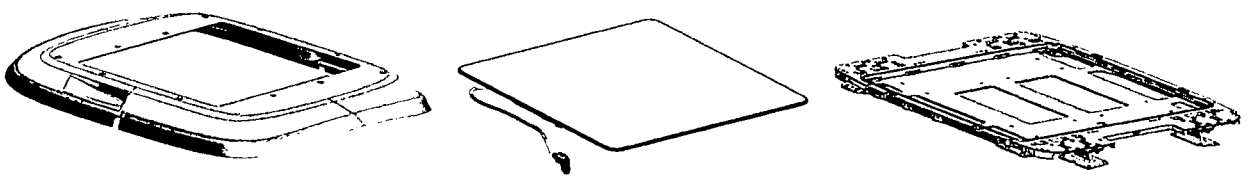


Figure 2: Aero Terminal - Components

3.0 SYSTEM DESCRIPTION

The SpaceX Starlink Aviation System is installed on the aircraft to provide satellite connection for in-flight internet services over the Starlink Low-Earth-Orbit (LEO) satellite constellation. These services are non-safety critical. The Starlink Aviation System is generally considered for In-Flight Entertainment applications.

The Starlink System includes the following components as installed on B737 aircraft:

- Two externally mounted Starlink Aero Terminal. Each comprised of:
  - One Aero Shell Assembly
  - One Electronically steered phased array antenna and harness
  - One Adaptor tray with 4x spherical lugs
- Two Starlink Power Supply (PSU) – internally mounted
- Two Starlink Wi-Fi Routers per Power Supply (a total of four) – internally mounted

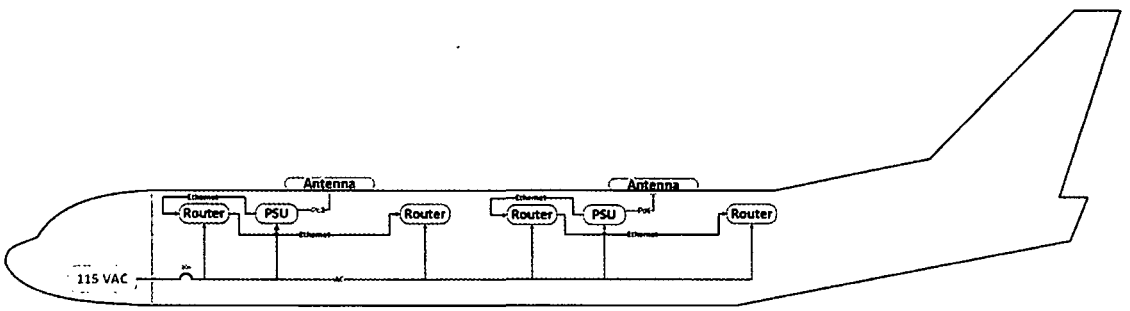


Figure 1: Starlink System Overview

The Starlink System has no interface with aircraft electrical and electronic systems other than electrical interfaces to power buses and aircraft ground.

The Starlink System is powered from the IFE/PASS XEF BUS 1 through two circuit breakers, STARLINK 1 and STARLINK 2, installed on the F/O Electrical System Panel – P6-1. Power to the Starlink System will be automatically removed in the event of electrical emergency.

The Starlink System is primarily controlled by a dedicated STARLINK ON/OFF switch installed in the flight deck. The switch is ON during normal operation. The crew can turn OFF the system using the switch as necessary.

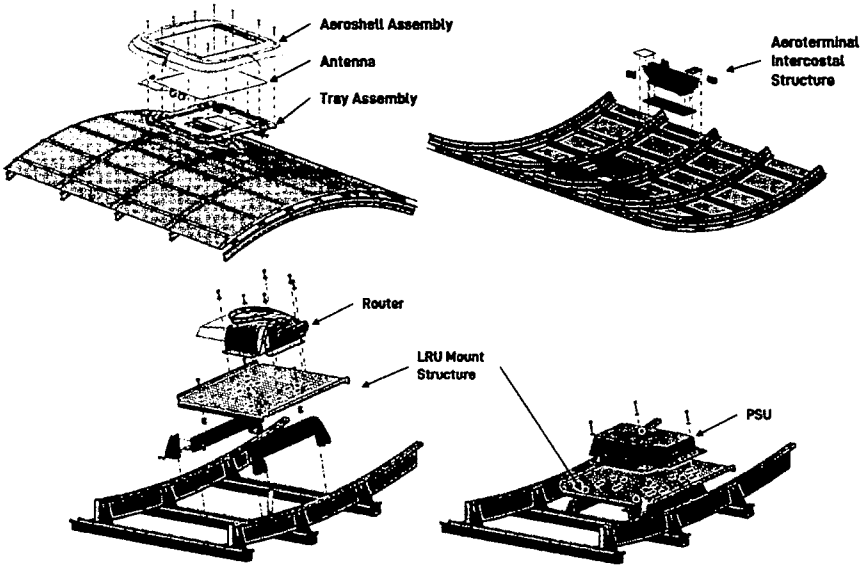


Figure 3: External Antenna Structural Installation Overview

The forward Aero Terminal is installed centered at FS 500D, while the second is centered at FS 727G.

3.2 Starlink Wi-Fi Router

The Starlink Wi-Fi Router's function is to provide a Wi-Fi network in the cabin that wireless devices can connect to, and send data to and from the Starlink Aero Terminal. The Wi-Fi Router operates on both 2.4 GHz and 5 GHz 802.11 a/b/g/n/ac protocols. It has the following two interfaces:

- AC Power IN
- Ethernet

Power:

- Power IN: 100-240VAC, single phase, 50/60Hz or 400Hz, 20 W max

Signals:

- One Gigabit Ethernet (8 data wires) to the Starlink Aero Terminal (Power-over-Ethernet interface)
- One Gigabit Ethernet (8 data wires) to a second downstream Wi-Fi Router (Optional)

Designed Failure Safety Characteristics:

- Input Surge Protection
- Input Short Circuit Protection
- Over-temperature Protection

The weight of each Wi-Fi Router is 3.9 lbs and the overall size is 10.9" x 7.5" x 2.9".

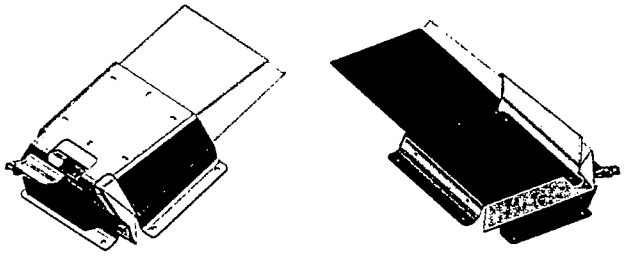


Figure 4: Starlink Aviation Wi-Fi Router

3.3 Starlink Power Supply Unit (PSU)

The Starlink Power Supply's function is to provide power to the Aero Terminal and forward data from the Aero Terminal to the Wi-Fi Router. It has the following three interfaces:

- AC Power IN
- Power-over-Ethernet OUT to the Aero Terminal
- Ethernet OUT to the Wi-Fi Router

Power:

- Power IN: 100-240VAC, single phase, 50/60Hz or 400Hz, max. 400W
- Power OUT: 49VDC, max 8A (Power-over-Ethernet interface)

Signals:

- One Gigabit Ethernet (8 data wires) to the Starlink Aero Terminal (Power-over-Ethernet interface)
- One Gigabit Ethernet (8 data wires) to the Wi-Fi Router

Designed Failure Safety Characteristics:

- Input Surge Protection
- Input/output Overcurrent Protection
- Output Undercurrent Protection
- Output Overvoltage Protection
- Over-temperature Protection

The weight of the Power Supply Unit is 4.8 lbm, and its enveloping dimensions are 12.8" x 7" x 2.1".

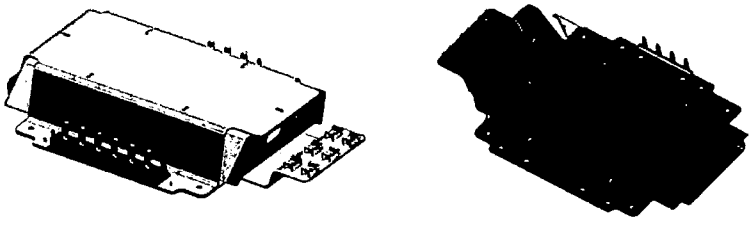


Figure 5: Starlink Aviation Power Supply

4.0 CERTIFICATION BASIS

The applicable CFRs with amendment levels to this certification project are listed in the Compliance Checklist, Section 6.0, of this document.

4.1 Special Conditions

There were no special conditions for this project.

4.2 Exemptions

There were no exemptions for this project.

4.3 Airworthiness Directives

Airworthiness Directives (AD) review was completed for the areas affected by this modification and no AD was identified with potential impact to the Starlink Aviation System installation.

4.4 14 CFR part 26 Compliance

4.4.1 26.11 (EWIS ICA)

The EWIS ICA assessment has been performed per the guidance provided in FAA AC 25.27A. It has been determined that the modification does not necessitate a revision to the EWIS ICA that were required to be developed by § 26.11(b). (Reference: SPX-00005115, Starlink Aviation B737-800 Instructions for Continued Airworthiness (N154TS).

4.4.2 26.47 (Damage Tolerance Analysis)

This project will has shown compliance to § 25.571 Amdt. 25-86 in SPX-00005052, Starlink Aviation Fatigue and Damage Tolerance Report, Boeing 737-800.

3.4 Starlink ON/OFF Switch

The STARLINK ON/OFF switch is a primary means to remove power from the Starlink System when necessary. The switch comprises of a switch with an "ON" annunciation. It also contains associated wiring and connectors.

The "ON" annunciation is illuminated when the switch is in the ON position.

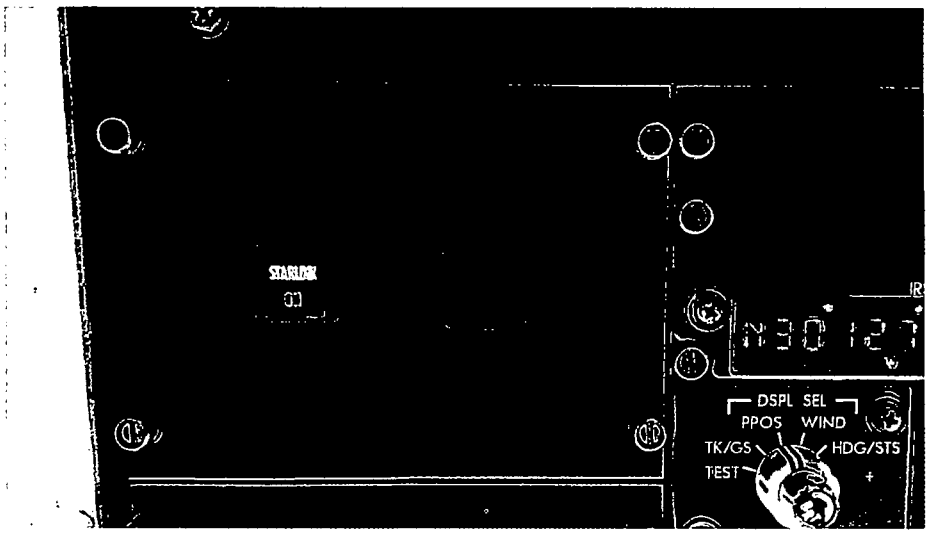


Figure 6: Starlink ON/OFF Switch

3.5 Starlink System Power

The Starlink System is powered from the IFE/PASS XEF BUS 1 through two circuit breakers, STARLINK 1 and STARLINK 2, installed on the F/O Electrical System Panel – P6-1.

The Starlink ON/OFF control relay is powered by 28 VDC through a "STARLINK CNTL" circuit breaker installed on the Rear Circuit Breaker Panel – P6-1.

5.0 CERTIFICATION CONSIDERATIONS

5.1 System Safety Assessment

A System Safety/Functional Hazard assessment has been completed for the installation of the Starlink System on Boeing 737-800 (N154TS) aircraft and documented in Starlink Aviation B737 System Safety Assessment, N154TS, document no. SPX-00005289. The analysis showed that failure of the Starlink system to provide its intended function has no impact on the continued safe flight and landing of the aircraft.

5.2 Human Factors

The Starlink On/Off switch installed on the flight deck overhead panel was evaluated for compliance with 14 CFR 25.771 (a)(c) amdt 25-4, 25.773(a)(2) amdt. 25-72, 25.777(a)(c) amdt. 25-46, 25.1322 amdt. 25-38 (including appropriate color, arrangement, visibility and day and night lighting) per the Flight Test Plan, document No. STP-00000728. The test result has been documented in the Starlink Aviation B737 Flight Test Report, document No. STR-00000556.

5.3 Design and Installation Consideration

The design and installation data for this project is provided in the Mater Date List (MDL), document no. SPX-00004932.

5.4 Structural Considerations

FAA Policy Statement PS-AIR-25-17, Structural Certification Criteria for Antennas, Radomes, and Other External Modifications was followed to identify structural requirements and acceptable means of compliances for external Aero Terminal installation. Refer to Section 6.0 Compliance Checklist for structural requirements and corresponding means of compliances.

5.5 Equipment Qualification

Equipment qualification testing for the Aero Terminal in this modification was conducted under the FAA Project ST03206AC-T, STC for Airbus A321, in accordance with RTCA/DO-160G per FAA approved Qualification Test Plan, document no. STP-00000677. The summary of the test result was documented in the Equipment Qualification Report, document no. STR-00000555.

The Power Supply Unit (PSU) used for this project had been PMA'ed and qualified in a separate STC project, ST04219NY. Equipment qualification testing and its suitability evaluation is documented in Wi-Fi and PSU Suitability Evaluation for A321, document no. SPX-00004898. The Wi-Fi router and harnessing for this Major Modification project have updated part numbers that have been updated to be PVC-free. This change has no impact on environmental capabilities except for flammability, therefore, the suitability evaluation for A321 can be used for all the upgraded PVC-free LRUs.

5.6 Bird Strike Test

Compliance for Bird Strike testing of the Aero terminal assembly is demonstrated in Starlink Aviation Birdstrike Qualification by Similarity Report Boeing 737-800, document no. SPX-00005294, to show compliance with § 25.571(e)(1).

5.7 Flammability

Compliance with the flammability requirements of §§ 25.853 and 25.869(a)(4) was shown by flammability testing and similarity analysis. The flammability test was performed per the FAA approved test plan, document no. STP-00000714. The test result was documented in the flammability test report, document no. STR-00000532. The flammability similarity report was documented in the flammability by similarity report, document no. STR-00000482.

5.8 Software

The software utilized on the Starlink Aero Terminal and WI-FI Router are hosted on non-essential equipment and approved as installed on the respective LRU. The software versions used for this certification were validated through the Functional Ground and Flight Test. The Functional Ground Test Report, document no. STR-00000553, documents the software versions used.

5.9 Network Security

The Starlink System has no interface to other aircraft avionics system installed on the aircraft. It's primarily installed for passenger entertainment application. As such, network and/or cyber security was not considered for this project.

5.10 Instruction for Continued Airworthiness (ICA)

An Instructions for Continued Airworthiness (ICA) was developed for this modification and provided in the Starlink Aviation Instructions for Continued Airworthiness (ICA), document no. SPX-00005115. Damage tolerance inspection intervals are included in this document in the Airworthiness Limitations section.

5.11 Aircraft Flight Manual Supplement

An Aircraft Flight Manual Supplement (AFMS) was developed for this project and provided in the Starlink Aviation Aircraft Flight Manual Supplement, document no. SPX-00005244.

