ECLIPSE Service Bulletin

ECLIPSE AEROSPACE

Number: SB 500-21-003, Rev B

Model: ECLIPSE EA500

Subject: Integrated Twin Pack Compressor Pallet Assembly (ITPCA) Inspection/Repair

Mandatory

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1. PLANNING INFORMATION

A. Effectivity

Aircraft Serial Numbers 000001-00300.

B. Reason

To improve the thermal operating margin of the primary power interface connection between the controller and each of the compressors

Revision B changes:

- Removed procedure step “Examine identification label on Integrated Twin Pack Compressor Pallet Assembly (ITPCA) P/N 2188571. If ITPCA P/N 2188571 has a manufacturing date on Aug. 13, 2008 or later, no further action is required. Continue to step (5). Refer to ITPCA Label Code: “MFG. xxxxx-mmddyy” where the mmddyy is 081308 or later. Reference: Seamech SB112911-01; Applicability.”
- Changed Service Bulletin from Recommended to Mandatory.
- Incorporated procedural content from Seamech SB112911-01.

C. Description

This Service Bulletin provides the aircraft effectivity and replacement of the controller to compressor power electrical interface slide connector located in the controller assembly of the ITPCA.

D. Relevant Publications

Seamech SB112911-01

E. Compliance

Eclipse Aerospace Inc. considers this to be a Mandatory inspection/repair that should be accomplished at the next maintenance visit.

Aircraft that have previously complied with Seamech SB112911-01 or rev A of this SB and have replaced the connectors with splices do not require this Service Bulletin.

F. Approval

This Service Bulletin is based on engineering data that is FAA-approved, and the modification herein complies with the applicable regulations.

G. Labor Requirements

The following information is for planning purposes only.

(1) Estimated labor hours to perform:

Suggested number of personnel: 1

Job Set-up and Close-up: 1 Hour

Task name: 1 Hour

Total labor hours: 2.0

The above is an estimate based on properly equipped and experienced personnel complying with this Service Bulletin. Actual labor hours may vary depending on workforce experience, concurrent maintenance, discovery of other discrepancies, etc.

(2) Qualification of personnel:

- A person properly authorized to perform aircraft maintenance under 14 CFR 43 or equivalent approved by the Civil Aviation Authority having jurisdiction.

H. Weight and Balance Change

None

I. Electrical Load Data Change

N/A

J. Software Accomplishment Summary

N/A

K. References

Aircraft Maintenance Manual (AMM), P/N 06-117751, latest revision.

L. Publications Affected

None

2. MATERIAL INFORMATION

A. Materials

Order parts below:

Item	Part Number	Description	Qty	Unit of Issue
1, Figure 8	RAYD-406-0003	DuraSeal Heat-Shrinkable, Environmentally Sealed, Nylon-Insulated Butt Crimp Splice	6	EA.
1, Figure 9	MS3667-4-0 equivalent	Tie Wraps	6	EA.

B. Consumables

The following consumables are required for this Service Bulletin.

Material	Specification
Mox tape	Arlon 600-R

C. Tooling

The following special tooling/support equipment is required to accomplish this Service Bulletin.

Nomenclature	Specification
Crimping Tool	Raychem AD-1522 or equivalent
Hot Air Heat Tool	General Purpose

D. Interchangeability/Intermixability of Parts

None

E. Part Re-identification

With a fine point indelible marker, signify the completion of this service bulletin by printing neatly “SB 500-21-003” in the space available on the controller label.

3. ACCOMPLISHMENT INSTRUCTIONS

A. Procedure

SIGN OFF

(1) Make the aircraft safe for maintenance. Refer to AMM 20-00-01 MAKE SAFE FOR MAINTENANCE. _____

(2) Remove Nose Access Panel - 211 CT. Refer to AMM - 53-10-11 - NOSE ACCESS PANEL - REMOVAL. _____

(3) Ensure the VCS system is turned off and secured from operation during the implementation of this service bulletin. _____

(4) Disconnect the 21A10P01 Connector at the ITPCA controller. Refer to Figure 1.

(5) Remove Mox Tape, lock nut and washers from the +28V stud on the ITPCA controller. Remove and secure cable CCS-1006-6 as required. Use a backup wrench as needed to ensure the power stud does not turn when removing the ring terminal hold down nut. Retain hardware for reinstallation. Refer to Figure 1. _____

(6) Remove Mox Tape, lock nut and washers from the Ground stud on the ITPCA controller. Remove and secure cable CCS1010-6N as required. Use a backup wrench as needed to ensure the ground stud does not turn when removing the ring terminal hold down nut. Retain hardware for reinstallation. Refer to Figure 1. _____

