



EAGLE COPTERS MAINTENANCE LTD.

823 McTavish Road NE
Calgary, AB, T2E 7G9
Canada

Phone: 1.403.250.7370

Toll Free: 1.800.564.6469

e-mail: engineering@eaglecopters.com

<http://www.eaglecopters.com>

Technical Bulletin


Glovebox and USB Installation

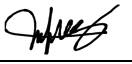
Bell 212


TB-E212-725-3

Revision B

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Prepared: 
L. West

Reviewed: 
N. Flores

Released: 
M. Peters

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Revision Record

Rev	Date	Description of Revision
A	September 13, 2021	Initial Release.
B	See Cover Page	Added -013 and -015 installations. Updated Section 2 and 3. Added Figure 6, Figure 7, Figure 8, Figure 9, and Figure 10.

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1. Introduction

1.1. Approval

This Technical Bulletin is approved data in accordance with the following STC:

TCCA STC: SH07-28

FAA STC: SR02831NY

1.2. Purpose

To provide instructions for the installation of the gloveboxes and USB chargers.

1.3. Effectivity

MSN
All

1.4. Compliance

Optional.

1.5. Description

This technical bulletin (TB) provides the information required for the installation of the gloveboxes and USB chargers.

2. Installation Data

2.1. Parts List

Item	QTY -011	QTY -013	QTY -015	Part Number	Description
1	1			JA72-006	Jupiter Glovebox with USB Charger and Audio Jack
2	1			JA70-009	Jupiter Glovebox
3	1			CON-3420-0009	D-Sub 9-pin connector, hood and 9 crimp pins
4	2	1	1	6430202-11 Alt: 6430202-1	Mid-Continent TA202 USBA/C Charging Port (Lit) Mid-Continent TA202 USBA/C Charging Port (Unlit)
5	2	2	2	9017960	Connector Kit
6	2	2	2	9017958	Dual Port Rear Mount Faceplate Kit
7	1			JA71-004	Jupiter Dzus Rail Blanking Kit
8	1			MS22073-3	Circuit Breaker, 3A
9		1	1	MS22073-7.5	Circuit Breaker, 7.5A
10		1	1	6430360-3	Mid-Continent TA360 USBC/C Charging Port (Unlit)
11			1	E212-725-3-101	Cover Plate
12			4	MS21069L08	Nutplate
13			8	MS20426AD3	Rivet, Flush Head
14			4	AN525-832-6	Screw

Table 1 – Parts List

2.2. Weight and Balance

Item	Weight	Lateral		Longitudinal	
		Arm	Moment	Arm	Moment
TB-E212-725-3-011	4.25 lb 1.93 kg	-3.0 in -0.08 m	-12.75 in-lb -0.15 m-kG	53.3 in 1.35 m	226.5 in-lb 2.61 m-kG
TB-E212-725-3-013	0.08 lb 0.04 kg	N/A	N/A	65.75 in 1.67 m	5.26 in lb 0.07 m-kG
TB-E212-725-3-015	0.08 lb 0.04 kg	N/A	N/A	65.75 in 1.67 m	5.26 in lb 0.07 m-kG

Table 2 – Weight and Balance

2.3. Electrical Loads

System	Start & Warm-up 15 Min.			Take-off 15 Min.			Cruise 15 Min.			Land 15 Min.		
	-011	-013	-015	-011	-013	-015	-011	-013	-015	-011	-013	-015
Total for all DC Busses	50.9 Amps			109.7 Amps			114.0 Amps			110.2 Amps		
TB-E212-725-3	3.20 Amps	6.05 Amps	6.05 Amps	3.20 Amps	6.05 Amps	6.05 Amps	3.20 Amps	6.05 Amps	6.05 Amps	3.20 Amps	6.05 Amps	6.05 Amps
Total	54.1 Amps	56.95 Amps	56.95 Amps	112.9 Amps	115.75 Amps	115.75 Amps	117.2 Amps	120.05 Amps	120.05 Amps	113.4 Amps	116.25 Amps	116.25 Amps

Table 3 - Electrical Loads

3. Installation Procedure

3.1. Procedure for the -011 Installation

3.1.1. Procedure for the JA72-006 Glovebox Installation

1. Disconnect the battery and external DC power from the helicopter.
2. Remove required paneling to gain access to the inside of the centre console or avionics riser panel, the overhead circuit breaker panel, the wire routing from the circuit breaker to the USB charger, and the wire routing from the glove box to the audio router.
3. Install Circuit Breaker in accordance with Figure 5. The circuit breaker can be installed in any location inside the red box.
4. Install the wiring in accordance with Figure 8 and Figure 9, as applicable.
5. Insert unit into proposed location. See Figure 1 and Figure 2. The unit can be installed in any location inside the yellow box shown in Figure 2.
6. Apply a quarter-turn of the Dzus fasteners to secure unit.
7. Apply decal "USB NOT IN USE" (PTouch or equivalent), see Figure 1.

3.1.2. Procedure for the JA70-009 Glovebox Installation

1. Insert unit into the location of the Avionics Riser Panel shown in Figure 2. The unit can be installed in any location inside the red box.
2. Apply a quarter turn of the Dzus fasteners to secure unit.

3.1.3. Procedure for the USB Chargers Installation

1. Modify Dzus blanking panel (Jupiter Avionics, P/N JA71-004), as shown in Figure 3.
2. Install USB chargers into the Dzus blanking panel, as shown in Figure 4.
3. Install circuit breaker in accordance with Figure 5. The circuit breaker can be installed in any location inside the red box.

4. Install USB wiring in accordance with Figure 9, as applicable.
5. Install the modified Dzus blanking panel into the location of the Avionics Riser Panel shown in Figure 2. The unit can be installed in any location inside the red box.
6. Apply a quarter-turn of the Dzus fasteners to secure unit.

3.2. Procedure for the -013 USB Chargers Installation

1. Modify the LH cover plates shown in Figure 6. Centre the USB cut out on the cover plate.
2. Install the USB chargers into the cover plates, as shown in Figure 4.
3. Install circuit breaker in accordance with Figure 5. The circuit breaker can be installed in any location inside the red box.
4. Install USB wiring in accordance with Figure 10, as applicable.