6.0 COMPLIANCE CHECKLIST

The compliance checklist for this project is provided in the Table below:

Table 1. Compliance Checklist

14 CFR Section	Title	Para. & Amdt Level	MOC (D, I, A, T)	Compliance Document(s)	Approval / Remark
Part 25					
			Subpart B - Flight		
25.23	Load distribution limits	25-0	A	Weight and Balance Report (WB), SPX-00005050	-
25.111	Takeoff path	(C)(1)(3)(i) 25-121	A	Performance Limited Weight Decrement, QSA-23084 Aerodynamic Drag Report, AMS 2023-0053	Sky Rudolph, 8110-3(A), 12/14/2023 -
25.115	Takeoff Flight path	(b)(1) 25-92	A	Performance Limited Weight Decrement, QSA-23084 Aerodynamic Drag Report, AMS 2023-0053	Sky Rudolph, 8110-3(A), 12/14/2023 -
25.119	Landing climb: All-engines operating	25-121	A	Performance Limited Weight Decrement, QSA-23084 Aerodynamic Drag Report, AMS 2023-0053	Sky Rudolph, 8110-3(A), 12/14/2023 -
25.121	Climb: One-engine inoperative	25-121	A	Performance Limited Weight Decrement, QSA-23084 Aerodynamic Drag Report, AMS 2023-0053	Sky Rudolph, 8110-3(A), 12/14/2023 -
25.123	*En route flight paths*	*(b)* 25-121	A	Performance Limited Weight Decrement, QSA-23084 Aerodynamic Drag Report, AMS 2023-0053	Sky Rudolph, 8110-3(A), 12/14/2023 -
25.251	Vibration and buffeting	(a)(c)(d) 25-77	T	Flight Test Plan (FTP), STP-00000728 Flight Test Report (FTR), STR-00000556	- FAA Witnessed 12/14/2023
		(b) 25-77	A	Aerodynamic Vibration and Buffeting Analysis Report, AMS 2023-0055	-

14 CFR Section	Title	Para. & Amdt Level	MOC (D, I, A, T)	Compliance Document(s)	Approval / Remark
Subpart C - Structure					
25.301	Loads	(a)(b) 25-23	A	Structural Substantiation Report (SSR), SPX-00005053 Aerodynamic Loads Report, AMS 2023-0052	V. Ramachandran 8110-3(A), 12/13/2023 -
25.303	Factor of safety	25-23	A	Structural Substantiation Report (SSR), SPX-00005053 Aerodynamic Loads Report, AMS 2023-0052	V. Ramachandran 8110-3(A), 12/13/2023 -
25.305	Strength and deformation	(a)(b) 25-86	A	Structural Substantiation Report (SSR), SPX-00005053	V. Ramachandran 8110-3(A), 12/13/2023
		(e) 25-86	A	Aerodynamic Loads Report, AMS 2023-0052	-
25.307	Proof of structure	(a) 25-139	A	Structural Substantiation Report (SSR), SPX-00005053	V. Ramachandran 8110-3(A), 12/13/2023
25.321	General	25-86	A	Aerodynamic Loads Report, AMS 2023-0052	-
25.331	Symmetric maneuvering conditions	25-141	A	Aerodynamic Loads Report, AMS 2023-0052	-
25.333	Flight envelope	25-86	A	Aerodynamic Loads Report, AMS 2023-0052	-
25.335	Design Airspeeds	25-91	A	Aerodynamic Loads Report, AMS 2023-0052	-
25.337	Limit maneuvering load factors	25-23	A	Aerodynamic Loads Report, AMS 2023-0052	-
25.341	Gust and turbulence loads	25-141	A	Aerodynamic Loads Report, AMS 2023-0052	-
25.351	Yawing conditions	25-91	A	Aerodynamic Loads Report, AMS 2023-0052	-
25.365	Pressurized compartment loads	(e)(3) 25-87	A	Aerodynamic Loads Report, AMS 2023-0052	-
		(a)(b)(d) 25-87	A	Structural Substantiation Report (SSR), SPX-00005053	V. Ramachandran 8110-3(A), 12/13/2023
25.561	Emergency Landing Conditions - General	(a)(b)(c) 25-91	A	Structural Substantiation Report (SSR), SPX-00005053	V. Ramachandran 8110-3(A), 12/13/2023
25.571	Damage Tolerance and Fatigue of Structure	(a)(b) 25-86	A	Fatigue and Damage Tolerance Report (DTE), SPX-00005052	V. Ramachandran 8110-3(A), 1/12/2023

14 CFR Section	Title	Para. & Amdt Level	MOC (D, I, A, T)	Compliance Document(s)	Approval / Remark
		(a)(3) 25-96	A	Instructions for Continued Airworthiness (ICA), SPX-00005115	-
		(e)(1) 25-96	A	Starlink Aviation Bird Strike Qualification by Similarity Report, SPX-00005294	-
25.581	Lightning protection	(a)(b)(c) 25-23	A	Starlink Aviation B737 Qualification by Similarity Report, N154TS, SPX-00005292	-
Subpart D – Design and Construction					
25.601	Design and Construction - General	25-0	D	Top Level Assembly Drawing 06654102-501 FWD Exterior Install Drawing 06654102-550 AFT Exterior Install Drawing 06654102-551 Interior Install Drawing 06654102-570	V. Ramachandran 8110-3(A), 12/13/2023 V. Ramachandran 8110-3(A), 12/13/2023 V. Ramachandran 8110-3(A), 12/13/2023 V. Ramachandran 8110-3(A), 12/13/2023
25.603	Design and Construction - Materials	(a)(b)(c) 25-46	D, A	Top Level Assembly Drawing 06654102-501 FWD Exterior Install Drawing 06654102-550 AFT Exterior Install Drawing 06654102-551 Interior Install Drawing 06654102-570	V. Ramachandran 8110-3(A), 12/13/2023 V. Ramachandran 8110-3(A), 12/13/2023 V. Ramachandran 8110-3(A), 12/13/2023 V. Ramachandran 8110-3(A), 12/13/2023
25.605	Fabrication methods	(a) 25-46	D	Top Level Assembly Drawing 06654102-501 FWD Exterior Install Drawing 06654102-550 AFT Exterior Install Drawing 06654102-551 Interior Install Drawing d06654102-570	V. Ramachandran 8110-3(A), 12/13/2023 V. Ramachandran 8110-3(A), 12/13/2023 V. Ramachandran 8110-3(A), 12/13/2023 V. Ramachandran 8110-3(A), 12/13/2023

14 CFR Section	Title	Para. & Amdt Level	MOC (D, I, A, T)	Compliance Document(s)	Approval / Remark
25.609	Protection of structure	(a)(b) 25-0	D	Top Level Assembly Drawing 06654102-501 FWD Exterior Install Drawing 06654102-550 AFT Exterior Install Drawing 06654102-551 Interior Install Drawing 06654102-570	V. Ramachandran 8110-3(A), 12/13/2023 V. Ramachandran 8110-3(A), 12/13/2023 V. Ramachandran 8110-3(A), 12/13/2023 V. Ramachandran 8110-3(A), 12/13/2023
25.611	Accessibility provisions	(a) 25-123	D	Top Level Assembly Drawing 06654102-501 FWD Exterior Install Drawing 06654102-550 AFT Exterior Install Drawing 06654102-551 Interior Install Drawing 06654102-570	V. Ramachandran 8110-3(A), 12/13/2023 V. Ramachandran 8110-3(A), 12/13/2023 V. Ramachandran 8110-3(A), 12/13/2023 V. Ramachandran 8110-3(A), 12/13/2023
25.613	Material strength properties and material design values	(a)(b)(c) 25-112	A	Structural Substantiation Report (SSR), SPX-00005053	V. Ramachandran 8110-3(A), 12/13/2023
25.625	Fitting Factors	(a)(b)(c) 25-72	A	Structural Substantiation Report (SSR), SPX-00005053	V. Ramachandran 8110-3(A), 12/13/2023
25.629	Aeroelastic stability requirements	(a)(d)(8) (d)(10)(e) 25-77	A	Starlink Aviation B737 Qualification by Similarity Report, N154TS, SPX-00005292	-
25.771	Pilot compartment	(a) c) 25-4	T, A	Flight Test Plan (FTP), STP-00000728 Flight Test Report (FTR), STR-00000556	- FAA Witnessed 12/14/2023
25.773	Pilot compartment view	(a)(2) 25-72	T	Flight Test Plan (FTP), STP-00000728 Flight Test Report (FTR), STR-00000556	- FAA Witnessed 12/14/2023
25.777	Cockpit controls	(a)(c) 25-46	T	Flight Test Plan (FTP), STP-00000728 Flight Test Report (FTR), STR-00000556	- FAA Witnessed 12/14/2023

14 CFR Section	Title	Para. & Amdt Level	MOC (D, I, A, T)	Compliance Document(s)	Approval / Remark
25.789	Retention of items of mass in passenger and crew compartments [and galleys]	(a) 25-46	A	Structural Substantiation Report (SSR), SPX-00005053	V. Ramachandran 8110-3(A), 12/13/2023
25.841	Pressurized Cabins	25-87	A	Structural Substantiation Report (SSR), SPX-00005053	V. Ramachandran 8110-3(A), 12/13/2023
25.853	Compartment Interiors	25-116 (a)	A	Flammability Test Plan, STP-00000714 Flammability Test Report, STR-00000532 Flammability Similarity Analysis Report, STR-00000482	- FAA Witnessed 9/22/2023 -
25.869	Fire protection: systems	(a)(4) 25-113	D, A	Flammability Test Plan, STP-00000714 Flammability Test Report, STR-00000532 Flammability Similarity Analysis Report, STR-00000482	- FAA Witnessed 9/22/2023 -
25.899	Electrical bonding and protection against static electricity	25-123	D	Master Data List (MDL), SPX-00003982 (Installation Drawing - Elect.)	Robert Chupka 8110-3(A), 11/01/2023
Subpart E - Powerplant					
25.901	Sustained Engine Imbalance (Windmilling)	(c) 25-46	A	Starlink Aviation B737 Qualification by Similarity Report, N154TS, SPX-00005292	-
25.903	Control of engine rotation Sustained - Engine Imbalance (Windmilling)	(c) 25-100	A	Starlink Aviation B737 Qualification by Similarity Report, N154TS, SPX-00005292	-
25.981	Fuel Tank Explosion Prevention	25-146	D	Top Level Assembly Drawing, 06654102-501 Wiring Schematic Drawing 06654102-202 Wire Routing Drawing 06654102-621	Robert Chupka 8110-3(A), 12/12/2023 Robert Chupka 8110-3(A), 12/12/2023 Robert Chupka 8110-3(A), 12/12/2023

14 CFR Section	Title	Para. & Amdt Level	MOC (D, I, A, T)	Compliance Document(s)	Approval / Remark
Subpart F – Equipment					
25.1301	Function and installation	(a)(b)(c) 25-0	D	Top Level Assembly Drawing, 06654102-501	Robert Chupka 8110-3(A), 12/12/2023
				Wiring Schematic Drawing 06654102-202	Robert Chupka 8110-3(A), 12/12/2023
				Wire Routing Drawing 06654102-621	Robert Chupka 8110-3(A), 12/12/2023
				Equipment Qualification Compliance Report Aero Terminal, STR-00000555	-
				Wi-Fi router and PSU suitability report, SPX-00004898	-
		(d) 25-0	T	Flight Test Plan (FTP), STP-00000728	-
				Flight Test Report (FTR), STR-00000556	FAA Witnessed 12/14/2023
				Ground Functional Test Plan, STP-00000722	-
				Ground Functional Test Report, STR-00000553	Robert Chupka 8110-3(A), 12/14/2023
				Ground EMC Test Plan, STP-00000727	-
				Ground EMC Test Report, STR-00000554	Robert Chupka 8110-3(A), 12/14/2023
25.1307	Miscellaneous Equipment	25-72	D	Top Level Assembly Drawing, 06654102-501	Robert Chupka 8110-3(A), 12/12/2023
				Wiring Schematic Drawing 06654102-202	Robert Chupka 8110-3(A), 12/12/2023
				Wire Routing Drawing 06654102-621	Robert Chupka 8110-3(A), 12/12/2023

14 CFR Section	Title	Para. & Amdt Level	MOC (D, I, A, T)	Compliance Document(s)	Approval / Remark
25.1309	Equipment, systems, and installations	(a)(b)(c) 25-41	D	Top Level Assembly Drawing, 06654102-501 Wiring Schematic Drawing 06654102-202 Wire Routing Drawing 06654102-621	Robert Chupka 8110-3(A), 12/12/2023 Robert Chupka 8110-3(A), 12/12/2023 Robert Chupka 8110-3(A), 12/12/2023
		(a) 25-41	T	Flight Test Plan (FTP), STP-00000728 Flight Test Report (FTR), STR-00000556 Ground Functional Test Plan, STP-00000722 Ground Functional Test Report, STR-00000553 Ground EMC Test Plan, STP-00000727 Ground EMC Test Report, STR-00000554	- FAA Witnessed 12/14/2023 - Robert Chupka 8110-3(A), 12/14/2023 - Robert Chupka 8110-3(A), 12/14/2023
		(a)(g) 25-41	A	Equipment Qualification Compliance Report Aero Terminal, STR-00000555 Wi-Fi router and PSU suitability report, SPX-00004898	- -
		(b)(c)(d)	A	System Safety Assessment/Functional Hazard Assessment (FHA/SSA), SPX-00005289	Robert Chupka 8110-3(A), 1/08/2023
25.1322	Instruments: Installation – Flight crew alerting	25-38	D, T	Flight Test Report (FTR), STR-00000556	FAA Witnessed 12/14/2023
25.1351	Electrical Systems and Equipment - General	(a) 25-72	A	Electrical Load Analysis (ELA), SPX-00004939	Robert Chupka 8110-3(A), 12/14/2023

14 CFR Section	Title	Para. & Amdt Level	MOC (D, I, A, T)	Compliance Document(s)	Approval / Remark
25.1353	Electrical equipment and installations	(a)(b) 25-113	D	Top Level Assembly Drawing, 06654102-501 Wiring Schematic Drawing 06654102-202 Wire Routing Drawing 06654102-621	Robert Chupka 8110-3(A), 12/12/2023 Robert Chupka 8110-3(A), 12/12/2023 Robert Chupka 8110-3(A), 12/12/2023
		(a) 25-113	T	Ground EMC Test Plan, STP-00000727 Ground EMC Test Report, STR-00000554 Flight Test Plan (FTP), STP-00000571 Flight Test Report (FTR), STR-00000556 Equipment Qualification Compliance Report Aero Terminal, STR-00000555 Wi-Fi router and PSU suitability report, SPX-00004898	- Robert Chupka 8110-3(A), 12/08/2023 - FAA Witnessed 12/14/2023 - -
25.1357	Circuit protective devices	(a)(c)(d) 25-0	D	Top Level Assembly Drawing, 06654102-501 Wiring Schematic Drawing 06654102-202 Wire Routing Drawing 06654102-621	Robert Chupka 8110-3(A), 12/12/2023 Robert Chupka 8110-3(A), 12/12/2023 Robert Chupka 8110-3(A), 12/12/2023
25.1401	Anti-collision Light system	(b) 25-41	A	Anti-collision Light Obstruction Analysis, SPX-00005051	Robert Chupka 8110-3(A), 12/14/2023
25.1419	Ice protection	(a) 25-121	A	Icing Analysis, AMS 2023-0054	-
25.1431	Electronic equipment	(a) 25-0	D	Equipment Qualification Compliance Report Aero Terminal, STR-00000555 Wi-Fi router and PSU suitability report, SPX-00004898	- -

14 CFR Section	Title	Para. & Amdt Level	MOC (D, I, A, T)	Compliance Document(s)	Approval / Remark
		(a)(c) 25-0	D, A	Top Level Assembly Drawing, 06654102-501 Wiring Schematic Drawing 06654102-202 Wire Routing Drawing 06654102-621 System Safety Assessment/Functional Hazard Assessment (FHA/SSA), SPX-00005289	Robert Chupka 8110-3(A), 12/12/2023 Robert Chupka 8110-3(A), 12/12/2023 Robert Chupka 8110-3(A), 12/12/2023 Robert Chupka 8110-3(A), 1/08/2023
		(c) 25-0	T	Flight Test Plan (FTP), STP-00000728 Flight Test Report (FTR), STR-00000556 Ground EMC Test Plan, STP-00000727 Ground EMC Test Report, STR-00000554	- FAA Witnessed 12/14/2023 - Robert Chupka 8110-3(A), 12/08/2023
Subpart G - Operating Limitations and Information					
25.1501	Operating Limitations and Information - General	(a)(b) 25-42	D	Aircraft Flight Manual Supplement (AFMS), SPX-00005244	Jim Acree 8110-3(A), 1/11/2024
25.1529	Instructions for Continued Airworthiness	25-54	D	Instructions for Continued Airworthiness (ICA), SPX-00005115	-
25.1541	Markings and Placards - General	(a)(b) 25-0	D	Flight Test Report (FTR), STR-00000556	FAA Witnessed 12/14/2023
25.1581	Airplane Flight Manual - General	(a)(2)(d) 25-72	D	Aircraft Flight Manual Supplement (AFMS), SPX-00005244	Jim Acree 8110-3(A), 1/11/2024
25.1585	Operating procedures	(a)(b) 25-105	D	Aircraft Flight Manual Supplement (AFMS), SPX-00005244	Jim Acree 8110-3(A), 1/11/2024
25.1587	Performance Information	(b) 25-108	A	Aircraft Flight Manual Supplement (AFMS), SPX-00005244	Jim Acree 8110-3(A), 1/11/2024
Subpart H – Instructions for Continued Airworthiness					
H25.1	Instructions for Continued Airworthiness - General	25-123	D	Instructions for Continued Airworthiness (ICA), SPX-00005115	-

7.0 GROUND AND FLIGHT TEST

Aircraft Functional Ground Test was performed on Boeing 737-89L, MSN 30515, per Ground Functional Test Plan, document no. STP-00000722 and the test results were documented in the FAA approved Ground Functional Test Report, document no. STR-00000553.

Aircraft EMC Compatibility Ground Test was performed on Boeing 737-89L, MSN 30515, per Ground EMC Test Plan, document no. STP-00000727, and the test results were documented in the FAA approved Ground EMC Test Report, document no. STR-00000554.

Flight test was conducted on Boeing 737-89L, MSN 30515, per Flight Test Plan, document no. STP-00000728, and the test results were documented in the Flight Test Report, document no. STR-00000556.

8.0 DELIVERABLES

The deliverables for this project are listed in the Master Data List (MDL) for this Project, SPX-00004932.

9.0 PART LIST

The parts and equipment used in this project are listed in the Master Data List (MDL) for this Project, SPX-00004932.

10.0 DESIGNEES

The following table provides the designees supporting this project:

Table 2: Designees Authorized for this Project

Designee (Name, phone, email)	Designee Number	Delegated Function(s)/ Function Codes
Robert Chupka 404-451-3605, bob.chupka@gmail.com	117186691	Electrical Systems & Equipment – System Safety
Venkat Ramachandran 303-514-1882; ram@omengr.com	575001431	Structural Engineering/ Design and Construction, Static Analysis,
Sky W Rudolph 425-478-1183; Sky@QSAero.com	367575048	Flight Analyst
Bill McDonald 817-312-5468, billpmcdon@yahoo.com	N/A	Inspection, 4,3,8,7,1,2,6,5,22,23,28,21,24, 20,25,26,67,43,30,31,32,33,41,44,47,48,36, 51,55,56,62,63,64,53,52,40,42,45,65,46
Paul Patrick Desrochers (817) 832-5136, paul@testpilotinc.com	230709399	Flight Test Pilot

11.0 APPROVAL 8110-3s

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION
DETERMINATION OF COMPLIANCE WITH AIRWORTHINESS STANDARDS

1. PROJECT NO.(if applicable)

AIRCRAFT OR AIRCRAFT COMPONENT IDENTIFICATION

2. MAKE	3. MODEL NO.	4. TYPE (Aircraft, Engine, Propeller, Actuator etc.)	5. NAME OF APPLICANT
Boeing	737-891	Aircraft	Space Exploration Technologies, Starlink Aviation

PURPOSE OF DATA

6. IN SUPPORT OF: ___ TC/ATC ___ STC ___ PMA ___ Major Repair X Major Alteration ___ Other (Explain)

PROJECT SPECIFIC INFORMATION: Boeing 737-800 Starlink System Provisions Installation

PURPOSE OF SUBMITTAL: To approve structural data for Starlink System provisions Installation

LIST OF DATA

List the data *for this submittal* including applicable drawings, material specifications, and process specifications and any other data that shows or contributes to a showing of compliance with the applicable requirements listed in block 9. A reference to a drawing list, including revision level, may be used.