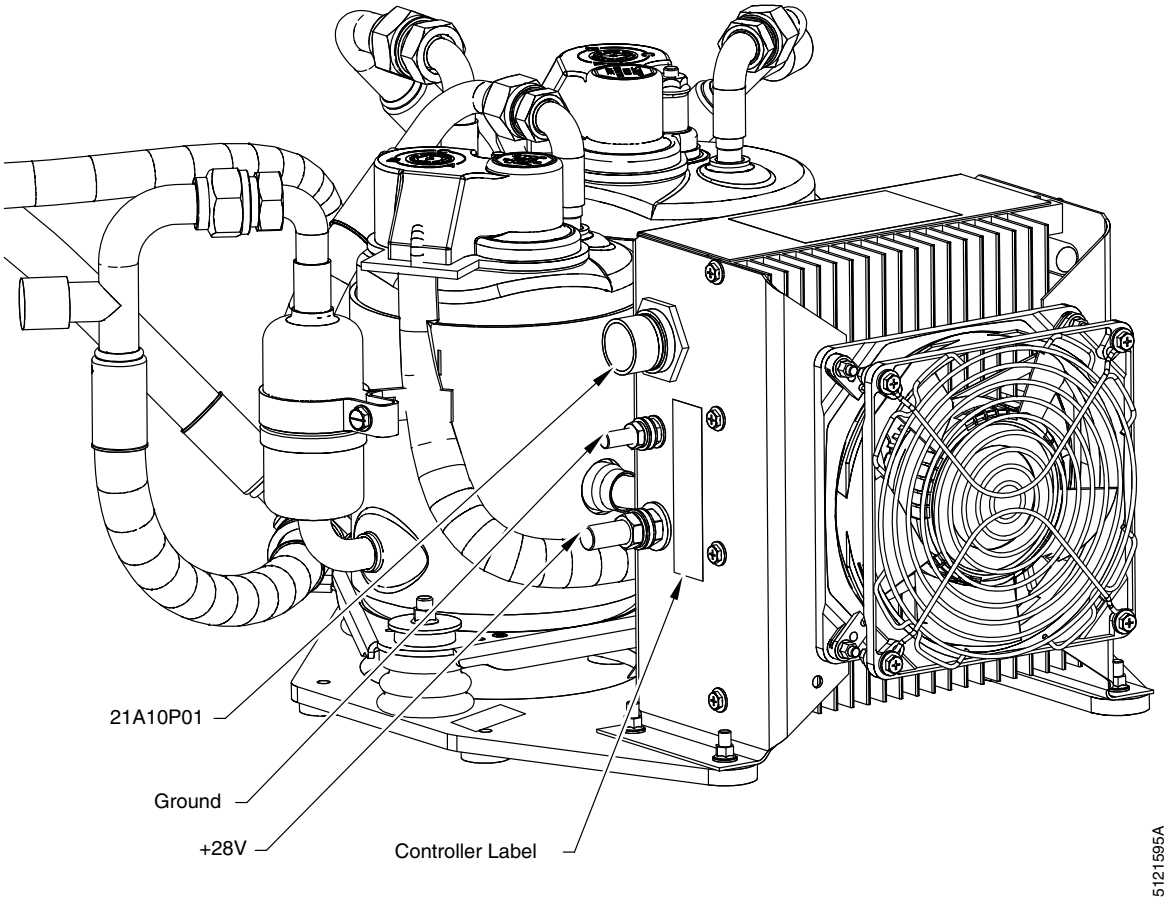

Figure 1

(7) To aid in removing and accessing the compressor primary power interface slide connectors in the controller, it is permissible to loosen and remove the four nylon lock nuts, P/N MS21044N3 (1, Figure 2) and flat washers, P/N NAS1149F0332P (2, Figure 2) securing the controller to the ITPCA base plate. Retain the four lock nuts and the four flat washers for reinstallation.