3.3. Procedure for the -015 USB Chargers Installation

1. For the Upper RH side Installation:
 - a. Modify the cover plate shown in Figure 4. Centre the USB cut out on the cover plate.
2. For the Lower RH side installation:
 - a. Drill a Ø 1.88 inch hole in the centre of the door post location shown in Figure 6. Drill 4X Ø .177 holes in the locations shown in Figure 7. Install 4X MS21069L08 nutplates and 8X MS20426AD3 rivets.
 - b. Manufacture the cover plate shown in Figure 7.
 - c. Use existing mounting holes to drill 4X Ø .177 holes in the cover plate.
 - d. Modify the cover plate as shown in Figure 4. Centre the USB cut out on the cover plate.
 - e. For the cover plate, CCC IAW MIL-DTL-5541 Type I Class 1A. Prime IAW MIL-PRF-23377 Type I Class C2. Paint flat black IAW MIL-PRF-85285 Type I Class H or equivalent.
3. Install the USB chargers into the cover plates, as shown in Figure 4.
4. Install circuit breaker in accordance with Figure 5. The circuit breaker can be installed in any location inside the red box.
5. Install USB wiring in accordance with Figure 10, as applicable.

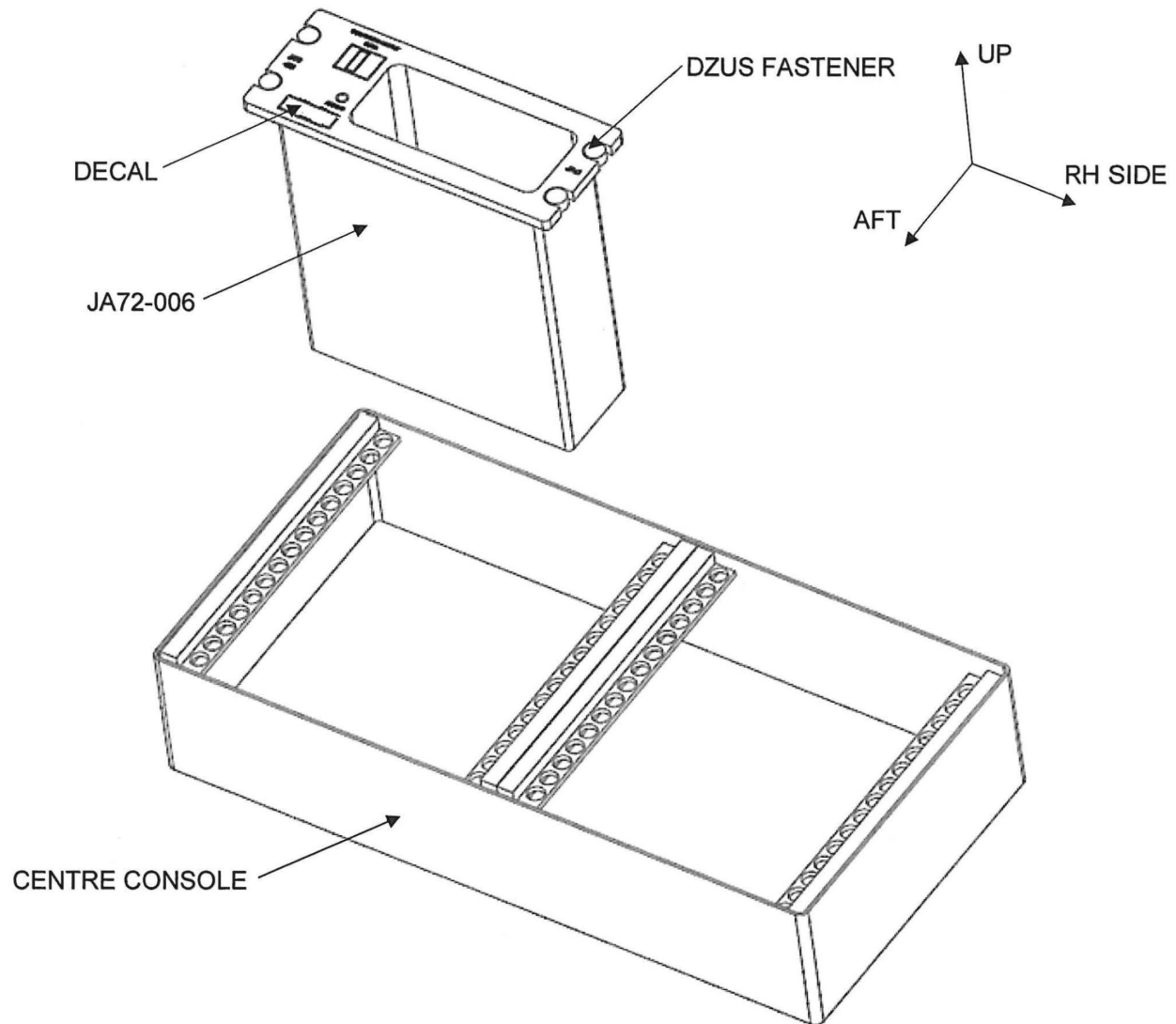


Figure 1 – JA72-006 Glovebox Installation

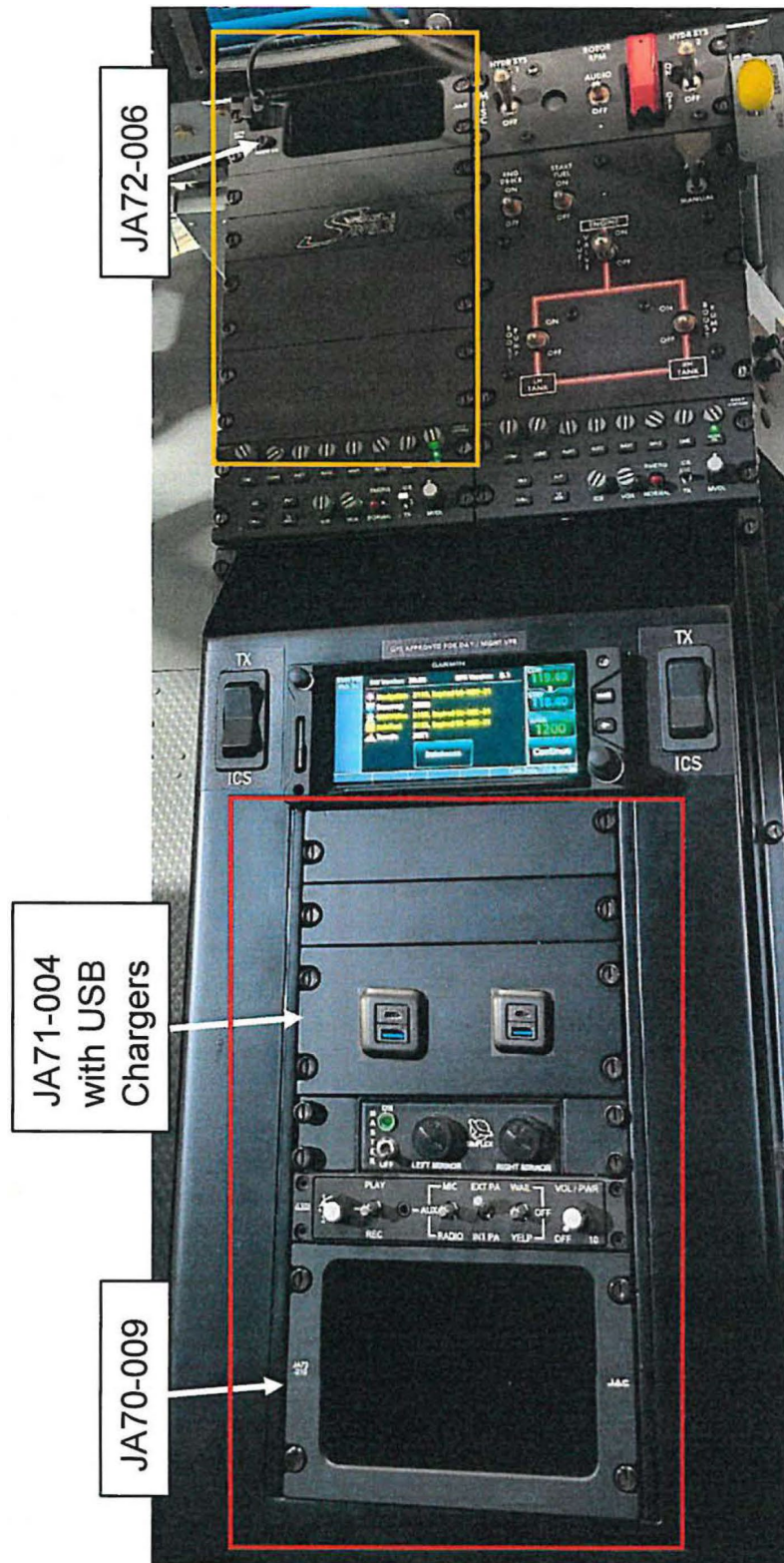


Figure 2 – JA72-006, JA70-009 and JA71-004 with -011 USB Chargers Installation Location