7. IDENTIFICATION	8. TITLE OF DATA
86654102-501 Rev A Date: 23-OCT-2023	BOEING 737-800 TOP LEVEL ASSEMBLY, STARLINK AVIATION
86654102-550 Rev C Date: 10-DEC-2023	BOEING 737-800 STARLINK EXTERIOR INSTALL, FS 5000, STARLINK AVIATION
86654102-551 Rev C Date: 10-DEC-2023	BOEING 737-800 STARLINK EXTERIOR INSTALL, FS 727G, STARLINK AVIATION
86654107-570 Rev B Date: 10-DEC-2023	BOEING 737-800 STARLINK INTERIOR INSTALL, STARLINK AVIATION
	Notes: This approval is for engineering design data only. It indicates the data listed above demonstrates compliance only with the regulations specified by paragraph and subparagraph listed below as 'Applicable Requirements'. Structural design aspects only of the above data are approved herein. This approval is valid only for Boeing Model: 737-89L, S/N: 30515.

9. APPLICABLE REQUIREMENTS (List specific sections and amendment levels)

14 CFR 25.601 Amdt 25-0, 25.603(a)(b)(c) Amdt 25-46, 25.605(a) Amdt 25-46, 25.609(a)(b) Amdt 25-0, 25.611(a) Amdt 25-123,

10. FAA DESIGNEE APPROVAL - As directed by the Administrator and in accordance with the conditions and limitations of authorization under 14 CFR, Part 183, data listed above, and on attached sheets numbered _____, have been examined in accordance with established procedures. I therefore

☒ APPROVE the data above ☐ RECOMMEND APPROVAL of the data above

FOR MAJOR REPAIR OR MAJOR ALTERATION ONLY – Other data approvals ☒ ARE REQUIRED ☐ ARE NOT REQUIRED
EXPLAIN :
Electrical systems approval is required for the alteration.

☐ MANAGING OFFICE WAS CONTACTED (required when approval was made outside the U.S and/or involved critical or life limited parts)

11. DER/ODA NUMBER	12. PRINTED NAME	
575001431	Venkat Ramachandran	
13. TECHNICAL DISCIPLINE DER-T (Structural Engineering)	14. SIGNATURE *Venkat Ramachandran* Digitally Signed 12/13/2023	16. DATE 12/13/2023

FAA APPROVAL (For FAA use when designee recommends approval above, or when approval is reserved for the FAA)

17. PRINTED NAME/FAA OFFICE	18. TECHNICAL DISCIPLINE
19. SIGNATURE	20. DATE

FAA Form 8110-3 (09/20) Supersedes Previous Edition

Page 1 of 1

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

DETERMINATION OF COMPLIANCE WITH AIRWORTHINESS STANDARDS

1. PROJECT NO.(If applicable)

AIRCRAFT OR AIRCRAFT COMPONENT IDENTIFICATION

2. MAKE	3. MODEL NO.	4. TYPE (Aircraft, Engine, Propeller, Actuator etc.)	5. NAME OF APPLICANT
Boeing	737-89L	Aircraft	Space Exploration Technologies, Starlink Aviation

PURPOSE OF DATA

6. IN SUPPORT OF: ___ TC/ATC ___ STC ___ PMA ___ Major Repair X Major Alteration ___ Other (Explain)

PROJECT SPECIFIC INFORMATION: Boeing 737-800 Starlink System Provisions Installation

PURPOSE OF SUBMITTAL: To approve structural analysis data for Starlink System provisions Installation

LIST OF DATA

List the data *for this submittal* including applicable drawings, material specifications, and process specifications and any other data that shows or contributes to a showing of compliance with the applicable requirements listed in block 9. A reference to a drawing list, including revision level, may be used.

7. IDENTIFICATION	8. TITLE OF DATA
SPX-00005053 Version 2.0 Date: 2023-12-12	Starlink Aviation Structural Substantiation, Boeing 737-800 Notes: This approval is for engineering design data only. It indicates the data listed above demonstrates compliance only with the regulations specified by paragraph and subparagraph listed below as 'Applicable Requirements'. Structural aspects only of the above data are approved herein. This approval is valid only for Boeing Model: 737-89L, S/N: 30515. Additional damage tolerance analysis and approval is required for this alteration and must be completed within 12 months after this approval.

9. APPLICABLE REQUIREMENTS (List specific sections and amendment levels)

14 CFR 25.301(a)(b) Amdt 25-23, 25.303 Amdt 25-23, 25.305(a)(b) Amdt 25-86, 25.307(a) Amdt 25-72, 25.365(a)(b)(d) Amdt 25-87, 25.561(a)(b)(c) Amdt 25-91, 25.613(a)(b)(c) Amdt 25-72, 25.625(a)(b)(c) Amdt 25-72, 25.789(a) Amdt 25-46

10. FAA DESIGNEE APPROVAL - As directed by the Administrator and in accordance with the conditions and limitations of authorization under 14 CFR, Part 183, data listed above, and on attached sheets numbered _____, have been examined in accordance with established procedures. I therefore

☒ APPROVE the data above ☐ RECOMMEND APPROVAL of the data above

FOR MAJOR REPAIR OR MAJOR ALTERATION ONLY – Other data approvals ☒ ARE REQUIRED ☐ ARE NOT REQUIRED
EXPLAIN :

Additional damage tolerance analysis and approval is required for this alteration and must be completed within 12 months after this approval.

☐ MANAGING OFFICE WAS CONTACTED (required when approval was made outside the U.S and/or invloved critical or life limited parts)

11. DER/ODA NUMBER	12. PRINTED NAME	
575001431	Venkat Ramachandran	
13. TECHNICAL DISCIPLINE	14. SIGNATURE	16. DATE
DER-T (Structural Engineering)	Venkat Ramachandran Digitally Signed 12/13/2023	12/13/2023

FAA APPROVAL (For FAA use when designee recommends approval above, or when approval is reserved for the FAA)

17. PRINTED NAME/FAA OFFICE	18. TECHNICAL DISCIPLINE
19. SIGNATURE	20. DATE

FAA Form 8110-3 (09/20) Supersedes Previous Edition

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U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

DETERMINATION OF COMPLIANCE WITH AIRWORTHINESS STANDARDS

1. PROJECT NO.(If applicable)

AIRCRAFT OR AIRCRAFT COMPONENT IDENTIFICATION

2. MAKE	3. MODEL NO.	4. TYPE (Aircraft, Engine, Propeller, Actuator etc.)	5. NAME OF APPLICANT
Boeing	737-800	Aircraft	SPACE EXPLORATION TECHNOLOGIES STARLINK AVIATION

PURPOSE OF DATA

6. IN SUPPORT OF: ___ TC/ATC ___ STC ___ PMA ___ Major Repair X Major Alteration ___ Other (Explain)

PROJECT SPECIFIC INFORMATION: In support of Major Alteration for AC SN 30515 for Starlink Aviation System Installation.

PURPOSE OF SUBMITTAL: In support of Major Alteration for AC SN 30515 for Starlink Aviation System Installation.

LIST OF DATA

List the data *for this submittal* including applicable drawings, material specifications, and process specifications and any other data that shows or contributes to a showing of compliance with the applicable requirements listed in block 9. A reference to a drawing list, including revision level, may be used.

7. IDENTIFICATION	8. TITLE OF DATA
06654102-501 Rev. A Dated 10/23/2023	Boeing 737-800 Top Level Assembly, Starlink Aviation
06654102-202 Rev. C Dated 12/1/2023	B737, Aeroterminal, Wiring Schematic
06654102-621 Rev. B Dated 12/1/2023	B737, Aeroterminal, Wire Routing

Notes:

This approval is for engineering design data only. It indicates the data listed above demonstrates compliance only with the regulations specified by paragraph and subparagraph listed below as 'Applicable Requirements'.

Approval is for Electrical Aspects Only. This approval is in support of major alteration to Boeing 737-800 AC SN 30515 for Starlink Aviation System Installation.

9. APPLICABLE REQUIREMENTS (List specific sections and amendment levels)

14CFR Part 25: 25.899 [Amdt. 25-123]; 25.981([Amdt. 25-146]; 25.1301(a)(b)(c) [Amdt. 25-0]; 25.1307 [Amdt. 25-72]; 25.1309(a)(b)(c) [Amdt. 25-41]; 25.1353(a)(b) [Amdt. 25-113]; 25.1357 (a)(c)(d) [Amdt. 25-0]; 25.1431(a)(c) [Amdt. 25-0]

10. FAA DESIGNEE APPROVAL - As directed by the Administrator and in accordance with the conditions and limitations of authorization under 14 CFR, Part 183, data listed above, and on attached sheets numbered _____, have been examined in accordance with established procedures. I therefore

☑ APPROVE the data above ☐ RECOMMEND APPROVAL of the data above

FOR MAJOR REPAIR OR MAJOR ALTERATION ONLY – Other data approvals ☑ ARE REQUIRED ☐ ARE NOT REQUIRED
EXPLAIN :

Additional approvals may be required for this alteration.

☐ MANAGING OFFICE WAS CONTACTED (required when approval was made outside the U.S and/or involved critical or life limited parts)

11. DER/ODA NUMBER	12. PRINTED NAME	
117186691	Robert S Chupka	
13. TECHNICAL DISCIPLINE	14. SIGNATURE	16. DATE
DER-T (Electrical Systems Engineering)	Robert S Chupka Digitally Signed 12/12/2023	12/12/2023

FAA APPROVAL (For FAA use when designee recommends approval above, or when approval is reserved for the FAA)

17. PRINTED NAME/FAA OFFICE	18. TECHNICAL DISCIPLINE
19. SIGNATURE	20. DATE

FAA Form 8110-3 (09/20) Supersedes Previous Edition

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U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

DETERMINATION OF COMPLIANCE WITH AIRWORTHINESS STANDARDS

1. PROJECT NO.(if applicable)

AIRCRAFT OR AIRCRAFT COMPONENT IDENTIFICATION

2. MAKE	3. MODEL NO.	4. TYPE (Aircraft, Engine, Propeller, Actuator etc.)	5. NAME OF APPLICANT
Boeing	737-800	Aircraft	SPACE EXPLORATION TECHNOLOGIES STARLINK AVIATION

PURPOSE OF DATA

6. IN SUPPORT OF: ___ TC/ATC ___ STC ___ PMA ___ Major Repair X Major Alteration ___ Other (Explain)

PROJECT SPECIFIC INFORMATION: In support of Major Alteration for AC SN 30515 for Starlink Aviation System Installation.

PURPOSE OF SUBMITTAL: In support of Major Alteration for AC SN 30515 for Starlink Aviation System Installation.

LIST OF DATA

List the data *for this submittal* including applicable drawings, material specifications, and process specifications and any other data that shows or contributes to a showing of compliance with the applicable requirements listed in block 9. A reference to a drawing list, including revision level, may be used.

7. IDENTIFICATION	8. TITLE OF DATA
SPX-00004939 Rev. 1.0 Dated 11/13/23	Starlink Aviation SpaceX 8737-800 Electrical Load Analysis
SPX-00005851 Rev. 1.0 Dated 12/05/23	Starlink Aviation Anti-Collision Light Blockage Analysis, Boeing 737-800
	Notes: This approval is for engineering design data only. It indicates the data listed above demonstrates compliance only with the regulations specified by paragraph and subparagraph listed below as 'Applicable Requirements'. Approval is for Electrical Aspects Only. This approval is in support of major alteration to Boeing 737-800 AC SN 30515 for Starlink Aviation System Installation.

9. APPLICABLE REQUIREMENTS (List specific sections and amendment levels)

14CFR Part 25: 25.1351(a)(1) [Amdt. 25-72]; 25.1401(b) [Amdt. 25-41]

10. FAA DESIGNEE APPROVAL - As directed by the Administrator and in accordance with the conditions and limitations of authorization under 14 CFR, Part 183, data listed above, and on attached sheets numbered _____, have been examined in accordance with established procedures. I therefore

☒ APPROVE the data above ☐ RECOMMEND APPROVAL of the data above

FOR MAJOR REPAIR OR MAJOR ALTERATION ONLY – Other data approvals ☒ ARE REQUIRED ☐ ARE NOT REQUIRED
EXPLAIN :

Additional approvals may be required for this alteration.

☐ MANAGING OFFICE WAS CONTACTED (required when approval was made outside the U.S and/or involved critical or life limited parts)

11. DER/ODA NUMBER	12. PRINTED NAME	
117186691	Robert S Chupka	
13. TECHNICAL DISCIPLINE	14. SIGNATURE	16. DATE
DER-T (Electrical Systems Engineering)	Robert S Chupka Digitally Signed 12/14/2023	12/14/2023

FAA APPROVAL (For FAA use when designee recommends approval above, or when approval is reserved for the FAA)

17. PRINTED NAME/FAA OFFICE	18. TECHNICAL DISCIPLINE
19. SIGNATURE	20. DATE

FAA Form 8110-3 (09/20) Supersedes Previous Edition

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U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

DETERMINATION OF COMPLIANCE WITH AIRWORTHINESS STANDARDS

1. PROJECT NO.(If applicable)

AIRCRAFT OR AIRCRAFT COMPONENT IDENTIFICATION

2. MAKE	3. MODEL NO.	4. TYPE (Aircraft, Engine, Propeller, Actuator etc.)	5. NAME OF APPLICANT
Boeing	737-800	Aircraft	SPACE EXPLORATION TECHNOLOGIES STARLINK AVIATION

PURPOSE OF DATA

6. IN SUPPORT OF: ___ TC/ATC ___ STC ___ PMA ___ Major Repair X Major Alteration ___ Other (Explain)

PROJECT SPECIFIC INFORMATION: In support of Major Alteration for AC SN 30515 for Starlink Aviation System Installation.

PURPOSE OF SUBMITTAL: In support of Major Alteration for AC SN 30515 for Starlink Aviation System Installation.

LIST OF DATA

List the data *for this submittal* including applicable drawings, material specifications, and process specifications and any other data that shows or contributes to a showing of compliance with the applicable requirements listed in block 9. A reference to a drawing list, including revision level, may be used.

7. IDENTIFICATION	8. TITLE OF DATA
STR-00000553 Rev. 1.0 Dated 12/08/23	Starlink Aviation B737 (N154TS) Functional Ground Test Report
STR-00000554 Rev. 1.0 Dated 12/08/23	Starlink Aviation B737 (N154TS) EMC Ground Test Report

Notes:

This approval is for engineering design data only. It indicates the data listed above demonstrates compliance only with the regulations specified by paragraph and subparagraph listed below as 'Applicable Requirements'.

Approval is for Electrical Aspects Only. This approval is in support of major alteration to Boeing 737-800 AC SN 30515 for Starlink Aviation System Installation.

9. APPLICABLE REQUIREMENTS (List specific sections and amendment levels)

14CFR Part 25: 25.1301(d) [Amdt. 25-0]; 25.1309(a) [Amdt. 25-41]; 25.1353(a) [Amdt. 25-113]; 25.1431(c) [Amdt. 25-113]

10. FAA DESIGNEE APPROVAL - As directed by the Administrator and in accordance with the conditions and limitations of authorization under 14 CFR, Part 183, data listed above, and on attached sheets numbered _____, have been examined in accordance with established procedures. I therefore

☑ APPROVE the data above ☐ RECOMMEND APPROVAL of the data above

FOR MAJOR REPAIR OR MAJOR ALTERATION ONLY – Other data approvals ☑ ARE REQUIRED ☐ ARE NOT REQUIRED
EXPLAIN :

Additional approvals may be required for this alteration.

☐ MANAGING OFFICE WAS CONTACTED (required when approval was made outside the U.S and/or involved critical or life limited parts)

11. DER/ODA NUMBER	12. PRINTED NAME	
117186691	Robert S Chupka	
13. TECHNICAL DISCIPLINE	14. SIGNATURE	16. DATE
DER-T (Electrical Systems Engineering)	Robert S Chupka Digitally Signed 12/14/2023	12/14/2023

FAA APPROVAL (For FAA use when designee recommends approval above, or when approval is reserved for the FAA)

17. PRINTED NAME/FAA OFFICE	18. TECHNICAL DISCIPLINE
19. SIGNATURE	20. DATE

FAA Form 8110-3 (09/20) Supersedes Previous Edition

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U.S. DEPARTMENT OF TRANSPORTATION FEDERAL AVIATION ADMINISTRATION **DETERMINATION OF COMPLIANCE WITH AIRWORTHINESS STANDARDS**	1. PROJECT NO.(if applicable)

AIRCRAFT OR AIRCRAFT COMPONENT IDENTIFICATION

2. MAKE	3. MODEL NO.	4. TYPE (Aircraft, Engine, Propeller, Actuator etc.)	5. NAME OF APPLICANT
Boeing	737-891	Aircraft	Space Exploration Technologies, Starlink Aviation

PURPOSE OF DATA

6. IN SUPPORT OF: ___ TC/ATC ___ STC ___ PMA ___ Major Repair X Major Alteration ___ Other (Explain)

PROJECT SPECIFIC INFORMATION: Boeing 737-800 Starlink System Provisions Installation

PURPOSE OF SUBMITTAL: Approve analysis of performance decrements due to additional drag caused by external antenna radomes. Use of presented weight decrements ensures that the takeoff, landing, and climb performance in all certified phases of flight is equivalent to the unmodified aircraft.

LIST OF DATA

List the data *for this submittal* including applicable drawings, material specifications, and process specifications and any other data that shows or contributes to a showing of compliance with the applicable requirements listed in block 9. A reference to a drawing list, including revision level, may be used.

7. IDENTIFICATION	8. TITLE OF DATA
QSA-23084 Initial Release 12 December 2023	Performance Limited Weight Decrement Due to Installation of the SpaceX Satcom Radomes on Boeing 737-800 Aircraft Notes: This approval is for engineering design data only. It indicates the data listed above demonstrates compliance only with the regulations specified by paragraph and subparagraph listed below as 'Applicable Requirements'.