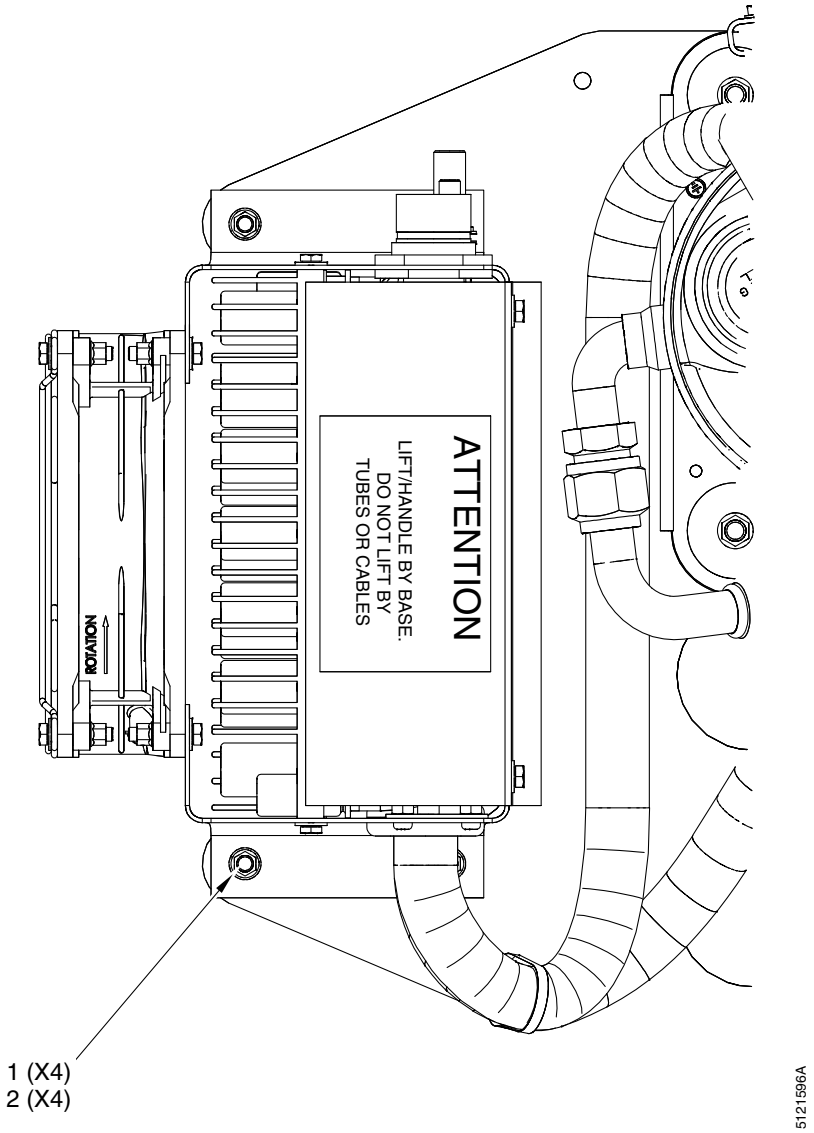

Figure 2

(8) Turn controller assembly as required to access the four screws retaining the back cover on the controller assembly. It is permissible to cut the tie wraps that may be securing the compressor power cable assemblies to each other to aid in manipulating the controller to a better working position. It is not required to disconnect the power cables from each of the compressors. Keep a record of which tie wraps were cut so they can be replaced later.

(9) Remove four screws, P/N NAS1801-06-6 (3, Figure 3) and four flat washers, P/N NAS1149CN632R (2, Figure 3) that secure the back cover (1, Figure 3) to the controller. Retain back cover and fasteners for reinstallation.