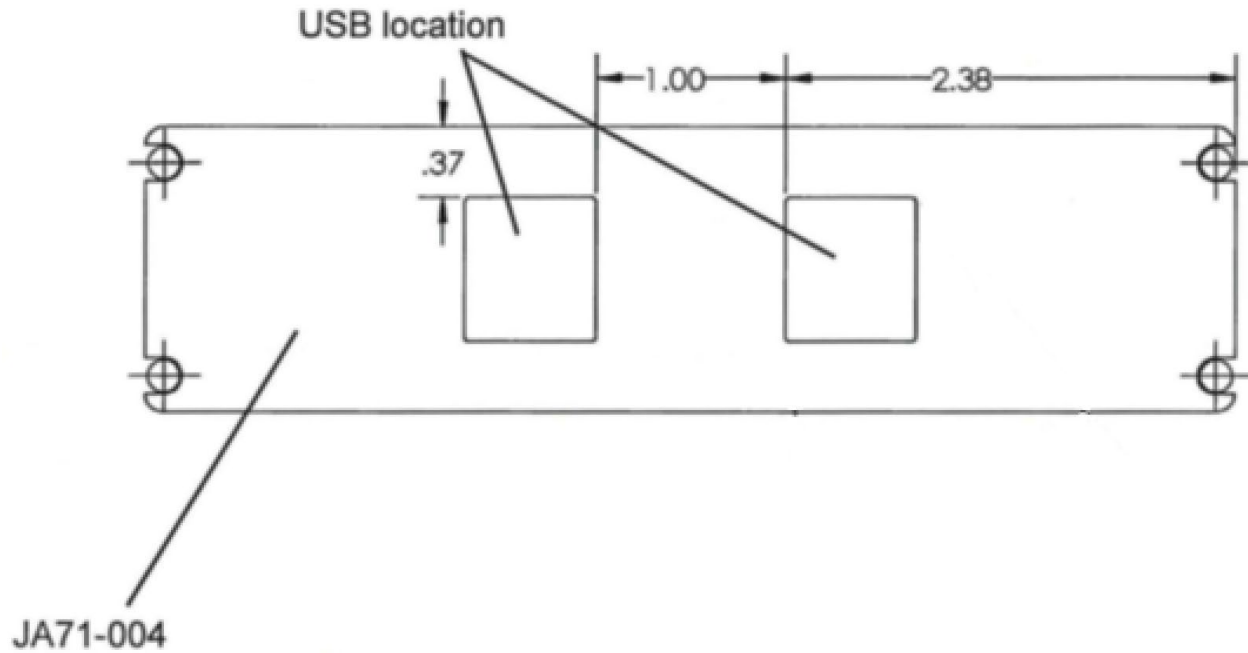


Figure 3 - (-011) USB Charger Location

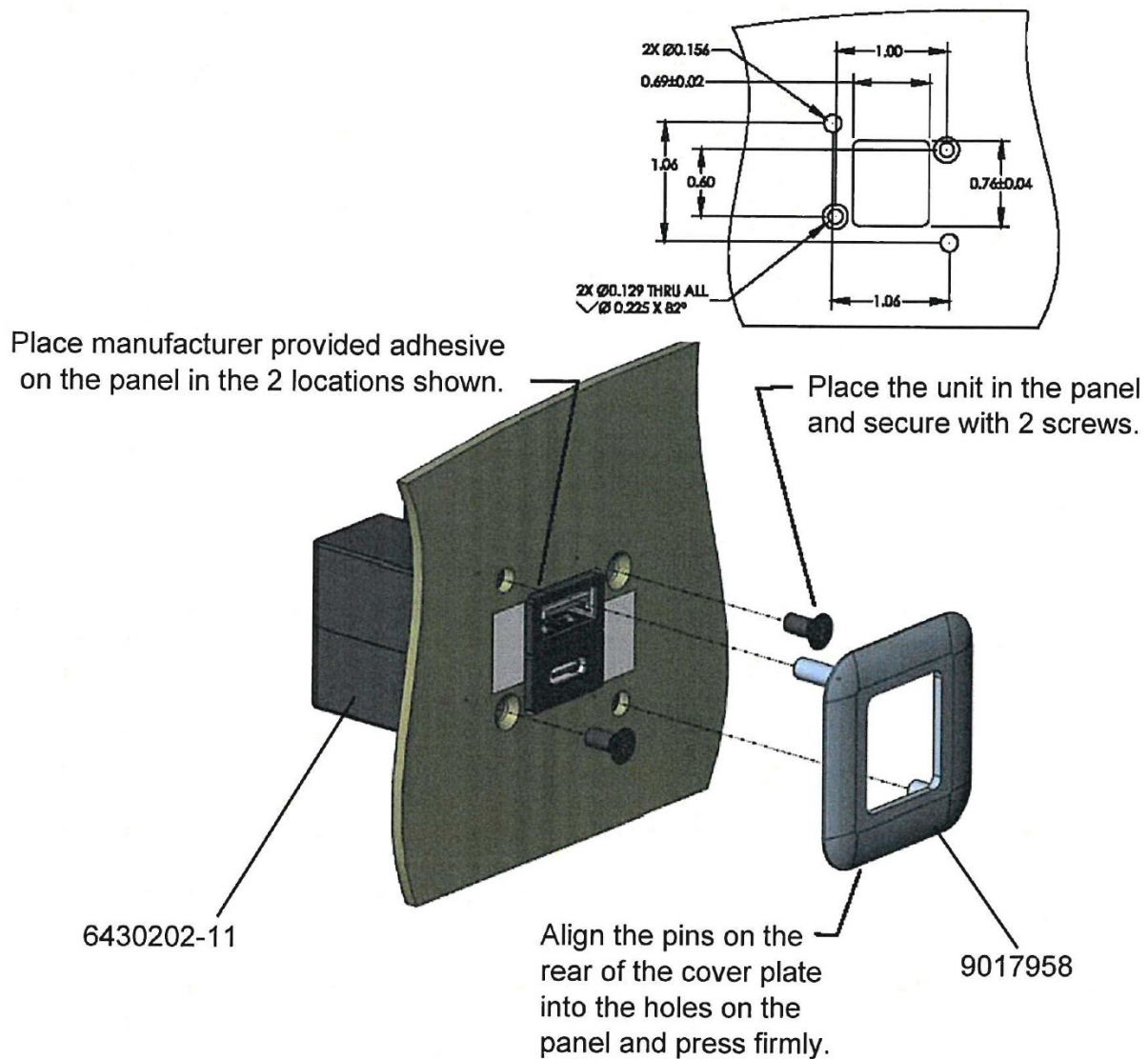