9. APPLICABLE REQUIREMENTS (List specific sections and amendment levels)

14 CFR 25.109 Amdt 25-42, 25.111 Amdt 25-72, 25.113 Amdt 25-23, 25.115 Amdt 25-0, 25.117 Amdt 25-0, 25.119 Amdt 25-0, 25.121 Amdt 25-0, 25.123 Amdt 25-0, 25.125 Amdt 25-72.

10. FAA DESIGNEE APPROVAL - As directed by the Administrator and in accordance with the conditions and limitations of authorization under 14 CFR, Part 183, data listed above, and on attached sheets numbered _____, have been examined in accordance with established procedures. I therefore

☒ APPROVE the data above ☐ RECOMMEND APPROVAL of the data above

FOR MAJOR REPAIR OR MAJOR ALTERATION ONLY – Other data approvals ☒ ARE REQUIRED ☐ ARE NOT REQUIRED

EXPLAIN :

Performance decrements presented must be incorporated into AFMS as described.

☐ MANAGING OFFICE WAS CONTACTED (required when approval was made outside the U.S and/or involved critical or life limited parts)

11. DER/ODA NUMBER	12. PRINTED NAME	
167575848	Sky W Rudolph	
13. TECHNICAL DISCIPLINE	14. SIGNATURE	16. DATE
DER-T (Flight Analyst)	Sky W Rudolph Digitally Signed 12/14/2023	12/14/2023

FAA APPROVAL (For FAA use when designee recommends approval above, or when approval is reserved for the FAA)

17. PRINTED NAME/FAA OFFICE	18. TECHNICAL DISCIPLINE
19. SIGNATURE	20. DATE

FAA Form 8110-3 (09/20) Supersedes Previous Edition Page 1 of 1

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

DETERMINATION OF COMPLIANCE WITH AIRWORTHINESS STANDARDS

1. PROJECT NO.(if applicable)

AIRCRAFT OR AIRCRAFT COMPONENT IDENTIFICATION

2. MAKE	3. MODEL NO.	4. TYPE (Aircraft, Engine, Propeller, Actuator etc.)	5. NAME OF APPLICANT
Boeing	737-800	Aircraft	SPACE EXPLORATION TECHNOLOGIES STARLINK AVIATION

PURPOSE OF DATA

6. IN SUPPORT OF: ___ TC/ATC ___ STC ___ PMA ___ Major Repair X Major Alteration ___ Other (Explain)

PROJECT SPECIFIC INFORMATION: In support of Major Alteration for AC SN 30515 for Starlink Aviation System Installation.

PURPOSE OF SUBMITTAL: In support of Major Alteration for AC SN 30515 for Starlink Aviation System Installation.

LIST OF DATA

List the data *for this submittal* including applicable drawings, material specifications, and process specifications and any other data that shows or contributes to a showing of compliance with the applicable requirements listed in block 9. A reference to a drawing list, including revision level, may be used.

7. IDENTIFICATION	8. TITLE OF DATA
SPX-00005289 Rev. 1.0 Dated 01/04/2024	Starlink Aviation B737 System Safety Assessment, N154TS Notes: This approval is for engineering design data only. It indicates the data listed above demonstrates compliance only with the regulations specified by paragraph and subparagraph listed below as 'Applicable Requirements'. Approval is for Electrical Aspects Only. This approval is in support of major alteration to Boeing 737-800 AC SN 30515 for Starlink Aviation System Installation.

9. APPLICABLE REQUIREMENTS (List specific sections and amendment levels)

14CFR Part 25: 25.1309(b)(c)(d) [Amdt. 25-41]; 25.1431(a)(c) [Amdt. 25-0]

10. FAA DESIGNEE APPROVAL - As directed by the Administrator and in accordance with the conditions and limitations of authorization under 14 CFR, Part 183, data listed above, and on attached sheets numbered _____, have been examined in accordance with established procedures. I therefore

☒ APPROVE the data above ☐ RECOMMEND APPROVAL of the data above

FOR MAJOR REPAIR OR MAJOR ALTERATION ONLY – Other data approvals ☒ ARE REQUIRED ☐ ARE NOT REQUIRED
EXPLAIN :

Additional approvals may be required for this alteration.

☐ MANAGING OFFICE WAS CONTACTED (required when approval was made outside the U.S and/or invloved critical or life limited parts)

11. DER/ODA NUMBER	12. PRINTED NAME	
117186691	Robert S Chupka	
13. TECHNICAL DISCIPLINE	14. SIGNATURE	16. DATE
DER-T (Electrical Systems Engineering)	Robert S Chupka Digitally Signed 01/08/2024	01/08/2024

FAA APPROVAL (For FAA use when designee recommends approval above, or when approval is reserved for the FAA)

17. PRINTED NAME/FAA OFFICE	18. TECHNICAL DISCIPLINE
19. SIGNATURE	20. DATE

FAA Form 8110-3 (09/20) Supersedes Previous Edition

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U.S. DEPARTMENT OF TRANSPORTATION FEDERAL AVIATION ADMINISTRATION **DETERMINATION OF COMPLIANCE WITH AIRWORTHINESS STANDARDS**	1. PROJECT NO.(if applicable)

AIRCRAFT OR AIRCRAFT COMPONENT IDENTIFICATION

2. MAKE	3. MODEL NO.	4. TYPE (Aircraft, Engine, Propeller, Actuator etc.)	5. NAME OF APPLICANT
Boeing	737-89L	Aircraft	Space Exploration Technologies, Starlink Aviation

PURPOSE OF DATA

6. IN SUPPORT OF: ___ TC/ATC ___ STC ___ PMA ___ Major Repair X Major Alteration ___ Other (Explain)

PROJECT SPECIFIC INFORMATION: Boeing 737-800 Starlink System Provisions Installation

PURPOSE OF SUBMITTAL: To approve damage tolerance analysis data for Starlink System provisions Installation

LIST OF DATA

List the data *for this submittal* including applicable drawings, material specifications, and process specifications and any other data that shows or contributes to a showing of compliance with the applicable requirements listed in block 9. A reference to a drawing list, including revision level, may be used.

7. IDENTIFICATION	8. TITLE OF DATA
SPX-00005052 Version 2.0 Date: 2024-01-09	Starlink Aviation Fatigue and Damage Tolerance Report, Boeing 737-800 Notes: This approval is for engineering design data only. It indicates the data listed above demonstrates compliance only with the regulations specified by paragraph and subparagraph listed below as 'Applicable Requirements'. Damage tolerance aspects only of the above data are approved herein. This approval is valid only for Boeing Model: 737-89L, S/N: 30515. Additional inspections are required for the Starlink system installations. See Instructions for Continued Airworthiness Document no. SPX-00005115, Rev. 2.0, dated 2024-01-09 for details of the required inspections.

9. APPLICABLE REQUIREMENTS (List specific sections and amendment levels)

14 CFR 25.571(a)(b) Amdt 25-86

10. FAA DESIGNEE APPROVAL - As directed by the Administrator and in accordance with the conditions and limitations of authorization under 14 CFR, Part 183, data listed above, and on attached sheets numbered _____, have been examined in accordance with established procedures. I therefore

☑ APPROVE the data above ☐ RECOMMEND APPROVAL of the data above

FOR MAJOR REPAIR OR MAJOR ALTERATION ONLY – Other data approvals ☑ ARE REQUIRED ☐ ARE NOT REQUIRED

EXPLAIN :

Additional static analysis and approval is required for this alteration.

☐ MANAGING OFFICE WAS CONTACTED (required when approval was made outside the U.S and/or invloved critical or life limited parts)

11. DER/ODA NUMBER	12. PRINTED NAME	
S75001431	Venkat Ramachandran	
13. TECHNICAL DISCIPLINE	14. SIGNATURE	16. DATE
DER-T (Structural Engineering)	Venkat Ramachandran Digitally Signed 01/12/2024	01/12/2024

FAA APPROVAL (For FAA use when designee recommends approval above, or when approval is reserved for the FAA)

17. PRINTED NAME/FAA OFFICE	18. TECHNICAL DISCIPLINE
19. SIGNATURE	20. DATE

FAA Form 8110-3 (09/20) Supersedes Previous Edition

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U.S. DEPARTMENT OF TRANSPORTATION FEDERAL AVIATION ADMINISTRATION **DETERMINATION OF COMPLIANCE WITH AIRWORTHINESS STANDARDS**			1. PROJECT NO.(If applicable)
AIRCRAFT OR AIRCRAFT COMPONENT IDENTIFICATION			
2. MAKE The Boeing Company	3. MODEL NO. 737-800	4. TYPE (Aircraft, Engine, Propeller, Actuator etc.) Aircraft	5. NAME OF APPLICANT Space Exploration Technologies

PURPOSE OF DATA

6. IN SUPPORT OF: ___ TC/ATC ___ STC ___ PMA ___ Major Repair X Major Alteration ___ Other (Explain)

PROJECT SPECIFIC INFORMATION: Installation of an In-Flight Internet System.

PURPOSE OF SUBMITTAL: AFMS Approval.

LIST OF DATA

List the data *for this submittal* including applicable drawings, material specifications, and process specifications and any other data that shows or contributes to a showing of compliance with the applicable requirements listed in block 9. A reference to a drawing list, including revision level, may be used.

7. IDENTIFICATION	8. TITLE OF DATA
SPX-00005244 (Rev IR), 11 January 2024.	Airplane Flight Manual Supplement for Boeing 737-89L Aircraft with Starlink System. Notes: This approval is for engineering design data only. It indicates the data listed above demonstrates compliance only with the regulations specified by paragraph and subparagraph listed below as 'Applicable Requirements'. This approval is for serial number 38515 AFMS data only.

9. APPLICABLE REQUIREMENTS (List specific sections and amendment levels)

14 CFR: 25.1581 amdt. 25-72, 25.1583(h) amdt. 25-130, 25.1585(a)(b) amdt. 25-105, 25.1587(b)(3)(i)(ii) amdt. 25-108.

10. FAA DESIGNEE APPROVAL - As directed by the Administrator and in accordance with the conditions and limitations of authorization under 14 CFR, Part 183, data listed above, and on attached sheets numbered _____, have been examined in accordance with established procedures. I therefore

☒ APPROVE the data above ☐ RECOMMEND APPROVAL of the data above

FOR MAJOR REPAIR OR MAJOR ALTERATION ONLY – Other data approvals ☒ ARE REQUIRED ☐ ARE NOT REQUIRED

EXPLAIN :

DER-approved airplane Performance data.

☐ MANAGING OFFICE WAS CONTACTED (required when approval was made outside the U.S and/or Involved critical or life limited parts)

11. DER/ODA NUMBER	12. PRINTED NAME	
098281043	James Nelson Acree	
13. TECHNICAL DISCIPLINE DER-T (Flight Test Pilot)	14. SIGNATURE James Nelson Acree Digitally Signed 01/11/2024	16. DATE 01/11/2024

FAA APPROVAL (For FAA use when designee recommends approval above, or when approval is reserved for the FAA)

17. PRINTED NAME/FAA OFFICE	18. TECHNICAL DISCIPLINE
19. SIGNATURE	20. DATE

FAA Form 8110-3 (09/20) Supersedes Previous Edition Page 1 of 1

US Department of Transportation
Federal Aviation Administration

MAJOR REPAIR AND ALTERATION
(Airframe, Powerplant, Propeller, or Appliance)

OMB No. 2120-0020
Exp: 07/31/2026

Electronic Tracking Number

For FAA Use Only

INSTRUCTIONS: Print or type all entries. See Title 14 CFR §43.9, Part 43 Appendix B, and AC 43.9-1 (or subsequent revision thereof) for instructions and disposition of this form. This report is required by law (49 U.S.C. §44701). Failure to report can result in a civil penalty for each such violation. (49 U.S.C. §46301(a))

1. Aircraft

Nationality and Registration Mark	Serial No.
N154TS	30515
Make	**Model** / **Series**
Boeing	737-89L

2. Owner

Name *(As shown on registration certificate)*	Address *(As shown on registration certificate)*
Falcon Aviation Holdings LLC	Address 1 Rocket Road City Hawthorne State CA Zip 90250 Country USA

3. For FAA Use Only

4. Type		5. Unit Identification			
Repair	Alteration	Unit	Make	Model	Serial No.
☐	☒	AIRFRAME	Boeing	*(As described in Item 1 above)*	30515
☐	☐	POWERPLANT			
☐	☐	PROPELLER			
☐	☐	APPLIANCE	Type Manufacturer		

6. Conformity Statement

A. Agency's Name and Address

Name TULARE AIRCRAFT SERVICES
Address 3899 PROPELLER PLACE
City ATWATER State CA
Zip 95301 Country USA

B. Kind of Agency

- ☐ U. S. Certificated Mechanic
- ☐ Manufacturer
- ☐ Foreign Certificated Mechanic
- C. Certificate No.
- x Certificated Repair Station — CL3R427L
- ☐ Certificated Maintenance Organization

D. I certify that the repair and/or alteration made to the unit(s) identified in item 5 above and described on the reverse or attachments hereto have been made in accordance with the requirements of Part 43 of the U.S. Federal Aviation Regulations and that the information furnished herein is true and correct to the best of my knowledge.

Extended range fuel per 14 CFR Part 43 App. B ☐

Signature/Date of Authorized Individual: [signature] 15 Dec 23

7. Approval for Return to Service

Pursuant to the authority given persons specified below, the unit identified in item 5 was inspected in the manner prescribed by the Administrator of the Federal Aviation Administration and is ☒ Approved ☐ Rejected

BY								
	☐	FAA Flt. Standards Inspector	☐	Manufacturer	☐	Maintenance Organization	☐	Persons Approved by Canadian Department of Transport
	☐	FAA Designee	X	Repair Station	☐	Inspection Authorization		Other *(Specify)*

Certificate or Designation No. CL3R427L

Signature/Date of Authorized Individual: [signature] 15 Dec 23

FAA Form 337 (10/06)

NOTICE

Weight and balance or operating limitation changes shall be entered in the appropriate aircraft record. An alteration must be compatible with all previous alterations to assure continued conformity with the applicable airworthiness requirements.

8. Description of Work Accomplished
(If more space is required, attach additional sheets. Identify with aircraft nationality and registration mark and date work completed.)

USA	
N154TS	December 15, 2023
Nationality and Registration Mark	Date

1. DESCRIPTION:

To document the installation of the Starlink Aviation System on the Boeing 737-89L, MSN 30515 only.

2. APPROVED DATA:

i) Drawing 06654102-501 Rev A. Dated 10/23/2023, Boeing 737-800 Top Level Assembly, Starlink Aviation by FAA Electrical Robert S Chupka DER-T, 117186691 and FAA Structural Venkat Ramachandran DER-T, 575001431
ii) Drawing 06654102-550 Rev C. Dated 12/10/2023, Boeing 737-800 Starlink Exterior Install, FS 500D, Starlink Aviation by FAA Structural Venkat Ramachandran DER-T, 575001431
iii) Drawing 06654102-551 Rev C. Dated 12/10/2023, Boeing 737-800 Starlink Exterior Install, FS 727G, Starlink Aviation by FAA Structural Venkat Ramachandran DER-T, 575001431
iv) Drawing 06654102-570 Rev B. Dated 12/10/2023, Boeing 737-800 Starlink Interior Install, Starlink Aviation by FAA Structural Venkat Ramachandran DER-T, 575001431
v) SPX-00005053 Rev. 2.0 Dated 12/12/2023, Starlink Aviation Structural Substantiation, Boeing 737-800 by FAA Structural Venkat Ramachandran DER-T, 575001431
vi) Drawing 06654102-202 Rev C. Dated 12/01/2023, B737, Aeroterminal, Wiring Schematic by FAA Electrical Robert S Chupka DER-T, 117186691
vii) Drawing 06654102-621 Rev B. Dated 12/01/2023, B737, Aeroterminal, Wire Routing by FAA Electrical Robert S Chupka DER-T, 117186691
viii) SPX-00004939 Rev. 1.0 Dated 11/13/2023, Starlink Aviation SpaceX B737-800 Electrical Load Analysis by FAA Electrical Robert S Chupka DER-T, 117186691
ix) SPX-00005051 Rev. 1.0 Dated 12/05/2023, Starlink Aviation Anti-Collision Light Blockage Analysis, Boeing 737-800 by FAA Electrical Robert S Chupka DER-T, 117186691
x) STR-00000553 Rev. 1.0 Dated 12/08/2023, Starlink Aviation B737 (N154TS) Functional Ground Test Report by FAA Electrical Robert S Chupka DER-T, 117186691
xi) STR-00000554 Rev. 1.0 Dated 12/08/2023, Starlink Aviation B737 (N154TS) EMC Ground Test Report by FAA Electrical Robert S Chupka DER-T, 117186691
xii) QSA-23084 Rev. Initial Release Dated 12/12/2023, Performance Limited Weight Decrement Due to Installation of the SpaceX Satcom Radomes on Boeing 737-800 Aircraft by FAA Flight Analyst Sky W Rudolph DER-T, 367575048

3. OTHER DATA:
i) SPX-00004932 Rev. 2.0 Dated 12/28/2023, Starlink Aviation SpaceX 737-800 (N154TS) Master Data List

☑ Additional Sheets Are Attached

NOTICE

Weight and balance or operating limitation changes shall be entered in the appropriate aircraft record. An alteration must be compatible with all previous alterations to assure continued conformity with the applicable airworthiness requirements.

8. Description of Work Accomplished
(If more space is required, attach additional sheets. Identify with aircraft nationality and registration mark and date work completed.)