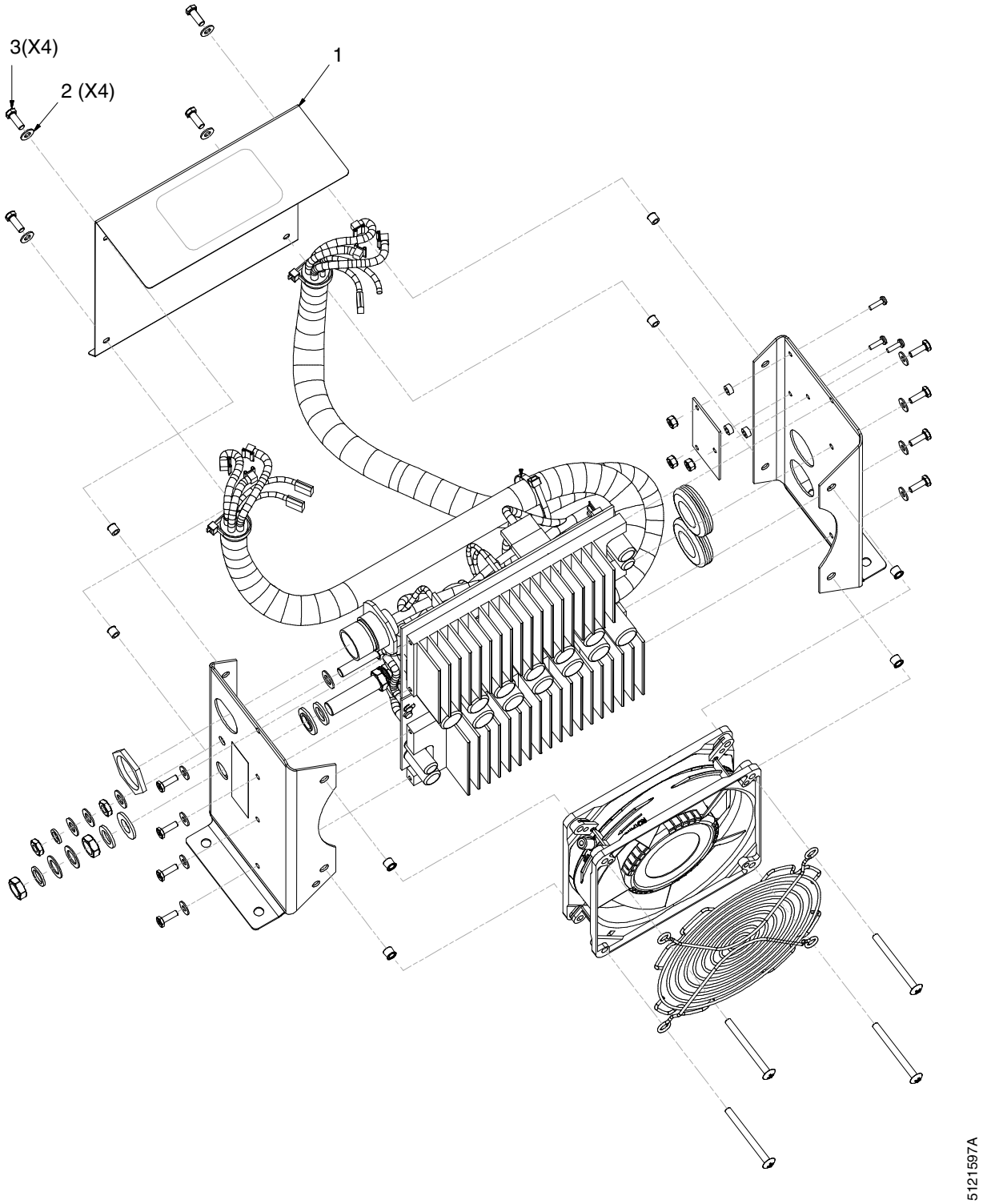

Figure 3

(10) Each power cable assembly to each compressor is made up of 5 conductors. The three large conductors are the power conductors which terminate at the large black slide connectors (1, Figure 4). The two smaller conductors are signal conductors. Do not cut or change the two small conductors.

With a pair of appropriate wire cutters, cut each of the three large conductors on each side of the large interface connector (1, Figure 4) as close to the connector as possible. A total of 12 wires shall be cut, 6 associated with each compressor. Remove and discard the black slide connectors (1, Figure 4).

NOTE: If evidence of wire, connector or terminal overheating is discovered. Remove and replace ITPCA. Refer to AMM - 21-10-11 - INTEGRATED TWIN PACK COMPRESSOR ASSEMBLY - REMOVAL and AMM - 21-10-11 - INTEGRATED TWIN PACK COMPRESSOR ASSEMBLY - INSTALLATION.

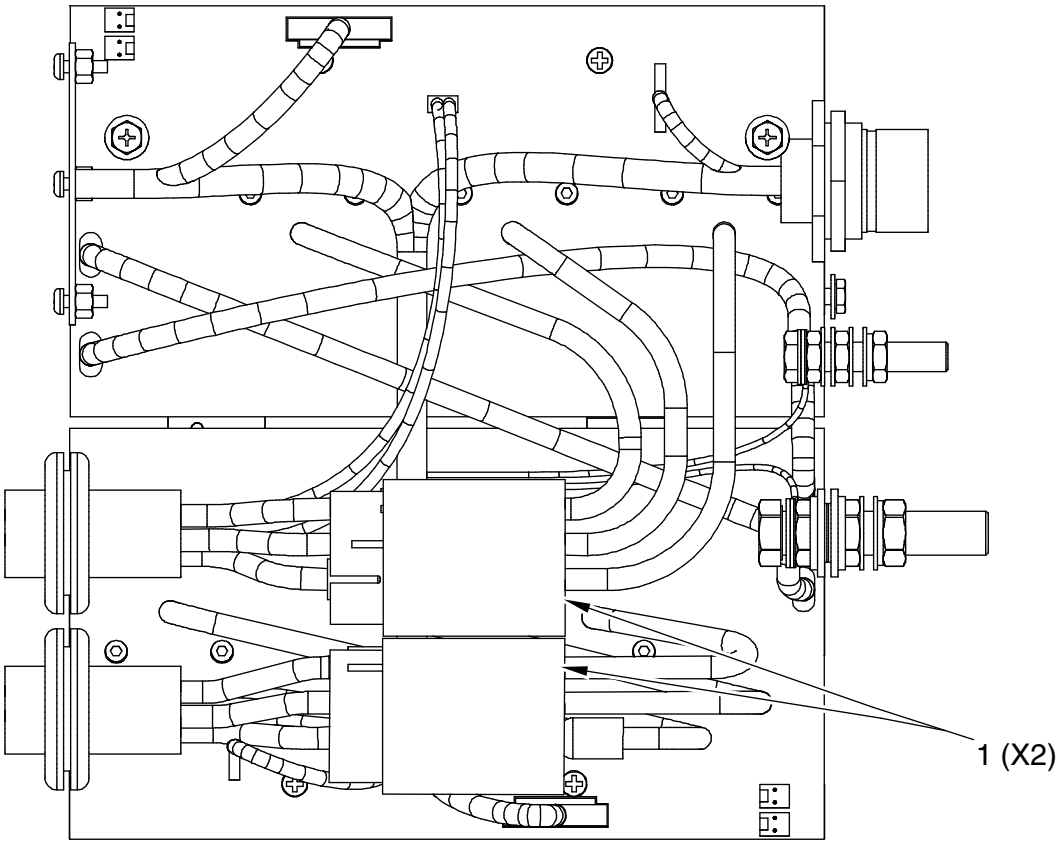

Figure 4

(11) Strip insulation from each of the colored (blue, orange and yellow) wires 5/16". Match up the wire colors and insert each wire into the applicable crimp barrel of the RAYD-406-0003 butt splice connector. There is sufficient "slack" in the cable assembly to each compressor to make the connection. Refer to Figure 5 and Figure 8.