Figure 4 - USB Charger and Faceplate Installation

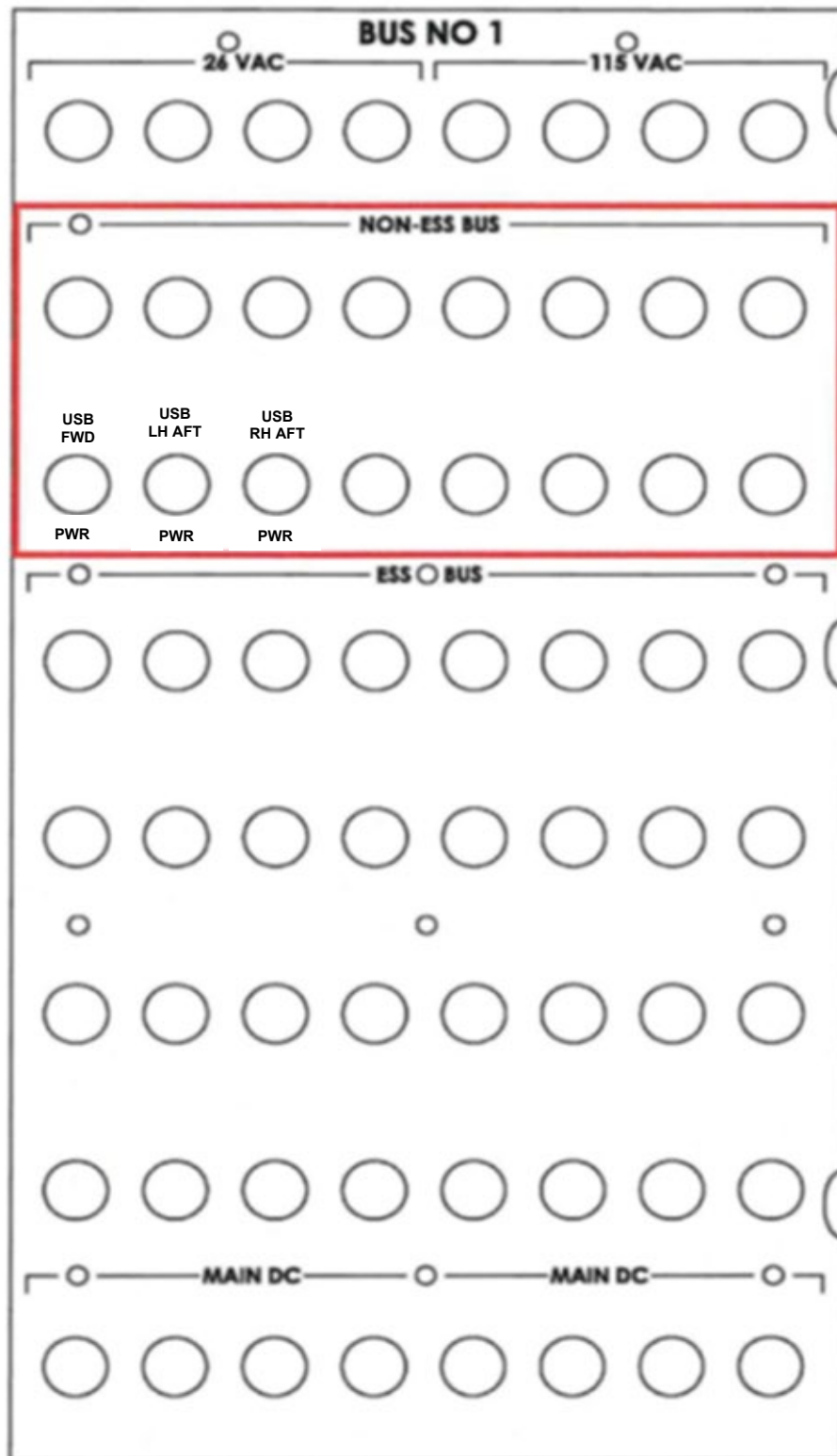