USA	
N154TS	December 15 2023
Nationality and Registration Mark	Date

3. OTHER DATA (cont.):
ii) SPX-00005050 Rev. 1.0 Dated 10/30/2023, Starlink Aviation Weight Balance Statement, Boeing 737-800
iii) STR-00000556 Rev. 1.0 Dated 12/14/2023, Starlink Aviation B737 Flight Test Report
iv) SPX-00005244 Rev. 1.0 Dated 12/28/2023, Starlink Aviation B737-800 (N154TS) Aircraft FlightManual Supplement

----------END----------

☐ Additional Sheets Are Attached

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

DETERMINATION OF COMPLIANCE WITH AIRWORTHINESS STANDARDS

1. PROJECT NO.(If applicable)

AIRCRAFT OR AIRCRAFT COMPONENT IDENTIFICATION

2. MAKE	3. MODEL NO.	4. TYPE (Aircraft, Engine, Propeller, Actuator etc.)	5. NAME OF APPLICANT
Boeing	737-89L	Aircraft	Space Exploration Technologies, Starlink Aviation

PURPOSE OF DATA

6. IN SUPPORT OF: ___ TC/ATC ___ STC ___ PMA ___ Major Repair X Major Alteration ___ Other (Explain)

PROJECT SPECIFIC INFORMATION: Boeing 737-800 Starlink System Provisions Installation

PURPOSE OF SUBMITTAL: To approve structural data for Starlink System provisions Installation

LIST OF DATA

List the data *for this submittal* including applicable drawings, material specifications, and process specifications and any other data that shows or contributes to a showing of compliance with the applicable requirements listed in block 9. A reference to a drawing list, including revision level, may be used.

7. IDENTIFICATION	8. TITLE OF DATA
06654102-501 Rev A Date: 23-OCT-2023	BOEING 737-800 TOP LEVEL ASSEMBLY, STARLINK AVIATION
06654102-550 Rev C Date: 10-DEC-2023	BOEING 737-800 STARLINK EXTERIOR INSTALL, FS 500D, STARLINK AVIATION
06654102-551 Rev C Date: 10-DEC-2023	BOEING 737-800 STARLINK EXTERIOR INSTALL, FS 727G, STARLINK AVIATION
06654102-570 Rev B Date: 10-DEC-2023	BOEING 737-800 STARLINK INTERIOR INSTALL, STARLINK AVIATION
	Notes: This approval is for engineering design data only. It indicates the data listed above demonstrates compliance only with the regulations specified by paragraph and subparagraph listed below as 'Applicable Requirements'. Structural design aspects only of the above data are approved herein. This approval is valid only for Boeing Model: 737-89L, S/N: 30515.

9. APPLICABLE REQUIREMENTS (List specific sections and amendment levels)

14 CFR 25.601 Amdt 25-0, 25.603(a)(b)(c) Amdt 25-46, 25.605(a) Amdt 25-46, 25.609(a)(b) Amdt 25-0, 25.611(a) Amdt 25-123,

10. FAA DESIGNEE APPROVAL - As directed by the Administrator and in accordance with the conditions and limitations of authorization under 14 CFR, Part 183, data listed above, and on attached sheets numbered _____, have been examined in accordance with established procedures. I therefore

☒ APPROVE the data above ☐ RECOMMEND APPROVAL of the data above

FOR MAJOR REPAIR OR MAJOR ALTERATION ONLY – Other data approvals ☒ ARE REQUIRED ☐ ARE NOT REQUIRED

EXPLAIN :

Electrical systems approval is required for the alteration.

☐ MANAGING OFFICE WAS CONTACTED (required when approval was made outside the U.S and/or invloved critical or life limited parts)

11. DER/ODA NUMBER	12. PRINTED NAME	
575001431	Venkat Ramachandran	
13. TECHNICAL DISCIPLINE DER-T (Structural Engineering)	14. SIGNATURE *Venkat Ramachandran* Digitally Signed 12/13/2023	16. DATE 12/13/2023

FAA APPROVAL (For FAA use when designee recommends approval above, or when approval is reserved for the FAA)

17. PRINTED NAME/FAA OFFICE	18. TECHNICAL DISCIPLINE
19. SIGNATURE	20. DATE

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

DETERMINATION OF COMPLIANCE WITH AIRWORTHINESS STANDARDS

1. PROJECT NO.(if applicable)

AIRCRAFT OR AIRCRAFT COMPONENT IDENTIFICATION

2. MAKE	3. MODEL NO.	4. TYPE (Aircraft, Engine, Propeller, Actuator etc.)	5. NAME OF APPLICANT
Boeing	737-89L	Aircraft	Space Exploration Technologies, Starlink Aviation

PURPOSE OF DATA

6. IN SUPPORT OF: ___ TC/ATC ___ STC ___ PMA ___ Major Repair X Major Alteration ___ Other (Explain)

PROJECT SPECIFIC INFORMATION: Boeing 737-800 Starlink System Provisions Installation

PURPOSE OF SUBMITTAL: To approve structural analysis data for Starlink System provisions Installation

LIST OF DATA

List the data *for this submittal* including applicable drawings, material specifications, and process specifications and any other data that shows or contributes to a showing of compliance with the applicable requirements listed in block 9. A reference to a drawing list, including revision level, may be used.

7. IDENTIFICATION	8. TITLE OF DATA
SPX-00005053 Version 2.0 Date: 2023-12-12	Starlink Aviation Structural Substantiation, Boeing 737-800 Notes: This approval is for engineering design data only. It indicates the data listed above demonstrates compliance only with the regulations specified by paragraph and subparagraph listed below as 'Applicable Requirements'. Structural aspects only of the above data are approved herein. This approval is valid only for Boeing Model: 737-89L, S/N: 30515. Additional damage tolerance analysis and approval is required for this alteration and must be completed within 12 months after this approval.

9. APPLICABLE REQUIREMENTS (List specific sections and amendment levels)

14 CFR 25.301(a)(b) Amdt 25-23, 25.303 Amdt 25-23, 25.305(a)(b) Amdt 25-86, 25.307(a) Amdt 25-72, 25.365(a)(b)(d) Amdt 25-87, 25.561(a)(b)(c) Amdt 25-91, 25.613(a)(b)(c) Amdt 25-72, 25.625(a)(b)(c) Amdt 25-72, 25.789(a) Amdt 25-46

10. FAA DESIGNEE APPROVAL - As directed by the Administrator and in accordance with the conditions and limitations of authorization under 14 CFR, Part 183, data listed above, and on attached sheets numbered _____, have been examined in accordance with established procedures. I therefore

☒ APPROVE the data above ☐ RECOMMEND APPROVAL of the data above

FOR MAJOR REPAIR OR MAJOR ALTERATION ONLY – Other data approvals ☒ ARE REQUIRED ☐ ARE NOT REQUIRED
EXPLAIN :

Additional damage tolerance analysis and approval is required for this alteration and must be completed within 12 months after this approval.

☐ MANAGING OFFICE WAS CONTACTED (required when approval was made outside the U.S and/or invloved critical or life limited parts)

11. DER/ODA NUMBER	12. PRINTED NAME	
575001431	Venkat Ramachandran	
13. TECHNICAL DISCIPLINE	14. SIGNATURE	16. DATE
DER-T (Structural Engineering)	*Venkat Ramachandran* Digitally Signed 12/13/2023	12/13/2023

FAA APPROVAL (For FAA use when designee recommends approval above, or when approval is reserved for the FAA)

17. PRINTED NAME/FAA OFFICE	18. TECHNICAL DISCIPLINE
19. SIGNATURE	20. DATE

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

DETERMINATION OF COMPLIANCE WITH AIRWORTHINESS STANDARDS

1. PROJECT NO.(if applicable)

AIRCRAFT OR AIRCRAFT COMPONENT IDENTIFICATION

2. MAKE	3. MODEL NO.	4. TYPE (Aircraft, Engine, Propeller, Actuator etc.)	5. NAME OF APPLICANT
Boeing	737-800	Aircraft	SPACE EXPLORATION TECHNOLOGIES STARLINK AVIATION

PURPOSE OF DATA

6. IN SUPPORT OF: ___ TC/ATC ___ STC ___ PMA ___ Major Repair X Major Alteration ___ Other (Explain)

PROJECT SPECIFIC INFORMATION: In support of Major Alteration for AC SN 30515 for Starlink Aviation System Installation.

PURPOSE OF SUBMITTAL: In support of Major Alteration for AC SN 30515 for Starlink Aviation System Installation.

LIST OF DATA

List the data *for this submittal* including applicable drawings, material specifications, and process specifications and any other data that shows or contributes to a showing of compliance with the applicable requirements listed in block 9. A reference to a drawing list, including revision level, may be used.

7. IDENTIFICATION	8. TITLE OF DATA
06654102-501 Rev. A Dated 10/23/2023	Boeing 737-800 Top Level Assembly, Starlink Aviation
06654102-202 Rev. C Dated 12/1/2023	B737, Aeroterminal, Wiring Schematic
06654102-621 Rev. B Dated 12/1/2023	B737, Aeroterminal, Wire Routing
	Notes: This approval is for engineering design data only. It indicates the data listed above demonstrates compliance only with the regulations specified by paragraph and subparagraph listed below as 'Applicable Requirements'. Approval is for Electrical Aspects Only. This approval is in support of major alteration to Boeing 737-800 AC SN 30515 for Starlink Aviation System Installation.

9. APPLICABLE REQUIREMENTS (List specific sections and amendment levels)

14CFR Part 25: 25.899 [Amdt. 25-123]; 25.981([Amdt. 25-146]; 25.1301(a)(b)(c) [Amdt. 25-0]; 25.1307 [Amdt. 25-72]; 25.1309(a)(b)(c) [Amdt. 25-41]; 25.1353(a)(b) [Amdt. 25-113]; 25.1357 (a)(c)(d) [Amdt. 25-0]; 25.1431(a)(c) [Amdt. 25-0]

10. FAA DESIGNEE APPROVAL - As directed by the Administrator and in accordance with the conditions and limitations of authorization under 14 CFR, Part 183, data listed above, and on attached sheets numbered _____, have been examined in accordance with established procedures. I therefore

☒ APPROVE the data above ☐ RECOMMEND APPROVAL of the data above

FOR MAJOR REPAIR OR MAJOR ALTERATION ONLY – Other data approvals ☒ ARE REQUIRED ☐ ARE NOT REQUIRED

EXPLAIN :

Additional approvals may be required for this alteration.

☐ MANAGING OFFICE WAS CONTACTED (required when approval was made outside the U.S and/or invloved critical or life limited parts)

11. DER/ODA NUMBER	12. PRINTED NAME	
117186691	Robert S Chupka	
13. TECHNICAL DISCIPLINE	14. SIGNATURE	16. DATE
DER-T (Electrical Systems Engineering)	Robert S Chupka Digitally Signed 12/12/2023	12/12/2023

FAA APPROVAL (For FAA use when designee recommends approval above, or when approval is reserved for the FAA)

17. PRINTED NAME/FAA OFFICE	18. TECHNICAL DISCIPLINE
19. SIGNATURE	20. DATE

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

DETERMINATION OF COMPLIANCE WITH AIRWORTHINESS STANDARDS

1. PROJECT NO.(If applicable)

AIRCRAFT OR AIRCRAFT COMPONENT IDENTIFICATION

2. MAKE	3. MODEL NO.	4. TYPE (Aircraft, Engine, Propeller, Actuator etc.)	5. NAME OF APPLICANT
Boeing	737-800	Aircraft	SPACE EXPLORATION TECHNOLOGIES STARLINK AVIATION

PURPOSE OF DATA

6. IN SUPPORT OF: ___ TC/ATC ___ STC ___ PMA ___ Major Repair X Major Alteration ___ Other (Explain)

PROJECT SPECIFIC INFORMATION: In support of Major Alteration for AC SN 30515 for Starlink Aviation System Installation.

PURPOSE OF SUBMITTAL: In support of Major Alteration for AC SN 30515 for Starlink Aviation System Installation.

LIST OF DATA

List the data *for this submittal* including applicable drawings, material specifications, and process specifications and any other data that shows or contributes to a showing of compliance with the applicable requirements listed in block 9. A reference to a drawing list, including revision level, may be used.

7. IDENTIFICATION	8. TITLE OF DATA
SPX-00004939 Rev. 1.0 Dated 11/13/23	Starlink Aviation SpaceX B737-800 Electrical Load Analysis
SPX-00005051 Rev. 1.0 Dated 12/05/23	Starlink Aviation Anti-Collision Light Blockage Analysis, Boeing 737-800
	Notes: This approval is for engineering design data only. It indicates the data listed above demonstrates compliance only with the regulations specified by paragraph and subparagraph listed below as 'Applicable Requirements'. Approval is for Electrical Aspects Only. This approval is in support of major alteration to Boeing 737-800 AC SN 30515 for Starlink Aviation System Installation.

9. APPLICABLE REQUIREMENTS (List specific sections and amendment levels)

14CFR Part 25: 25.1351(a)(1) [Amdt. 25-72]; 25.1401(b) [Amdt. 25-41]

10. FAA DESIGNEE APPROVAL - As directed by the Administrator and in accordance with the conditions and limitations of authorization under 14 CFR, Part 183, data listed above, and on attached sheets numbered _____, have been examined in accordance with established procedures. I therefore

☒ APPROVE the data above ☐ RECOMMEND APPROVAL of the data above

FOR MAJOR REPAIR OR MAJOR ALTERATION ONLY – Other data approvals ☒ ARE REQUIRED ☐ ARE NOT REQUIRED
EXPLAIN :

Additional approvals may be required for this alteration.

☐ MANAGING OFFICE WAS CONTACTED (required when approval was made outside the U.S and/or invloved critical or life limited parts)

11. DER/ODA NUMBER	12. PRINTED NAME	
117186691	Robert S Chupka	
13. TECHNICAL DISCIPLINE	14. SIGNATURE	16. DATE
DER-T (Electrical Systems Engineering)	Robert S Chupka Digitally Signed 12/14/2023	12/14/2023

FAA APPROVAL (For FAA use when designee recommends approval above, or when approval is reserved for the FAA)

17. PRINTED NAME/FAA OFFICE	18. TECHNICAL DISCIPLINE
19. SIGNATURE	20. DATE

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

DETERMINATION OF COMPLIANCE WITH AIRWORTHINESS STANDARDS

1. PROJECT NO.(If applicable)

AIRCRAFT OR AIRCRAFT COMPONENT IDENTIFICATION

2. MAKE	3. MODEL NO.	4. TYPE (Aircraft, Engine, Propeller, Actuator etc.)	5. NAME OF APPLICANT
Boeing	737-800	Aircraft	SPACE EXPLORATION TECHNOLOGIES STARLINK AVIATION

PURPOSE OF DATA

6. IN SUPPORT OF: ___ TC/ATC ___ STC ___ PMA ___ Major Repair X Major Alteration ___ Other (Explain)

PROJECT SPECIFIC INFORMATION: In support of Major Alteration for AC SN 30515 for Starlink Aviation System Installation.

PURPOSE OF SUBMITTAL: In support of Major Alteration for AC SN 30515 for Starlink Aviation System Installation.

LIST OF DATA

List the data *for this submittal* including applicable drawings, material specifications, and process specifications and any other data that shows or contributes to a showing of compliance with the applicable requirements listed in block 9. A reference to a drawing list, including revision level, may be used.

7. IDENTIFICATION	8. TITLE OF DATA
STR-00000553 Rev. 1.0 Dated 12/08/23	Starlink Aviation B737 (N154TS) Functional Ground Test Report
STR-00000554 Rev. 1.0 Dated 12/08/23	Starlink Aviation B737 (N154TS) EMC Ground Test Report
	Notes: This approval is for engineering design data only. It indicates the data listed above demonstrates compliance only with the regulations specified by paragraph and subparagraph listed below as 'Applicable Requirements'. Approval is for Electrical Aspects Only. This approval is in support of major alteration to Boeing 737-800 AC SN 30515 for Starlink Aviation System Installation.

9. APPLICABLE REQUIREMENTS (List specific sections and amendment levels)

14CFR Part 25: 25.1301(d) [Amdt. 25-0]; 25.1309(a) [Amdt. 25-41]; 25.1353(a) [Amdt. 25-113]; 25.1431(c) [Amdt. 25-113]

10. FAA DESIGNEE APPROVAL - As directed by the Administrator and in accordance with the conditions and limitations of authorization under 14 CFR, Part 183, data listed above, and on attached sheets numbered _____, have been examined in accordance with established procedures. I therefore

☒ APPROVE the data above ☐ RECOMMEND APPROVAL of the data above

FOR MAJOR REPAIR OR MAJOR ALTERATION ONLY – Other data approvals ☒ ARE REQUIRED ☐ ARE NOT REQUIRED
EXPLAIN :

Additional approvals may be required for this alteration.

☐ MANAGING OFFICE WAS CONTACTED (required when approval was made outside the U.S and/or invloved critical or life limited parts)

11. DER/ODA NUMBER	12. PRINTED NAME	
117186691	Robert S Chupka	
13. TECHNICAL DISCIPLINE	14. SIGNATURE	16. DATE
DER-T (Electrical Systems Engineering)	Robert S Chupka Digitally Signed 12/14/2023	12/14/2023

FAA APPROVAL (For FAA use when designee recommends approval above, or when approval is reserved for the FAA)

17. PRINTED NAME/FAA OFFICE	18. TECHNICAL DISCIPLINE
19. SIGNATURE	20. DATE

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

DETERMINATION OF COMPLIANCE WITH AIRWORTHINESS STANDARDS

1. PROJECT NO.(If applicable)

AIRCRAFT OR AIRCRAFT COMPONENT IDENTIFICATION

2. MAKE	3. MODEL NO.	4. TYPE (Aircraft, Engine, Propeller, Actuator etc.)	5. NAME OF APPLICANT
Boeing	737-89L	Aircraft	Space Exploration Technologies, Starlink Aviation

PURPOSE OF DATA

6. IN SUPPORT OF: ___ TC/ATC ___ STC ___ PMA ___ Major Repair X Major Alteration ___ Other (Explain)

PROJECT SPECIFIC INFORMATION: Boeing 737-800 Starlink System Provisions Installation

PURPOSE OF SUBMITTAL: Approve analysis of performance decrements due to additional drag caused by external antenna radomes. Use of presented weight decrements ensures that the takeoff, landing, and climb performance in all certified phases of flight is equivalent to the unmodified aircraft.