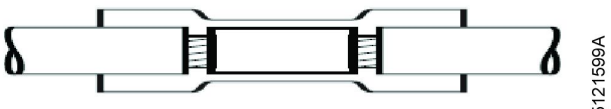

Figure 5

SIGN OFF

(12) Verify that the conductors are fully engaged into the butt splice. Crimp barrel using Raychem AD-1522 (or equivalent) crimp tool for preinsulated crimps over each conductor. Tug on each conductor to verify security of the crimp. Refer to Figure 6. _____

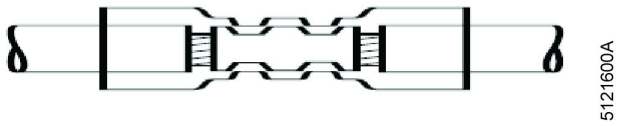

Figure 6

(13) Heat crimped splice with a general purpose hot air heating tool for electronics. Use a reflector tip to control heat placement around splice. Heat until tubing recovers and the adhesive flows to seal crimp from both ends. Use caution to not direct hot air on other controller components. Refer to Figure 7. _____

Figure 7

(14) Repeat steps 11 – 13 as required until all 6 pairs of conductors have been spliced together as depicted in Figure 8. _____

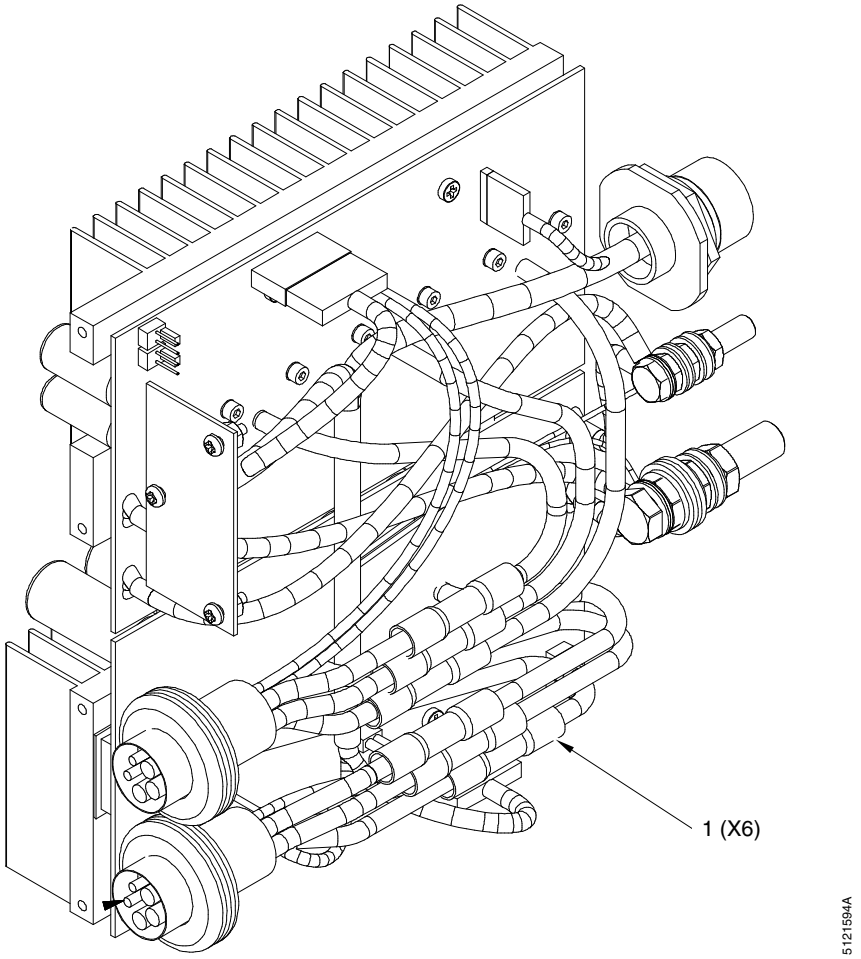

Figure 8

SIGN OFF

(15) Final inspect each splice:

(a) Verify security of the crimp. _____

(b) Verify colors are matched. _____

(c) Verify sleeve shrinkage and adhesive flow. _____

(d) Verify wires are not twisted. _____

(16) Install two tie wraps, P/N MS3667-4-0 or equivalent (1, Figure 9) around the braided sleeving near where the cables exit the side of the controller box. Install the tie wraps in such a way so that one tie wraps loop through the other is a daisy chain fashion. Cinch both tie wraps down to assist in “tucking” the cable assemblies into the enclosure as noted to support cable routing before the back cover is reinstalled. _____