Figure 5 - USB Charger Circuit Breaker Installation

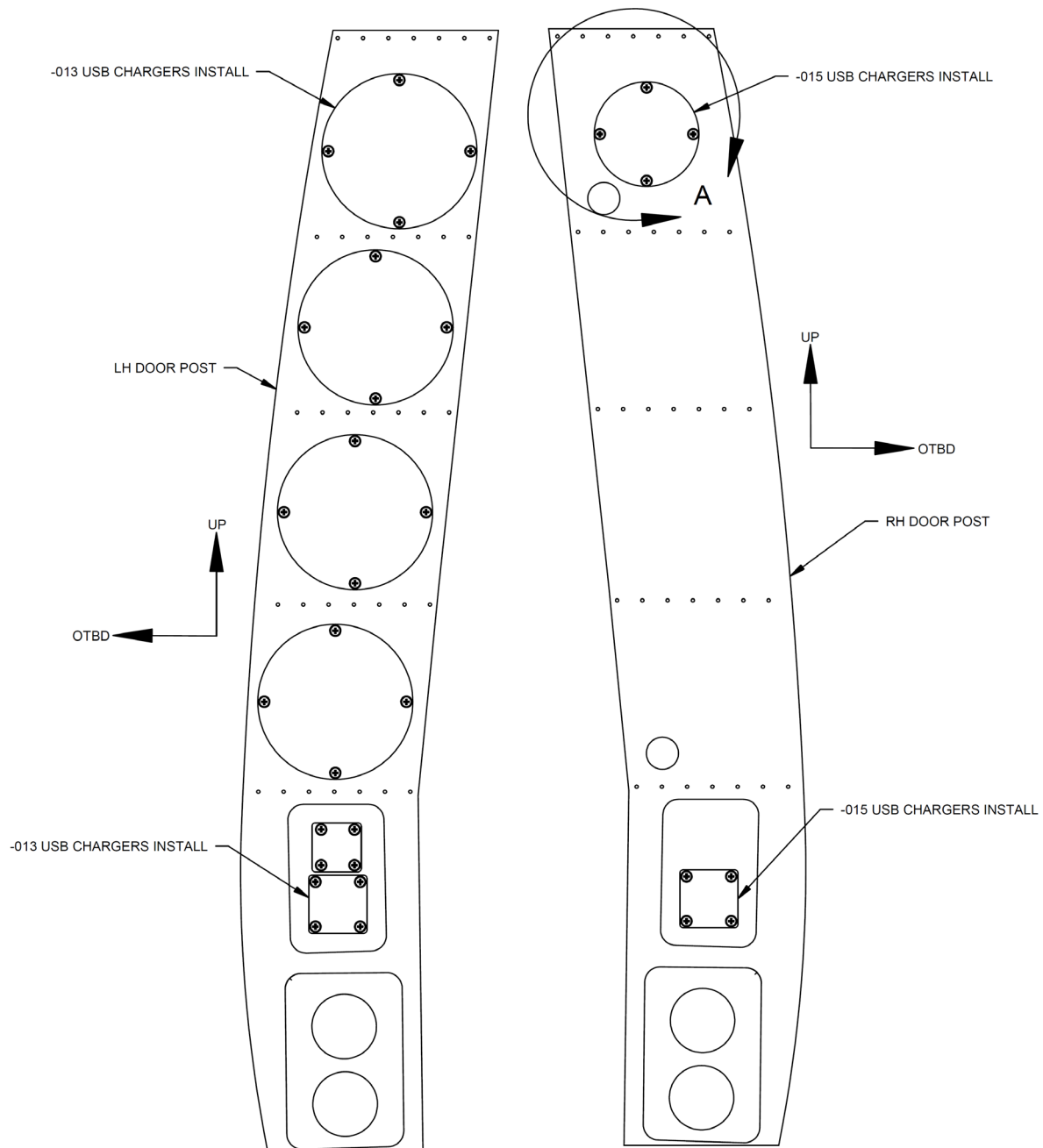


Figure 6 - (-013) and (-015) USB Chargers Installation

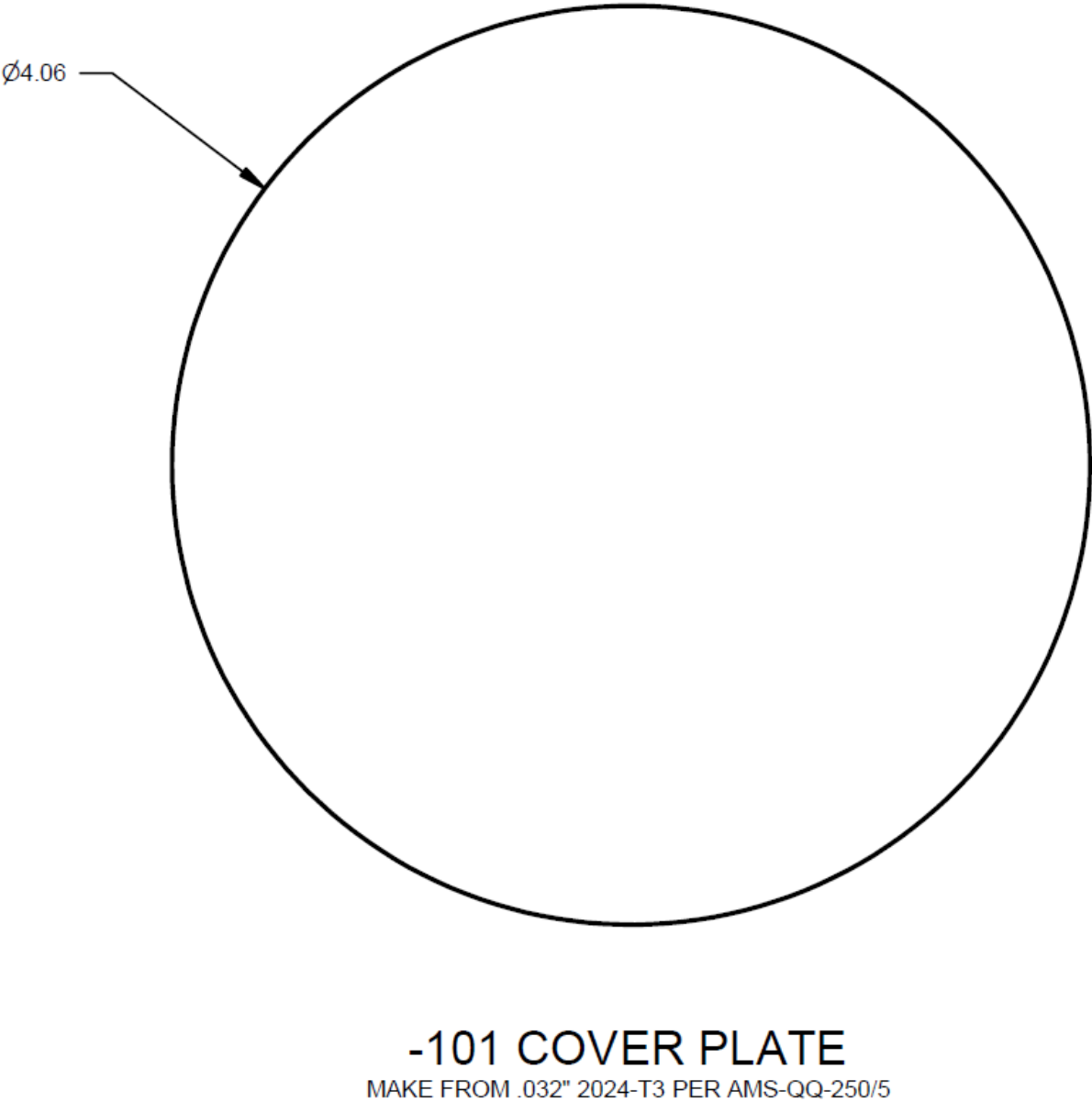
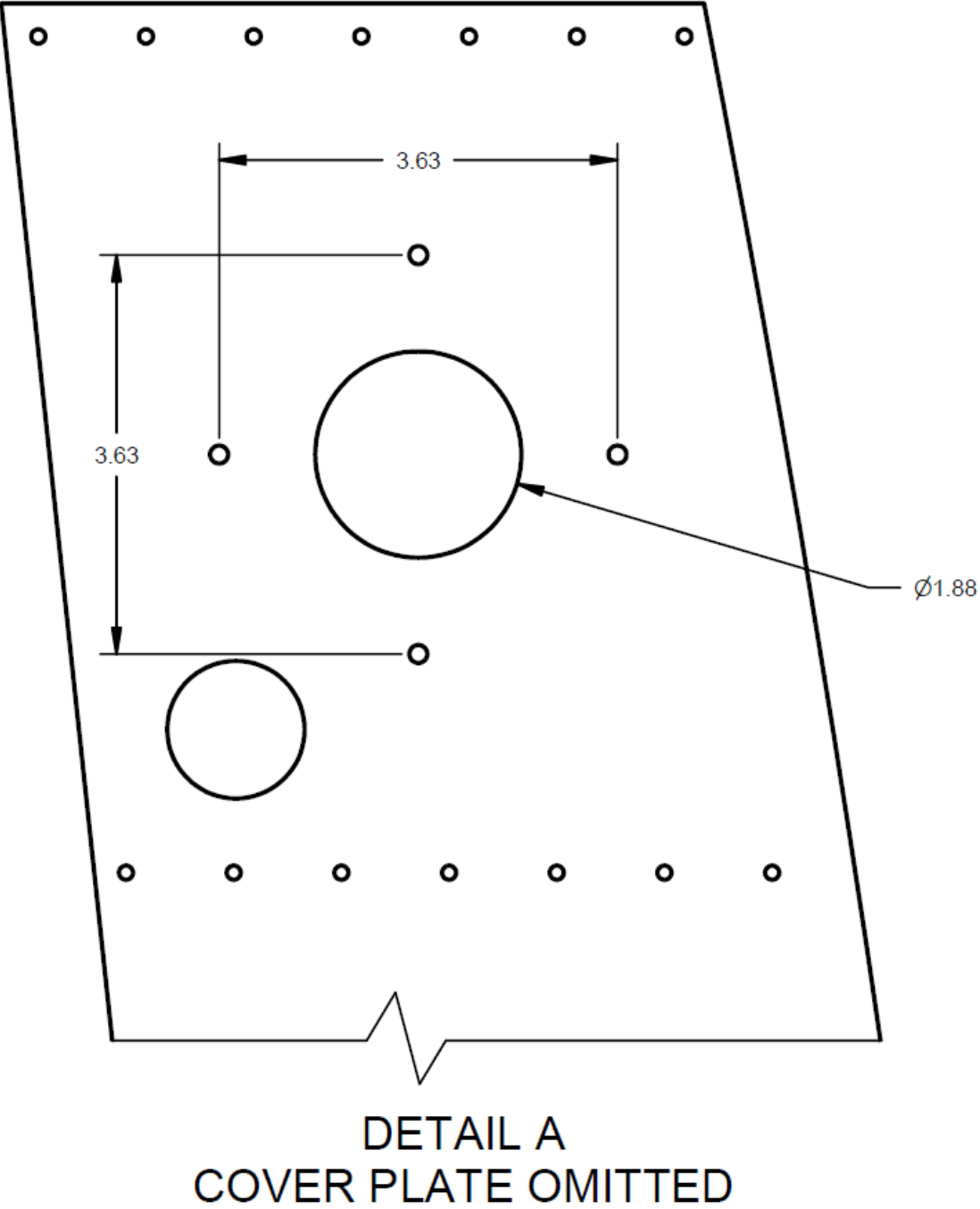