LIST OF DATA

List the data *for this submittal* including applicable drawings, material specifications, and process specifications and any other data that shows or contributes to a showing of compliance with the applicable requirements listed in block 9. A reference to a drawing list, including revision level, may be used.

7. IDENTIFICATION	8. TITLE OF DATA
QSA-23084 Initial Release 12 December 2023	Performance Limited Weight Decrement Due to Installation of the SpaceX Satcom Radomes on Boeing 737-800 Aircraft Notes: This approval is for engineering design data only. It indicates the data listed above demonstrates compliance only with the regulations specified by paragraph and subparagraph listed below as 'Applicable Requirements'.

9. APPLICABLE REQUIREMENTS (List specific sections and amendment levels)

14 CFR 25.109 Amdt 25-42, 25.111 Amdt 25-72, 25.113 Amdt 25-23, 25.115 Amdt 25-0, 25.117 Amdt 25-0, 25.119 Amdt 25-0, 25.121 Amdt 25-0, 25.123 Amdt 25-0, 25.125 Amdt 25-72.

10. FAA DESIGNEE APPROVAL - As directed by the Administrator and in accordance with the conditions and limitations of authorization under 14 CFR, Part 183, data listed above, and on attached sheets numbered _____, have been examined in accordance with established procedures. I therefore

☒ APPROVE the data above ☐ RECOMMEND APPROVAL of the data above

FOR MAJOR REPAIR OR MAJOR ALTERATION ONLY – Other data approvals ☒ ARE REQUIRED ☐ ARE NOT REQUIRED

EXPLAIN :

Performance decrements presented must be incorporated into AFMS as described.

☐ MANAGING OFFICE WAS CONTACTED (required when approval was made outside the U.S and/or invloved critical or life limited parts)

11. DER/ODA NUMBER	12. PRINTED NAME	
367575048	Sky W Rudolph	
13. TECHNICAL DISCIPLINE DER-T (Flight Analyst)	14. SIGNATURE Sky W Rudolph	16. DATE Digitally Signed 12/14/2023 12/14/2023

FAA APPROVAL (For FAA use when designee recommends approval above, or when approval is reserved for the FAA)

17. PRINTED NAME/FAA OFFICE	18. TECHNICAL DISCIPLINE
19. SIGNATURE	20. DATE

UNITED STATES OF AMERICA
DEPARTMENT OF TRANSPORTATION-FEDERAL AVIATION ADMINISTRATION

STANDARD AIRWORTHINESS CERTIFICATE

1 NATIONALITY AND REGISTRATION MARKS	2 MANUFACTURER AND MODEL	3 AIRCRAFT SERIAL NUMBER	4 CATEGORY
N154TS	BOEING 737-800	30515	Transport

5 AUTHORITY AND BASIS FOR ISSUANCE

This airworthiness certificate is issued pursuant to 49 U.S.C. § 44704 and certifies that, as of the date of issuance, this aircraft has been inspected and found to conform to its type certificate and be in condition for safe operation. This aircraft meets the requirements of the applicable airworthiness standards in Annex 8 to the Convention on International Civil Aviation, except as follows:

NONE

6 TERMS AND CONDITIONS

Unless sooner surrendered, suspended, revoked, or a termination date is otherwise established by the FAA, this airworthiness certificate is effective as long as maintenance, preventative maintenance, and alterations are performed per the applicable Federal Aviation Regulations and the aircraft is registered in the United States.

DATE OF ISSUANCE	FAA REPRESENTATIVE	DESIGNATION NUMBER
14/Jan/2024	//Signed by//Phillip Beck,05:25 AM, January 14, 2024	553275380

Any alteration, misuse, or reproduction of this certificate for a fraudulent purpose may be punishable by certificate revocation, fine, and / or imprisonment.

THIS CERTIFICATE MUST BE DISPLAYED IN THE AIRCRAFT PER THE APPLICABLE FEDERAL AVIATION REGULATIONS.

FAA Form 8100-2 (9-2019) Previous Edition May be Used Until Depleted

U.S. Department of Transportation
Federal Aviation Administration

APPLICATION FOR U.S. AIRWORTHINESS CERTIFICATE

INSTRUCTIONS - Print or type. Do not write in shaded areas; these are for FAA use only. Submit original only to an authorized FAA Representative. If additional space is required, use attachment. For special flight permits complete sections II, VI, and VII as applicable.

I. AIRCRAFT DESCRIPTION

1. REGISTRATION MARKS	2. AIRCRAFT BUILDER'S NAME *(Make)*	3. AIRCRAFT MODEL DESIGNATION	4. YR. MFG	FAA CODING
N154TS	BOEING	737-800	2002	
5. AIRCRAFT SERIAL NO.	**6. ENGINE BUILDER'S NAME (Make)**	**7. ENGINE MODEL DESIGNATION**		☐ Do Not Code
30515	CFM INTL	CFM56-7B24		
8. NUMBER OF ENGINES	**9. PROPELLER BUILDER'S NAME (Make)**	**10. PROPELLER MODEL DESIGNATION**	**11. AIRCRAFT IS IMPORT *(Check if applicable)***	
2	N/A	N/A	☐ IMPORT	

II. CERTIFICATION REQUESTED

APPLICATION IS HEREBY MADE FOR *(Check applicable items)*

A 1 ☒ STANDARD AIRWORTHINESS CERTIFICATE (Indicate category) ☐ NORMAL ☐ UTILITY ☐ ACROBATIC ☒ TRANSPORT ☐ COMMUTER ☐ BALLOON ☐ OTHER

B ☐ SPECIAL AIRWORTHINESS CERTIFICATE *(Check appropriate items)*

- **7** ☐ PRIMARY
- **9** ☐ LIGHT-SPORT *(indicate Class)* ☐ Airplane ☐ Powered-Parachute ☐ Weight-Shift-Control ☐ Glider ☐ Lighter than Air
- **2** ☐ LIMITED
- **5** ☐ PROVISIONAL *(Indicate Class)* — 1 ☐ Class I — 2 ☐ Class II
- **3** ☐ RESTRICTED *(Indicate operation(s) to be conducted)* — 1 ☐ AGRICULTURE AND PEST CONTROL; 2 ☐ AERIAL SURVEY; 3 ☐ AERIAL ADVERTISING; 4 ☐ FOREST *(Wildlife conservation)*; 5 ☐ PATROLLING; 6 ☐ WEATHER CONTROL; 0 ☐ OTHER *(Specify)*
- **4** ☐ EXPERIMENTAL *(Indicate operation(s) to be conducted)* — 1 ☐ RESEARCH AND DEVELOPMENT; 2 ☐ AMATEUR BUILT; 3 ☐ EXHIBITION; 4 ☐ AIR RACING; 5 ☐ CREW TRAINING; 6 ☐ MARKET SURVEY; 0 ☐ SHOW COMPLIANCE WITH THE CFR; 7 ☐ OPERATING *(primary category)* KIT BUILT AIRCRAFT
  - 8 ☐ OPERATING LIGHT-SPORT: 8A ☐ Existing aircraft without an airworthiness certificate & do not meet § 103.1; 8B ☐ Operating Light-Sport Kit-built; 8C ☐ Operating Light-Sport previously issued special light-sport category airworthiness certificate under § 21.190
  - 9 ☐ UNMANNED AIRCRAFT: 9A ☐ RESEARCH AND DEVELOPMENT; 9B ☐ MARKET SURVEY; 9C ☐ CREW TRAINING; 9D ☐ EXHIBITION; 9E ☐ SHOW COMPLIANCE WITH THE CFR
- **8** ☐ SPECIAL FLIGHT PERMIT *(Indicate operation to be conducted, then complete Section VI or VII as applicable on reverse side)* — 1 ☐ FERRY FLIGHT FOR REPAIRS, ALTERATIONS, MAINTENANCE, OR STORAGE; 2 ☐ EVACUATE FROM AREA OF IMPENDING DANGER; 3 ☐ OPERATION IN EXCESS OF MAXIMUM CERTIFICATED TAKE-OFF WEIGHT; 4 ☐ DELIVERING OR EXPORTING; 5 ☐ PRODUCTION FLIGHT TESTING; 6 ☐ CUSTOMER DEMONSTRATION FLIGHTS

C 6 ☐ MULTIPLE AIRWORTHINESS CERTIFICATE *(Check ABOVE "Restricted Operation" and "Standard" or "Limited" as applicable)*

III. OWNER'S CERTIFICATION

A. REGISTERED OWNER *(As shown on certificate of aircraft registration)* — **IF DEALER, CHECK HERE** ☐

NAME	ADDRESS
FALCON AVIATION HOLDINGS LLC	1 ROCKET RD, HAWTHORNE, California, 90250-6844, United States

B. AIRCRAFT CERTIFICATION BASIS *(Check applicable blocks and complete items as indicated)*

☒	AIRCRAFT SPECIFICATION OR TYPE CERTIFICATE DATA SHEET *(Give No. and Revision No.)*	☒	AIRWORTHINESS DIRECTIVES *(Check if all applicable ADs are complied with and give the number of the last AD SUPPLEMENT available in the biweekly series as of the date of application)*
	A16WE REV-73		2023-25
☐	AIRCRAFT LISTING *(Give page number(s))*	☒	SUPPLEMENTAL TYPE CERTIFICATE *(List number of each STC incorporated)*
	N/A		ST00983SE-D, ST03450NY, ST02929AT

C. AIRCRAFT OPERATION AND MAINTENANCE RECORDS

☒	CHECK IF RECORDS IN COMPLIANCE WITH 14 CFR 91.417	TOTAL AIRFRAME HOURS: 43,531	3 EXPERIMENTAL ONLY *(Enter hours flown since last certificate issued or renewed)*

D. CERTIFICATION - - I hereby certify that I am the registered owner (or his agent) of the aircraft described above, that the aircraft is registered with the Federal Aviation Administration in accordance with Title 49 of the United States Code 44101 et seq. and applicable Federal Aviation Regulations, and that the aircraft has been inspected and is airworthy and eligible for the airworthiness certificate requested.

DATE OF APPLICATION	NAME AND TITLE (Print or type)	SIGNATURE
Jan 04, 2024	Perez, Gary Bladimir (Director Of Aviation)	//Signed by//Gary Perez,12:29 PM, January 04, 2024

IV. INSPECTION AGENCY VERIFICATION

A. THE AIRCRAFT DESCRIBED ABOVE HAS BEEN INSPECTED AND FOUND AIRWORTHY BY: *(Complete this section only if 14 CFR 21.183(d) applies)*

2	14 CFR part 121 CERTIFICATE HOLDER *(Give No.)*	3 CERTIFICATED MECHANIC *(Give Certificate No.)*	6 ☒ CERTIFICATED REPAIR STATION *(Certificate No.)* 61DR503D
5	AIRCRAFT MANUFACTURER (Give name)		

DATE	TITLE	SIGNATURE
Jan 08, 2024	Gary Perez (Director of Aviation ,Space Ex Falcon Air	

V. FAA REPRESENTATIVE CERTIFICATION

(Check ALL applicable block items A and B)

A. I find that the aircraft described in Section I or VII meets requirements for ☒ THE CERTIFICATE REQUESTED; 4 ☐ AMENDMENT OR MODIFICATION OF CURRENT AIRWORTHINESS CERTIFICATE

B. Inspection for a special flight permit under Section VII was conducted by: ☐ FAA INSPECTOR ☐ FAA DESIGNEE ☐ CERTIFICATE HOLDER UNDER ☐ 14 CFR part 65 ☐ 14 CFR part 121 or 135 ☐ 14 CFR part 145

DATE	MIDO/FSDO OFFICE	4 FAA INSPECTORS SIGNATURE or DESIGNEE'S SIGNATURE AND NO. Phillip Beck (553275380)	1 FAA INSPECTOR'S CERTIFICATION FILE REVIEW SIGNATURE
Jan 14, 2024	WP07	//Signed by//Phillip Beck,10:35 AM, January 15, 2024	LEON L KELLEY Digitally signed by LEON L KELLEY Date: 2024.01.15 10:00:08 -07'00'

VI. PRODUCTION FLIGHT TESTING

A. MANUFACTURER

NAME	ADDRESS

B. PRODUCTION BASIS *(Check applicable item)*

- ☐ PRODUCTION CERTIFICATE *(Give production certificate number)*
- ☐ TYPE CERTIFICATE
- ☐ OTHER

C. GIVE QUANTITY OF CERTIFICATES REQUIRED FOR OPERATING NEEDS

DATE	NAME AND TITLE (Print or type)	SIGNATURE

VII. SPECIAL FLIGHT PERMIT PURPOSES OTHER THAN PRODUCITON FLIGHT TEST

A. DESCRIPTION OF AIRCRAFT

REGISTERED OWNER	ADDRESS

BUILDER (Make)	MODEL

SERIAL NUMBER	REGISTRATION MARK

B. DESCRIPTION OF FLIGHT — CUSTOMER DEMONSTRATION FLIGHTS ☐ *(Check if applicable)*

FROM	TO

VIA	DEPARTURE DATE	DURATION

C. CREW REQUIRED TO OPERATE THE AIRCRAFT AND ITS EQUIPMENT

☐ PILOT ☐ COPILOT ☐ FLIGHT ENGINEER ☐ OTHER *(Specify)*

D. THE AIRCRAFT DOES NOT MEET THE APPLICABLE AIRWORTHINESS REQUIREMENTS AS FOLLOWS:

E. THE FOLLOWING RESTRICTIONS ARE CONSIDERED NECESSARY FOR SAFE OPERATION *(Use attachment if necessary)*

F. CERTIFICATION - I hereby certify that I am the registered owner (or his agent) of the aircraft described above; that the aircraft is registered with the Federal Aviation Administration in accordance with Title 49 of the United States Code 44101 et seq. and applicable Federal Aviation Regulations; and that the aircraft has been inspected and is safe for the flight described.

DATE	NAME AND TITLE (Print or type)	SIGNATURE

VIII. AIRWORTHINESS DOCUMENTATION (FAA/DESIGNEE USE ONLY)

☒	A. Operating Limitations and Markings in Compliance with 14 CFR Section 91.9, as applicable.	☐	G. Statement of Conformity, FAA Form 8130-9 *(Attach when required)*
☐	B. Current Operating Limitations Attached	☐	H. Foreign Airworthiness Certification for Import Aircraft *(Attach when required)*
☐	C. Data, Drawings, Photographs, etc. *(Attach when required)*	☒	I. Previous Airworthiness Certificate Issued in Accordance With 14 CFR Section 21.329 CAR _____ *(Original attached)*
☒	D. Current Weight and Balance information Available in Aircraft	☒	J. Current Airworthiness Certificate Issued in Accordance With 14 CFR Section 21.183(d)(2) *(Copy attached)*
☐	E. Major Repair and Alteration, FAA Form 337 *(Attach when required)*		
☒	F. This Inspection Recorded in Aircraft Records	☐	K. Light-Sport Aircraft Statement of Compliance, FAA form 8130-15 *(Attach copy when required)*

Accepted GS Jan/17/2024

Conformity Inspection Record

1. Project Number, TIA/Request Date:	2. SHEET of Sheets
Checklist Standard Airworthiness DMS 553275380-2024-1	1 2

3. Applicant/Manufacturer:	4. Beginning Date:	5. Ending Date:
Falcon Aviation LLC	Jan 5 2024	JAN 14, 2024

6. Model:	7. Inspected By:
B737-800 N154TS s/n 30515 TT: 43528: TC: 26665	Phillip Beck. 553275380 ~~DMS Code PR 553275380-20~~

8. Item No.	9. Nomenclature of Item Inspected	10. Drawing, Document, Specification, etc.	11. Revision and Date	12. No. of Items Determined SAT.	12. No. of Items Determined UNSAT.	13. Comments
1	Application and Program letter if applicable	8130-6 FSDO AWC program		xx		AWC code 01042024-168
2	Agent letter	If not the aircraft registered owner making application		NR		
3	Identification numbers			✓		
4	Data Plates	AF ✓ ENs 896116/893661 ✓ ✓		✓		
5	Registration			xx		8/6/2023
6	Hard time controlled items or OC items requiring an inspection	Items requiring an inspection for condition IAW the Program		xx		
7	Life Limits	Ultimate Life Limited components of AF and eng		xx		
8	Airworthiness Directives	aircraft / engines/ accessories		xx		
9	Repair file for structures	File of known structural repairs and FAA approval method		xx		
10	Placards	As per the Flight or pilot operating manual		✓		
11	Alterations	Approval files for avionics and systems installations, STCs		XX		3 STCS , 1 (ONE) 8110-3 ALTERATION
12	Weight and Balance Equipment list			xx		
13	Instrument markings			✓		
14	Flight Manual and supplements	Starlink Supp		xx		FAA Approved
15	ELT			xx		
16	Transponder and Altimeter certification	Check ADSB compliance		xx		
17	Log Books complete	All required releases for alterations and Maintenance		xx ✓		Citadel Aviation release Proof of Insp Sign
18	Inspections type and release to FAA Approved Inspection Program	Final release by recording the inspections performed		C10/12		
19	Aircraft original Certification & Complinace to current TCDS	Export to China and retruned		x		

Conformity Inspection Record

1. Project Number, TIA/Request Date:	2. SHEET 2. of 2 Sheets
3. Applicant/Manufacturer: Falcon Air	4. Beginning Date:
5. Ending Date: JAN 14, 2024	
6. Model: B 737-800 N154TS	7. Inspected By: Phillip Beck DART553275388

8. Item No.	9. Nomenclature of Item Inspected	10. Drawing, Document, Specification, etc.	11. Revision and Date	12. No. of Items Determined SAT.	12. No. of Items Determined UNSAT.	13. Comments
1	C/W Doc 1 Part 25 Conformity			XX		Jan 14
2	AD 2020-16-51	Eng Bleed			XX	7 day Insp Due
3	Registration Numbers	14CFR Part 45			XX	Numbers are 11" high
4	Row 1 Overhead Bin	ELT (Portable) missing			XX	
5	Crew Storage	ELT (Portable) missing			XX	
6	Fuel Panel in KG	Note: (Flight Manual, Cockpit gauges and Fueling Panel				
7		are all KG & match)				
8	Ref #2 Above	A.D. Complied with on site		XX		
9	Ref #3 Above	New Placards installed on site XX Satisfactory				
10	Ref #4	ELT Stored in Rep OFF Confirmed XX				
11	Ref #5	ELT Stored in Rep OFF		XX		Confirmed Reinstall
						#4 & 5 Jan 14
		END Complete Jan 14, 2024				