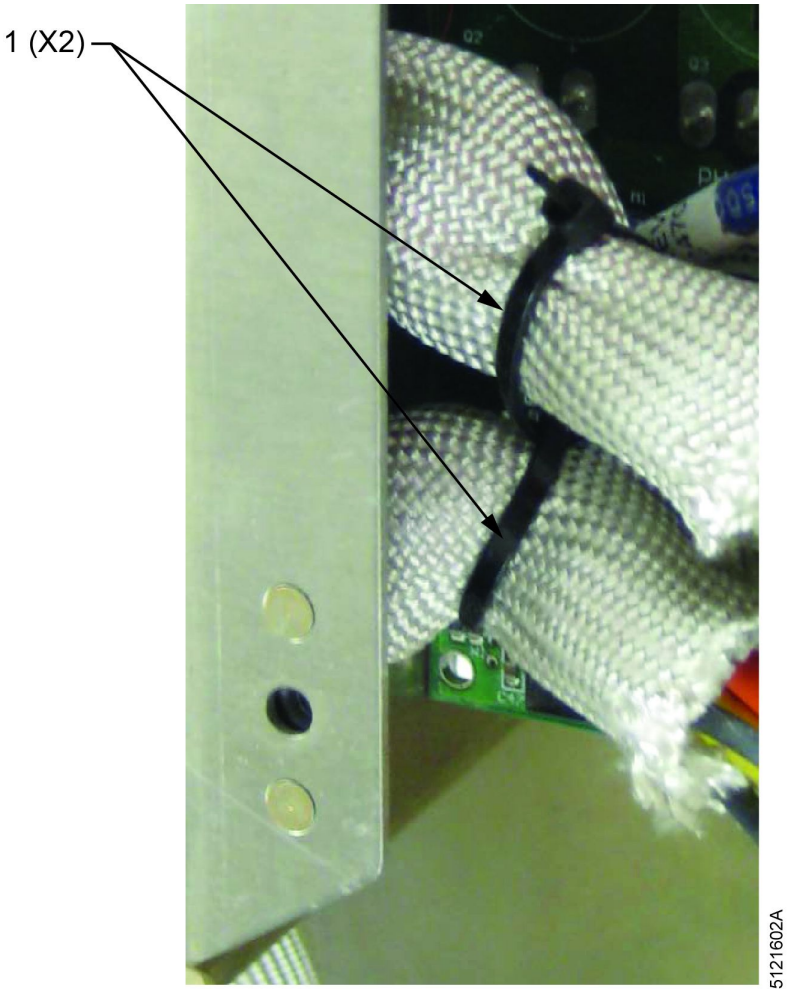

Figure 9

(17) Reinstall the back cover (1, Figure 3) with four screws, P/N NAS1801-06-6 (3, Figure 3) and four flat washers, P/N (2, Figure 3) removed earlier. Torque screws to 12 in-lbs. _____

(18) While rerouting the cables back to each compressor, resecure the controller assembly to the four mounting studs with the four lock nuts, P/N MS21044N3 (1, Figure 2) and four flat washers, P/N NAS1149F00332P (2, Figure 2) removed earlier. Torque lock nuts to 19 in-lbs plus drag torque. _____

(19) The compressor power cables should be routed as shown. Replace any tie wraps removed earlier with tie wraps, P/N MS3667-4-0 or equivalent (1, Figure 10). _____