Figure 7 - (-015) RH Upper Installation

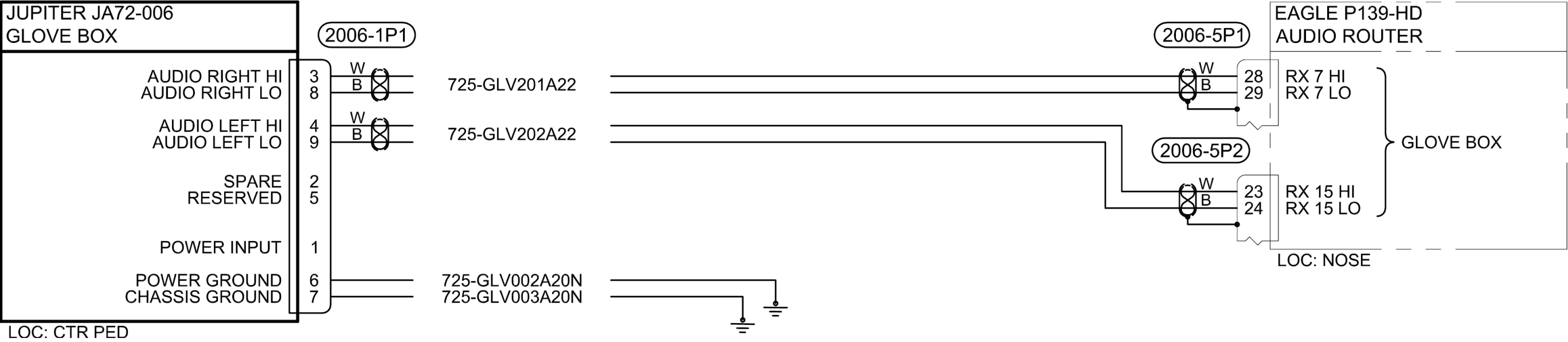


Figure 8 - Updated Glovebox Wiring Installation

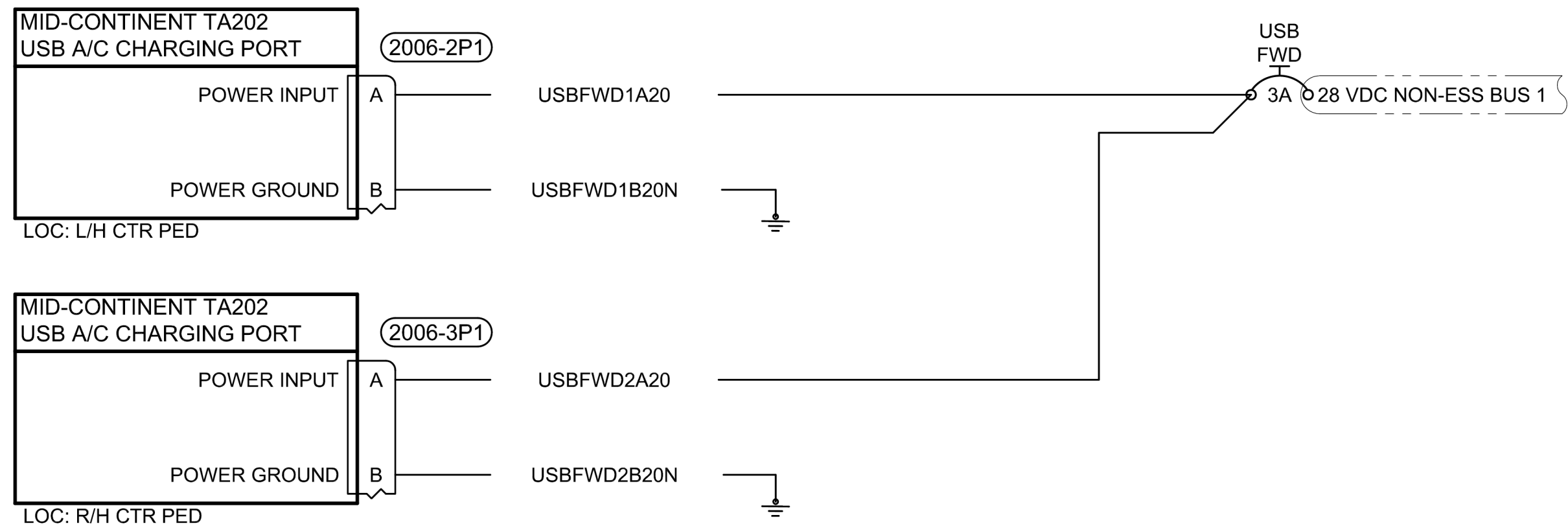


Figure 9 - FWD USB Wiring Installation

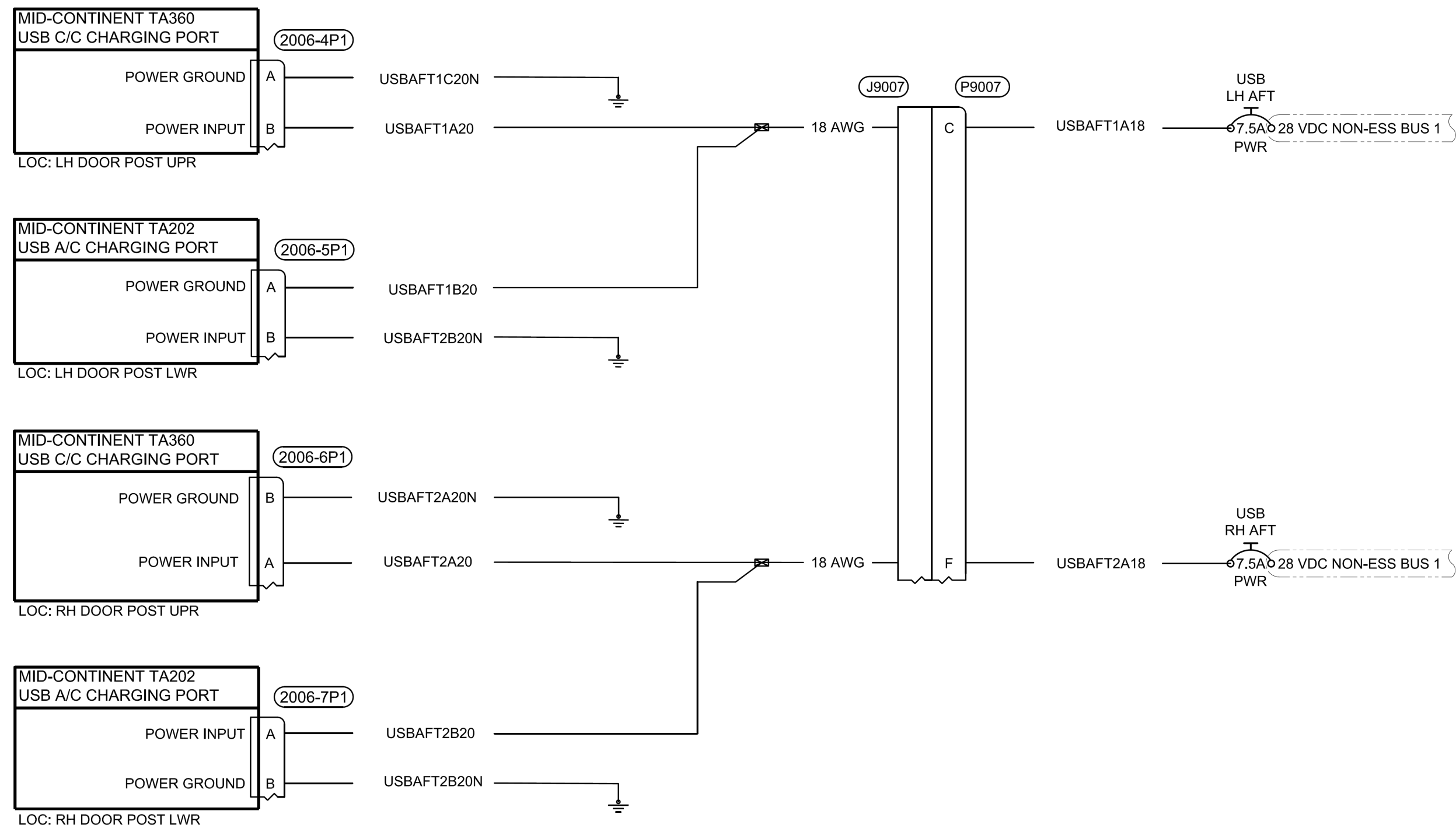


Figure 10 - AFT USB Wiring Installation

4. Test Procedure

4.1. Test Procedure for the JA72-006 Glovebox with USB Charger and Audio Jack (-011)

1. Check the following connections:
 - a. Ensure that the USB FWD circuit breaker is pulled and collared. Disconnect the USB charger connectors 2006-2P1 and 2006-3P1.
 - b. Check all pins for shorts to ground or adjacent pins.
 - c. Ensure that all cables are properly secured, and shields are connected IAW Figure 8.
 - d. Ensure that all LRUs are grounded, and all connectors are disconnected. Record the measurement to airframe ground per Table 4 and Table 5.

LRU Point	Ground Point	Measurement	Pass/Fail
Suitable ground location on JA72-006 chassis	Airframe ground near the JA72-006 attachment	3 Milliohms (< 0.003Ω)	Resistance: _____ Ω Pass: <input type="checkbox"/> Fail: <input type="checkbox"/> Initial: _____

Table 4 - Grounding Check for the JA72-006 Glovebox

LRU Point	Ground Point	Measurement	Pass/Fail
Suitable ground location on USB charger chassis	Airframe ground near the USB charger attachment	3 Milliohms (< 0.003 Ω)	Resistance: _____ Ω Pass: <input type="checkbox"/> Fail: <input type="checkbox"/> Initial: _____