FAR PART 25 CONFORMITY CHECKLIST Doc 1 Aircraft: B737-800 N154TS DATE 14 JAN

NOTES or other special data

FAR	SUBJECT	REMARKS OR DISCREPANCY	SAT	Unsatf	Corctd	Excptn
25.733	Tires	speed and ply rating I/A/W Flight Manual	✓			
25.771	PILOT COMPARTMENTS	Control access and work station comfort	✓			
25.772	COCKPIT DOORS	Lock and exit if door is jammed security door	✓			
25.773	PILOT COMPARTMENT VIEW	clear view and visibility to instruments	✓			
25.775	WINDSHIELD AND WINDOWS	visibility thru alternate w/s	✓			
25.777	COCKPIT CONTROLS	location and movement Indicators, identifiable	✓			
25.783	DOORS	operation, locking, markings	✓			
25.785	SEATS,BERTHS,AND BELTS	ratings,padding, clearence belts and restraints	✓			
25.787	STOWAGE COMPARTMENTS	weights,doors, cargo light protection	✓			
25.789	GALLEY COMPARTMENTS	restraint devices	✓			
25.791	PAX INFO SIGNS	no smoking, seat belts, lav placards,seat placards FA notification	✓			
25.793	FLOOR SURFACES	non slip	✓			
25.801	DITCHING	ditching certification TCDS	✓			
25.803	EMERGENCY EVACUATION	evacuation certification for pax number approved LOPA	✓			
25.805	EMERGENCY EXIT FLT CREW	Evacuation certification for flight crew	✓			
25.807	EMERGENCY EXIT DOORS	types and numbers	✓			
25.809	EMERGENCY EXIT ARRANGEMENT	types of doors, markings, cooper locks and placards	✓			
25.810	EMERGENCY ESCAPE ASSIST	slides,ropes, wing markings.	✓			
25.811	EMERGENCY EXIT MARKING	markings on exits Interio Exterior	✓			
25.812	EMERGENCY LIGHTING	path lights,sign lights,exterior lights	✓			
25.813	EMERGENCY EXIT ACCESS	access rules and placards	✓			
25.815	AISLE WIDTH	aisle widths per pax load 15/22 16/22 18/22	✓			
25.817	NUMBER OF SEATS ABREAST	one aisle no more than three per side Center as per LOPA approval	✓			x3
25.819	LOWER LEVEL GALLEYS	rules for lower galleys	N/A			
25.831	VENTILATION	ventilation rules for cabins and cockpits	✓			
25.841	PRESSURIZED CABIN DETAILS	pressure requirements and control requirements	✓			
25.851	FIRE EXTINGUISHERS	types and locations	✓			
25.853	COMPARTMENT INTERIORS	burn certifications	✓			
25.854	LAV FIRE PROTECTION	smoke detectors,independent fire extinguisher	✓			
25.855	CARGO COMPARTMENTS	construction	✓			
25.857	CARGO COMPARTMENT CLASS	class requirements	✓			
25.858	CARGO FIRE DETECTION	fire detection system lights and testing by crew	✓			
25.971	FUEL TANK SUMPS	sump requirements	✓			
25.973	FUEL TANK FILLER CONNECTION	drains , seals, and grounding	✓			

25.1141	POWERPLANT CONTROLS	location,arrangement,and movement	✓				
25.1142	AUXILIARY POWER CONTROLS	starting, stopping cockpit controls	✓				
25.1143	ENGINE CONTROLS	type,arrangement, controls	✓				
25.1155	REVERSR THRUST SETTINGS	operation and prevention of operation	✓				
25.1161	FUEL JETTISON CONTROLS	guarded	NA				
25.1165	ENGINE IGNITION SYSTEMS	requirements	✓				
25.1195	FIRE EXTINGUISHER SYSTEMS	requirements	✓				
25.1203	FIRE DETECTOR SYSTEM	requirements	✓				
25.1303	FLIGHT & NAVIGATION	type and requirements	✓				
25.1305	POWERPLANT INSTRUMENTS	type and requirements	✓				
25.1307	MISC.EQUIP	2 sources of electric,to nav , 2 com, circuit breakers	✓				
25.1321	ARRANGEMENT OF INSTRUMENTS	panel layout	✓				
25.1322	WARNING LIGHTS	colors for types	✓				
25.1323	AIRSPEED INDICATING SYSTEM	pitot heats,tubes,	✓				
25.1325	STATIC PRESSURE	types,SDCs,alternate systems	✓				
25.1326	PITOT HEAT INDICATORS	warnings	✓				
25.1327	MAGNETIC COMPASS	installation requirements	✓				
25.1329	AUTOMATIC PILOT SYSTEM	controls,locations,disconnects,warnings	✓				
25.1331	INSTRUMENTS USING POWER SPLY	indicators,switching devices,loss of power indicator	✓				
25.1333	INSTRUMENT SYSTEMS	requiremnents for each station,switching	✓				
25.1335	FLIGHT DIRECTOR SYSTEM	mode indicator	✓				
25.1337	POWERPLANT INSTRUMENTS	units of measure, indicating,required instruments	✓				
25.1351	ELECTRICAL SYSTEMS	generators,power,indicators, switches	✓				
25.1353	BATTERY AND ELEC. SOURCES	batteries,vents,indicators	✓				
25.1355	DISTRIBUTION SYSTEM		✓				
25.1357	CIRCUT PROTECTIVE SYSTEMS		✓				
25.1381	INSTRUMENT LIGHTS	requirements	✓				
25.1383	LANDING LIGHTS	requirements , switches	✓				
25.1385	POSITION LIGHTS	colors ,locations,types	✓				
25.1401	ANTI COLLISION LIGHTS	requirements	✓				
25.1403	ICE DETECTION LIGHT	requirements	✓				
25.1411	SAFETY EQUIP GENERAL	required equipment	✓				
25.1415	DITCHING EQUIPMENT	life raft requirements for number of personnel vests	✓				
25.1419	ICING PROTECTION	if certificated requirements	✓				
25.1421	MEGAPHONES	installation requirements hold downs	✓				
25.1423	PUBLIC ADDRESS	requirements	✓				
25.1439	PBE	requirements locations and quantity	✓				
25.1441	OXYGEN SYSTEMS	requirements quantity determination by crew	✓				
25.1445	CREW OXYGEN	requirements	✓				

25.1447	PAX OXYGEN	requirements	✓				
25.1457	VOICE RECORDERS	requirements	✓				
25.1459	FLIGHT RECORDERS	requirements	✓				
25.1541	MARKINGS AND PLACARDS	requirements	✓				
25.1543	MARKINGS INSTRUMENT	requirements	✓				
25.1545	AIRSPEED LIMITATION MARKING	easily read by the crew	✓				
25.1547	MAGNETIC DIRECTION INDICATOR	calibration cards	✓				
25.1549	POWERPLANT MARKINGS	marking colors	✓				
25.1551	OIL QUANTITY MARKINGS	type of markings	✓				
25.1553	FUEL QUANTITY MARKINGS	marking requirements	✓				
25.1555	CONTROL MARKINGS	color,type and style of marking	✓				
25.1557	MISC MARKINGS	bag compartment placards,fuel filler,fuel valves,oil filler	✓				
25.1561	SAFETY EQUIPMENT	markings for locations of emergency equipment	✓				
25.1563	AIRSPEED PLACARD	max speeds for flaps,gear,	✓				
25.1581	FLIGHT MANUAL	requirements + Approved Supps	✓				
Part 45	DATA PLATES A/F & ENG		✓				
Part 47	REGISTRATION		✓				
Part 47	AIRCRAFT EXTERIOR ID		N/R				

Additional info or notes and remarks

ON SITE : LAKE CHARLES - CITADEL AVIATION

Complete JAN 14, 2026

EXPERIMENTAL PROGRAM LETTER

1. Registered Owner (as shown on Certificate of Aircraft Registration)

NAME:	ADDRESS:
Falcon Aviation Holdings, LLC	12101 Crenshaw Blvd. Hawthorne, CA 90250

2. Aircraft Description

Registration Mark: N154TS	Aircraft Builder: Boeing	Year of Mfr.: 2002
Serial Number: 30515	Aircraft Model Designation: 737-89L	

3. Describe program purpose for which the aircraft is to be used. 14 CFR 21.193(d)(1)

Certification test of the SpaceX Starlink Aviation System installation to support the 337 major alteration effort on a Boeing 737-800.

List estimated flight hours required for program List estimated number of flights required for program List estimated duration for programs	Hours: 10 No. Flights: 3 No. Days: 30

4. Describe the area over which the flights are to be conducted, and address of base of operation. 14 CFR 21.193(d)(3)

The flights will take place within a geographical radius area of 750NM of KCWF, Chennault International airport, limited to US airspace only as directed by the local Air Traffic Control Authority based on the agreed area needed by the FAA Flight Test Pilot/DER and also based on the flight-testing requirements and weather condition of the area at the time planned for the required flight testing. Except for landing takeoffs, this aircraft shall not be operated over densely populated areas or in congested airways.

All Flight operation for vibration and Buffeting will be conducted in day VMC weather conditions. Weather conditions for EMI/RFI flight testing will be at the discretion of the Flight Test Pilot/DER

5. Describe the aircraft configuration (Attach three-view drawings or three dimensional photographs of the aircraft)

The aircraft is in accordance with Type Certification Data Sheet (TCDS) A16WE Rev. #74 and properly installed alteration, with the following item, which is a non-required and non-essential system.

Modification Description	Remark
Installation of Starlink Aviation System	Certification flight test to show compliance

6. Date:	7. Name and Title:	Signature:
11/30/2023	Bill Bergen, Agent	Bill Bergen

UNITED STATES OF AMERICA
DEPARTMENT OF TRANSPORTATION-FEDERAL AVIATION ADMINISTRATION

SPECIAL AIRWORTHINESS CERTIFICATE

CATEGORY/DESIGNATION Experimental		
PURPOSE Research and Development		
MANU-FACTURER	NAME N/A	
	ADDRESS N/A	
FLIGHT	FROM N/A	
	TO N/A	
N154TS	MODEL 737-800	SERIAL NO. 30515
BUILDER BOEING		DATE OF ISSUANCE 13/Dec/2023

Unless sooner surrendered, suspended, revoked, or the termination date of 31/Dec/2023, this airworthiness certificate is effective under the conditions prescribed in 14 CFR, Part 21, Section 21.181 or 21.217.

SIGNATURE OF FAA REPRESENTATIVE	DESIGNATION OR OFFICE NO.
//Signed by//Bill P Mcdonald,02:59 PM, December 13, 2023	677576439

This airworthiness certificate is issued under the authority of Title 49 United States Code 44704 and Title 14 Code of Federal Regulations. Any alteration, misuse or reproduction for a fraudulent purpose of this certificate may be punishable by the certificate revocation, fine and / or imprisonment. THIS PORTION OF THE CERTIFICATE MUST BE DISPLAYED IN THE AIRCRAFT PER THE APPLICABLE REGULATIONS.

--Conditions and Limitations—

1. This aircraft does not meet the airworthiness standards of Annex 8 to the Convention on International Civil Aviation. Operations in airspace outside of the United States will require the permission of the applicable foreign authority. That permission must be carried aboard the aircraft together with this U.S. airworthiness certificate and, upon request, be made available to an FAA inspector or the applicable foreign authority in the country of operation. Operations may be further restricted by the applicable foreign authority. This may include not allowing use of an airport, requiring specific routing, and restricting flight over specific areas. The operator must comply with any additional limitation prescribed by the applicable foreign authority when operating in its airspace. (1)

2. These operating limitations do not provide any relief from any applicable law or regulation. This aircraft must be operated per applicable regulations and the additional limitations prescribed herein. Note that a clearance from air traffic control (ATC) is not authorization for a pilot to deviate from any rule, regulation, operating limitation, or minimum altitude, or to conduct unsafe operation of the aircraft. If ATC issues a clearance that would cause a pilot to deviate from a rule, regulation, or operating limitation, or in the pilot's opinion, would place the aircraft in jeopardy, it is the pilot's responsibility to request an amended clearance. These operating limitations are a part of FAA Form 8130-7 and are to be carried in the aircraft at all times and to be available to the pilot in command of the aircraft. (2)

3. This special airworthiness certificate is not in effect during public aircraft operations (PAO). Concurrent public/civil operations are not permitted; the aircraft cannot be operated as a civil aircraft and as a public aircraft at the same time. No weapons or special military mission systems may be added to the aircraft. This airworthiness certificate is not in effect during flights related to providing military services (that is, air combat maneuvering, air-to-air gunnery, target towing, electronic countermeasures simulation, cruise missile simulation, and air refueling). These activities are inherent military, not civil activities. The FAA makes the distinction between the authorized flights for experimental purposes, and PAO. Before operating this aircraft under this special airworthiness certificate following a PAO, the aircraft must be returned to the condition and configuration at the time of inspection for the issuance of this airworthiness certificate. The operator must have written procedures for returning the aircraft to the civil configuration. This action must be documented in the maintenance records. The maintenance records and entries must clearly differentiate between a civil experimental flight per this certificate and any other flights. (3)

4. Application to amend this certificate must be made to the local Flight Standards District Office (FSDO) or Manufacturing Inspection District Office (MIDO). (4)

5. The pilot in command must hold Airplane category and Multi Engine Land class certificate or privilege. The pilot in command must hold all required ratings or authorizations and endorsements required by part 61. (7)

6. The pilot in command must hold—

(a) An appropriate type rating (if one has been established); or

(b) An experimental aircraft authorization, by make and model, on their pilot certificate; or

(c) A temporary letter of authorization (LOA) issued by an FAA Flight Standards Operations Inspector. (8)

7. Additional required flightcrew members must hold the appropriate airman certificate, that is, pilot or flight engineer. Pilots must hold Airplane category and Multi Engine Land class certificate. (10)

8. When filing a flight plan, the experimental nature of this aircraft must be listed in the remarks section. (11)

9. This aircraft must not be used for towing, including, but not limited to glider towing, banner towing, target towing, or towing electronic receivers or emitters. This aircraft must not be used for intentional parachute jumping. (13)

10. If aircraft, engine, or propeller operating limitations are exceeded outside of planned test conditions, an appropriate entry will be made in the maintenance records. (14)

11. No person may operate this aircraft unless it is maintained per an inspection program meeting the scope and content described in § 91.409(f). The operator must select and identify in the aircraft maintenance records one of the following programs for the inspection of the aircraft:

(a) For type-certificated aircraft, a current inspection program recommended by the manufacturer; or

(b) For former-military aircraft, an inspection program recommended by the manufacturer or North Atlantic Treaty Organization (NATO) military service; or

(c) An FAA-approved inspection program.

Inspections must be recorded in the aircraft maintenance records showing the following, or a similarly worded, statement: "I certify that this aircraft has been inspected on [insert date] per [identify applicable inspection program] and found to be in a condition for safe operation."

Note: To extend an inspection interval, the owner/operator must submit a request for that extension with supporting documentation and data to the local FSDO and obtain concurrence from that FSDO. (15)

12. Only FAA-certificated repair stations, FAA-certificated mechanics with appropriate ratings, or a manufacturer as authorized by § 43.3 may perform inspections required by these operating limitations. (19)

13. The aircraft may not be operated unless the replacement for life-limited articles specified in the applicable technical publications pertaining to the aircraft and its articles are complied with in one of the following manners:

(a) Type-Certificated Products: Replacement of life-limited parts required by § 91.409(e) applies to experimental aircraft when the required replacement times are specified in the U.S. aircraft specifications or type certificate data sheets.

(b) Non-Type-Certificated Products: All articles installed in non-type-certificated products operated under an airworthiness certificate issued for an experimental purpose, in which the manufacturer has specified limits, must include in their program an equivalent level of safety for those articles. These limits must be evaluated for their current operating environment and addressed in the approved inspection program. All articles installed in non-type-certificated products in which the manufacturer has specified limits, must include in their program an equivalent level of safety for those articles. The article must be inspected to ensure the equivalent level of safety still renders the product in a serviceable condition for safe operation. (20)

14. For aircraft originally incorporating fatigue life recording systems, the owner/operator must maintain and use the system as prescribed by the aircraft manufacturer and comply with the manufacturer's fatigue life limits. (21)

15. Enhanced Flight Vision System (EFVS) operations for the purpose of research and development and/or showing compliance with regulations are not authorized if any component associated with the instrument approach procedure being flown, or any component of the approach lighting system associated with the instrument approach, is inoperative. (40)

16. Kinds of operations authorized:

Day VFR flight operations are authorized. (47)

17. Instrument flight operations are authorized if the instruments specified in § 91.205(d) are installed, operational, compliant with the performance requirements of, and maintained per the applicable regulations. The pilot in command must have a method to comply with the § 91.319(c) prohibition from operating over densely populated areas or in congested airways. All maintenance or inspection of this equipment must be recorded in the aircraft maintenance records and include the following items: date, work performed, and name and certificate number of person returning aircraft to service. (50)

18. All flights must be conducted within the geographical area described as follows base of operation is Citadel Completions LLC, Chennault International Airport (KCWF), Lake Charles, LA. All flights will be conducted within a geographical radius of 750nm of KCWF and is limited to U.S. airspace only as directed by the local Air Traffic Control Authority. All flight testing for vibration & Buffeting will be conducted VMC, day only.

Flight(s) under day/night IMC weather conditions are only authorized for operations normally conducted under Standard-Airworthiness for

relocation purposes only. (note that there may be areas within the geographical area that are not suitable for operation).

Flights for maintenance, as defined in paragraph 1.1, of the aircraft are permitted outside the defined area. (53)

19. Flight over a densely populated area or in a congested airway is authorized per § 91.319(c) only for the purpose of takeoff and landing.

The area on the surface described by the term "only for the purpose of takeoff and landing" is the traffic pattern.