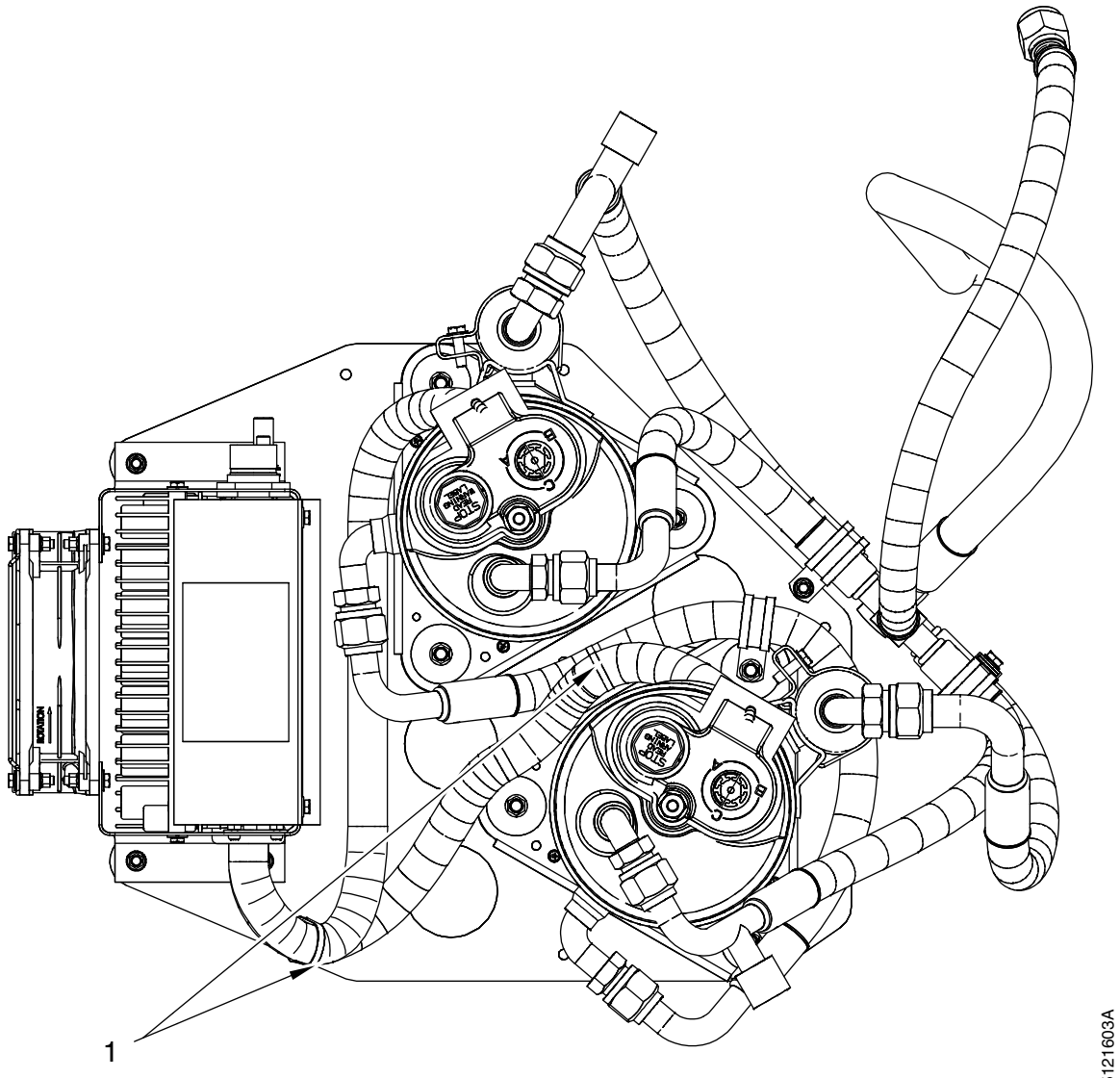

Figure 10

SIGN OFF

(20) Reconnect 21A10P01 Connector at the ITPCA Controller. Refer to Figure 1. _____

(21) Reconnect the Ground cable, wire number CCS1010-6N to the Ground stud on the side of the ITPCA Controller. Torque nut to 58 - 63 in-lbs. Use a backup wrench as needed to ensure the ground stud does not turn when torquing the ring terminal hold down nut. Apply Mox tape to terminal and stud. _____

NOTE: The terminals for +28 V and Ground are two different sizes. Make sure that the wire with the smaller terminal (Ground) is installed on the top terminal and the wire with the large terminal (+28V) is installed on the bottom terminal.

(22) Reconnect the Power Input cable, wire number CCS1000-6 on the +28V stud on the side of the ITPCA Controller. Torque nut to 150 - 160 in-lbs. Use a backup wrench as needed to ensure the power stud does not turn when torquing the ring terminal hold down nut. Apply Mox tape to terminal and stud. _____

NOTE: The terminals for +28 V and Ground are two different sizes. Make sure that the wire with the smaller terminal (Ground) is installed on the top terminal and the wire with the large terminal (+28V) is installed on the bottom terminal.

SIGN OFF

(23) Final Inspect work completed. _____

(24) Do a Adjustment/Test of the ITPCA. Refer to AMM - 21-00-00-A - AIR CONDITIONING - ADJUSTMENT/TEST or AMM - 21-00-00-B - AIR CONDITIONING - ADJUSTMENT/TEST. _____

(25) With a fine point indelible marker, signify the completion of this service bulletin by printing neatly “SB 500-21-003” in the space available on the controller label (1, Figure 11). _____