For the purpose of this limitation, the term "only for the purpose of takeoff and landing" does not allow multiple traffic patterns for operations such as training or maintenance checks. This does not restrict a go-around/rejected landing for safety reasons.

When avoiding populated areas, aircraft speed and weight must be considered. The information in FAA Order 8900.1, Flight Standards Information Management System (FSIMS), regarding set-back distances from spectator areas for aviation events such as air shows or air races may assist in determining a suitable space to fly the aircraft. (55)

20. No person may be carried in this aircraft during flight unless that person is essential to the purpose of the flight. (61)

-End-

U.S. Department of Transportation
Federal Aviation Administration

APPLICATION FOR U.S. AIRWORTHINESS CERTIFICATE

INSTRUCTIONS - Print or type. Do not write in shaded areas; these are for FAA use only. Submit original only to an authorized FAA Representative. If additional space is required, use attachment. For special flight permits complete sections II, VI, and VII as applicable.

I. AIRCRAFT DESCRIPTION

1. REGISTRATION MARKS	2. AIRCRAFT BUILDER'S NAME *(Make)*	3. AIRCRAFT MODEL DESIGNATION	4. YR. MFG	FAA CODING
N154TS	BOEING	737-800	2002	
5. AIRCRAFT SERIAL NO.	**6. ENGINE BUILDER'S NAME (Make)**	**7. ENGINE MODEL DESIGNATION**		☐ Do Not Code
30515	CFM INTL	CFM56-7B24		
8. NUMBER OF ENGINES	**9. PROPELLER BUILDER'S NAME (Make)**	**10. PROPELLER MODEL DESIGNATION**	**11. AIRCRAFT IS IMPORT *(Check if applicable)***	
2	N/A	N/A	☐ IMPORT	

II. CERTIFICATION REQUESTED

APPLICATION IS HEREBY MADE FOR *(Check applicable items)*

A	1		STANDARD AIRWORTHINESS CERTIFICATE (Indicate category)		NORMAL		UTILITY		ACROBATIC		TRANSPORT		COMMUTER		BALLOON		OTHER	
B		✘	SPECIAL AIRWORTHINESS CERTIFICATE *(Check appropriate items)*															
	7		PRIMARY															
	9		LIGHT-SPORT *(indicate Class)*		Airplane		Powered-Parachute		Weight-Shift-Control		Glider		Lighter than Air					
	2		LIMITED															
	5		PROVISIONAL *(Indicate Class)*	1	Class I			2	Class II									
	3		RESTRICTED *(Indicate operation(s) to be conducted)*	1	AGRICULTURE AND PEST CONTROL			2	AERIAL SURVEY			3	AERIAL ADVERTISING					
				4	FOREST *(Wildlife conservation)*			5	PATROLLING			6	WEATHER CONTROL					
				0	OTHER *(Specify)*													
	4	✘	EXPERIMENTAL *(Indicate operation(s) to be conducted)*	1	✘ RESEARCH AND DEVELOPMENT			2	AMATEUR BUILT			3	EXHIBITION					
				4	AIR RACING			5	CREW TRAINING			6	MARKET SURVEY					
				0	SHOW COMPLIANCE WITH THE CFR			7	OPERATING *(primary category)* KIT BUILT AIRCRAFT									
				8	OPERATING LIGHT-SPORT	8A		Existing aircraft without an airworthiness certificate & do not meet § 103.1										
						8B		Operating Light-Sport Kit-built										
						8C		Operating Light-Sport previously issued special light-sport category airworthiness certificate under § 21.190										
				9	UNMANNED AIRCRAFT	9A		RESEARCH AND DEVELOPMENT										
						9B		MARKET SURVEY			9D		EXHIBITION					
						9C		CREW TRAINING			9E		SHOW COMPLIANCE WITH THE CFR					
	8		SPECIAL FLIGHT PERMIT *(Indicate operation to be conducted, then complete Section VI or VII as applicable on reverse side)*	1	FERRY FLIGHT FOR REPAIRS, ALTERATIONS, MAINTENANCE, OR STORAGE													
				2	EVACUATE FROM AREA OF IMPENDING DANGER													
				3	OPERATION IN EXCESS OF MAXIMUM CERTIFICATED TAKE-OFF WEIGHT													
				4	DELIVERING OR EXPORTING			5	PRODUCTION FLIGHT TESTING									
				6	CUSTOMER DEMONSTRATION FLIGHTS													
C	6		MULTIPLE AIRWORTHINESS CERTIFICATE *(Check ABOVE "Restricted Operation" and "Standard" or "Limited" as applicable)*															

III. OWNER'S CERTIFICATION

A. REGISTERED OWNER *(As shown on certificate of aircraft registration)* — **IF DEALER, CHECK HERE** ☐

NAME	ADDRESS
FALCON AVIATION HOLDINGS LLC	1 ROCKET RD, HAWTHORNE, California, 90250-6844, United States

B. AIRCRAFT CERTIFICATION BASIS *(Check applicable blocks and complete items as indicated)*

☐	AIRCRAFT SPECIFICATION OR TYPE CERTIFICATE DATA SHEET *(Give No. and Revision No.)* N/A	☒	AIRWORTHINESS DIRECTIVES *(Check if all applicable ADs are complied with and give the number of the last AD SUPPLEMENT available in the biweekly series as of the date of application)* 2023-24
☐	AIRCRAFT LISTING *(Give page number(s))* N/A	☐	SUPPLEMENTAL TYPE CERTIFICATE *(List number of each STC incorporated)* N/A

C. AIRCRAFT OPERATION AND MAINTENANCE RECORDS

☒	CHECK IF RECORDS IN COMPLIANCE WITH 14 CFR 91.417	TOTAL AIRFRAME HOURS 43,528	3 EXPERIMENTAL ONLY *(Enter hours flown since last certificate issued or renewed)* 0

D. CERTIFICATION - - I hereby certify that I am the registered owner (or his agent) of the aircraft described above, that the aircraft is registered with the Federal Aviation Administration in accordance with Title 49 of the United States Code 44101 et seq. and applicable Federal Aviation Regulations, and that the aircraft has been inspected and is airworthy and eligible for the airworthiness certificate requested.

DATE OF APPLICATION	NAME AND TITLE (Print or type)	SIGNATURE
Dec 01, 2023	bergen, william (Agent)	//Signed by//William Bergen,06:54 PM, November 30, 2023

IV. INSPECTION AGENCY VERIFICATION

A. THE AIRCRAFT DESCRIBED ABOVE HAS BEEN INSPECTED AND FOUND AIRWORTHY BY: *(Complete this section only if 14 CFR 21.183(d) applies)*

2		14 CFR part 121 CERTIFICATE HOLDER *(Give No.)*	3	CERTIFICATED MECHANIC *(Give Certificate No.)*	6 CERTIFICATED REPAIR STATION *(Certificate No.)*
5		AIRCRAFT MANUFACTURER (Give name)			

DATE	TITLE	SIGNATURE

V. FAA REPRESENTATIVE CERIFICATION

(Check ALL applicable block items A and B)

A. I find that the aircraft described in Section I or VII meets requirements for ☐ THE CERTIFICATE REQUESTED ☒ 4 ☐ AMENDMENT OR MODIFICATION OF CURRENT AIRWORTHINESS CERTIFICATE

B. Inspection for a special flight permit under Section VII was conducted by: ☐ FAA INSPECTOR ☐ FAA DESIGNEE ☐ CERTIFICATE HOLDER UNDER ☐ 14 CFR part 65 ☐ 14 CFR part 121 or 135 ☐ 14 CFR part 145

DATE	MIDO/FSDO OFFICE	4	FAA INSPECTORS SIGNATURE or DESIGNEE'S SIGNATURE AND NO. Bill P Mcdonald (677576439)	1	FAA INSPECTOR'S CERTIFICATION FILE REVIEW SIGNATURE
Dec 14, 2023	CMS, AIR-862		//Signed by//Bill P Mcdonald,11:20 AM, December 18, 2023		Heather M Calvin Digitally signed by Heather M Calvin Date: 2023.12.18 12:41:10 -06'00'

VI. PRODUCTION FLIGHT TESTING

A. MANUFACTURER

NAME	ADDRESS

B. PRODUCTION BASIS *(Check applicable item)*

- ☐ PRODUCTION CERTIFICATE *(Give production certificate number)*
- ☐ TYPE CERTIFICATE
- ☐ OTHER

C. GIVE QUANTITY OF CERTIFICATES REQUIRED FOR OPERATING NEEDS

DATE	NAME AND TITLE (Print or type)	SIGNATURE

VII. SPECIAL FLIGHT PERMIT PURPOSES OTHER THAN PRODUCITON FLIGHT TEST

A. DESCRIPTION OF AIRCRAFT

REGISTERED OWNER	ADDRESS
BUILDER (Make)	MODEL
SERIAL NUMBER	REGISTRATION MARK

B. DESCRIPTION OF FLIGHT — CUSTOMER DEMONSTRATION FLIGHTS ☐ *(Check if applicable)*

FROM	TO	
VIA	DEPARTURE DATE	DURATION

C. CREW REQUIRED TO OPERATE THE AIRCRAFT AND ITS EQUIPMENT

☐ PILOT ☐ COPILOT ☐ FLIGHT ENGINEER ☐ OTHER *(Specify)*

D. THE AIRCRAFT DOES NOT MEET THE APPLICABLE AIRWORTHINESS REQUIREMENTS AS FOLLOWS:

E. THE FOLLOWING RESTRICTIONS ARE CONSIDERED NECESSARY FOR SAFE OPERATION *(Use attachment if necessary)*

F. CERTIFICATION - I hereby certify that I am the registered owner (or his agent) of the aircraft described above; that the aircraft is registered with the Federal Aviation Administration in accordance with Title 49 of the United States Code 44101 et seq. and applicable Federal Aviation Regulations; and that the aircraft has been inspected and is safe for the flight described.

DATE	NAME AND TITLE (Print or type)	SIGNATURE

VIII. AIRWORTHINESS DOCUMENTATION (FAA/DESIGNEE USE ONLY)

- ☒ A. Operating Limitations and Markings in Compliance with 14 CFR Section 91.9, as applicable.
- ☒ B. Current Operating Limitations Attached
- ☐ C. Data, Drawings, Photographs, etc. *(Attach when required)*
- ☒ D. Current Weight and Balance information Available in Aircraft
- ☐ E. Major Repair and Alteration, FAA Form 337 *(Attach when required)*
- ☒ F. This Inspection Recorded in Aircraft Records
- ☐ G. Statement of Conformity, FAA Form 8130-9 *(Attach when required)*
- ☐ H. Foreign Airworthiness Certification for Import Aircraft *(Attach when required)*
- ☐ I. Previous Airworthiness Certificate Issued in Accordance With
  14 CFR Section _____ CAR _____ *(Original attached)*
- ☒ J. Current Airworthiness Certificate Issued in Accordance With
  14 CFR Section 21.191(a) *(Copy attached)*
- ☐ K. Light-Sport Aircraft Statement of Compliance, FAA form 8130-15 *(Attach copy when required)*

Falcon Aviation Holdings, LLC
12101 Crenshaw Blvd
Hawthorne, CA 90250

Appointment of Authorized Representative

The undersigned, Falcon Aviation Holdings LLC, "the Owner" hereby designates, authorizes and appoints Bill Bergen as the authorized representative of the Owner for the purpose of executing any applications for U.S. Certificate of Airworthiness and any other necessary documentation to facilitate such applications pertaining to one (1) 737-800 bearing manufacturers serial number 30515 to which U.S. Registration No N154TS has been assigned (the "Aircraft").

Dated: November 29, 2023

Falcon Aviation Holdings LLC

By:

Name: Erica Jehling

Authorized Representative

CALIFORNIA JURAT **GOVERNMENT CODE § 8202**

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

State of California

County of Los Angeles

Subscribed and sworn to (or affirmed) before me on this 29 (*Date*) day of November (*Month*), 20 23 (*Year*), by

(1) Erica Jehling

(and (2) _____ (*Name(s) of Signer(s)*)),

proved to me on the basis of satisfactory evidence to be the person(s) who appeared before me.

LINDA SMITH
Notary Public - California
Los Angeles County
Commission # 2455032
My Comm. Expires Jul 25, 2027

Place Notary Seal and/or Stamp Above

Signature _____
Signature of Notary Public

OPTIONAL

Completing this information can deter alteration of the document or fraudulent reattachment of this form to an unintended document.

Description of Attached Document

Title or Type of Document: Appointment of Authorized Representative

Document Date: _____ Number of Pages: _____

Signer(s) Other Than Named Above: _____

Conformity Inspection Record

1. Project Number, TIA/Request Date: N/A		2. Sheet 1 of 2 Sheets
3. Applicant/Manufacturer: SpaceX / Starling Aviation, 3976 Jack Northrop Road, Hawthorne, CA 90250 c/o Citadel Completions, 3900 Chennault Pkwy, Lake Charles, LA 70615	5. Beginning Date: 12/11/23	5. Ending Date: 12/13/23
6. Model: Boeing 737-89L, S/N 30515, N154TS	7. Inspected By: Bill P. McDonald, 677576439	

8. Item No.	9. Nomenclature of Item Inspected	10. Drawing, Document, Specification etc.	11. Revision and Date	12. No. of Items Determined		13. Comments
				SAT.	UNSAT	
1.	Obtain Delegation.	NACIP/DMS	12/11/23	1		Obtained delegation via NACIP and DMS via DMS No. PR-677576439-2023-0100.
2.	Application for Airworthiness Certificate	FAA Form 8130-6	6/20	1		Reviewed signed form dated 12/01/23, provided for Research & Development, experimental certificate via AWC No. 11302023-1868.
3.	Proof of Ownership – Registration	Form 8050-3	10/10	1		Verified registration dated 8/16/23 and is valid.
4.	Agent Letter	Falcon Aviation Holdings, LLC	12/11/23	1		Obtained and reviewed Agent letter dated 11/29/23, delegating Mr. Bill Bergen to act as Agent for applications for airworthiness.
5.	Program Letter	SpaceX / Starlink Aviation	12/11/23	1		Obtained and reviewed form. Provided for Experimental, Research & Development certificate dated 11/30/23.
6.	Logbook Review	FAA Order 8130.2J	7/21/17	1		Reviewed all aircraft/engine logbook.
7.	a) Maintenance	Logbooks	12/13/23	1		Aircraft was ferried to Citadel Completions to conduct a C-Check heavy check and to install the Starlink connectivity system.
8.	b) Inspections	Logbooks	12/13/23	1		A review of a 90-maintenance forecast indicated all inspections affecting the airworthiness of the aircraft were completed and up to date. There were a number of non-airworthy inspection pending the close out of the C-Check.
9.	c) Completions	Logbooks	12/11/23	1		N/A.
10.	Weight and Balance	Citadel Completions	12/11/23	1		Obtained and reviewed current W & B dated 12/07/23 that included the Starlink system.
11.	Flight Tested and Recorded	FAA Order 8130.2J	7/21/17	1		No company flight test was conducted. Testing will be concurrently.
12.	AD Search and Compliance	Bi-Weekly AD 2023-25	12/13/23	1		Reviewed ADs thru the current Bi-weekly 2023-25. All applicable ADs were complied with.
13.	Equipment List	FAA Order 8130.2J	7/21/17	1		The Aircraft Equipment List will be updated upon issuance of STC.
14.	Aircraft Inspections	FAA Order 8130.2J	7/21/17	1		Conducted a general airworthiness inspection of the aircraft per FAA Order.

Conformity Inspection Record

1. Project Number, TIA/Request Date: N/A		2. Sheet 2 of 2 Sheets
3. Applicant/Manufacturer: SpaceX / Starling Aviation, 3976 Jack Northrop Road, Hawthorne, CA 90250 c/o Citadel Completions, 3900 Chennault Pkwy, Lake Charles, LA 70615	5. Beginning Date: 12/11/23	5. Ending Date: 12/13/23
6. Model: Boeing 737-89L, S/N 30515, N154TS	7. Inspected By: Bill P. McDonald, 677576439	

8. Item No.	9. Nomenclature of Item Inspected	10. Drawing, Document, Specification etc.	11. Revision and Date	12. No. of Items Determined		13. Comments
				SAT.	UNSAT	
15.	a) TCDS Verification	TCDS No.: A16WE	Rev. 74	1		Reviewed the TCDS for this aircraft. Verified S/N eligibility.
16.	b) Airframe ID Plate	FAA Order 8130.2J	7/21/17	1		Reviewed data plate was matched the aircraft info in AWC.
17.	c) Engine ID Plate	CFM International CFM56-7B24/3	12/11/23	2		Verified through the records the following S/Ns #1 8961164 & #2 893661.
18.	d) Registration Numbers	FAA Order 8130.2J	7/21/17	1		Verified registration numbers and verified certificate was valid.
19.	e) Flight Control Operation	FAA Order 8130.2J	7/21/17	1		Verified.
20.	f) Engines/Instruments Operate Properly	FAA Order 8130.2J	7/21/17	1		Verified.
21.	g) Instruments are Marked IAW Approved Flight Manual	FAA Order 8130.2J	7/21/17	1		Verified.
22.	h) ELT Installed	FAA Order 8130.2J	7/21/17	1		Verified.
23.	Pitot Static System – Leak Test/Certification	Citadel Completions	12/11/23	1		The 14 CFR 43, 91.413 transponder check was performed on 12/03/23, conducted per Boeing Task Card 34-110-01-03.
24.	Airworthiness Certificate Issued	FAA Form 8130-7	11/16	1		Special Airworthiness Certificate, Experimental, R & D dated 12/13/23.
25.	Operating Limitations Issued	FAA Order 8130.2J	7/21/17	1		Special Airworthiness Certificate, Experimental, R & D dated 12/13/23.
26.	Logbook Entry	FAA Order 8130.2J	7/21/17	1		Completed for this inspection dated 12/13/23.
27.	Total Aircraft Time:	43,528.60 Hrs. Landings 26,665	12/13/23	1		Verified via the logbook entries.
	LAST ITEM					LAST ITEM