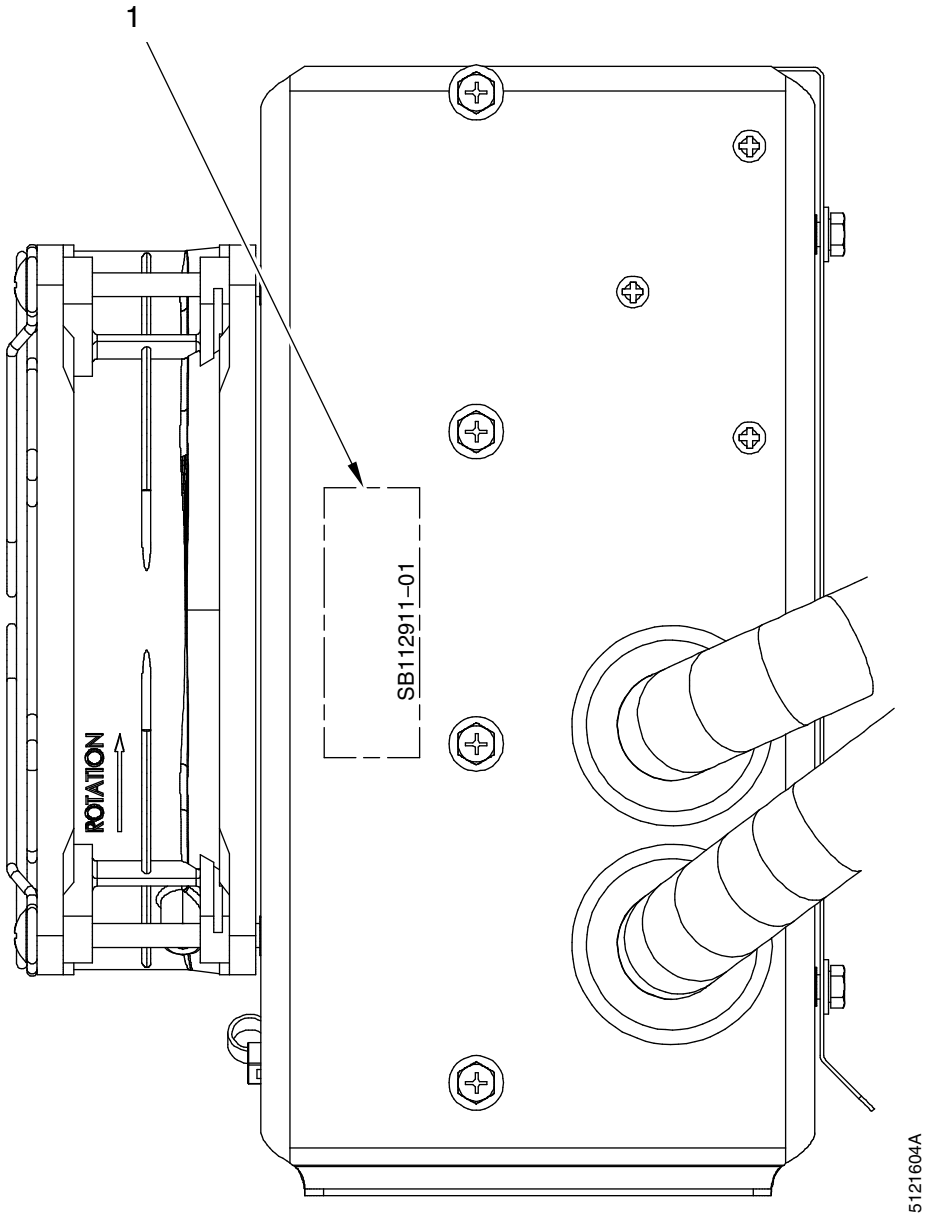

Figure 11

(26) Install Nose Access Panel - 211 CT. Refer to AMM - 53-10-11 - NOSE ACCESS PANEL - INSTALLATION. _____

(27) If all other maintenance is complete, return the aircraft to service. Refer to the AMM 20-00-02 RETURN TO SERVICE (AFTER MAINTENANCE). _____

B. Limitations and Procedures

None

C. Cost

Contact Eclipse Aerospace Inc. for cost and availability.

4. RECORD OF COMPLIANCE

Upon completion of this Service Bulletin, make an appropriate maintenance-record entry specifying the Service Bulletin number.

5. NOTIFYING ECLIPSE AEROSPACE

On completing this service bulletin, the operator/maintainer shall complete the attached Compliance Record and send it to Eclipse Aerospace via regular mail, fax, or e-mail.

Mailing Address	Eclipse Aerospace Incorporated ATTN: Service Engineering 2503 Clark Carr Loop SE Albuquerque, NM 87106
Fax	1-505-241-8802
E-mail	sbcompliance@eclipse.aero

SERVICE BULLETIN COMPLIANCE RECORD

MODEL _____ AIRPLANE S/N _____ REG. NO. _____ TOTAL TIME _____ (HOURS)

OWNER NAME:

_____

ADDRESS: _____

_____

TELEPHONE NO. (___) _____ FAX NO. (___) _____

COMPLIANCE WITH SB 500-21-003, Rev B

Description of Work Performed

(Inspection | Modification | Repair | Option Installation | Defect or Damage Found, if applicable)

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DATE _____

WORK PERFORMED

BY _____ (PRINTED)

_____ (SIGNATURE)

COMPANY _____

ADDRESS _____

_____

TELEPHONE _____ FAX_____ _____