Table 5 - Grounding Check for FWD USB Chargers

2. Connect ground power and turn on aircraft power IAW ICA-D212-725.

WARNING: OBEY ALL THE SAFETY PRECAUTIONS WHEN PERFORMING MAINTENANCE ON OR NEAR ELECTRICAL/ELECTRONIC EQUIPMENT.

3. Remove collar and push in the USB FWD circuit breaker.
4. On the connector 2006-2P1, check the following pins:

Pin	Measurement	Pass/Fail
A	+28 VDC relative to ground	Pass: <input type="checkbox"/> Fail: <input type="checkbox"/> Initial: _____
B	Continuity to ground (less than 0.5 Ω)	Pass: <input type="checkbox"/> Fail: <input type="checkbox"/> Initial: _____

Table 6 - 2006-2P1 Pin Check

8. On the 2006-3P1 connector check the following pins:

Pin	Measurement	Pass/Fail
A	+28 VDC relative to ground	Pass: <input type="checkbox"/> Fail: <input type="checkbox"/> Initial: _____
B	Continuity to ground (less than 0.5 Ω)	Pass: <input type="checkbox"/> Fail: <input type="checkbox"/> Initial: _____

Table 7 - 2006-3P1 Pin Check

9. Ensure the USB FWD circuit breaker is pulled and collared.
10. Connect the USB charger connectors 2006-2P1 and 2006-3P1.
11. Ensure the audio system is powered on.
12. Select 'MP3' on the Audio Panel Control.

13. Plug an audio device into the Audio 1/0 jack on the JA72-006.
14. Ensure the MP3 audio can be heard on the pilot, co-pilot, and crew's headset jacks.
15. Ensure the MP3 audio is muted when higher priority audio is broadcast (for example COMM1 or COMM2 audio).
16. Ensure the MP3 audio is muted when TCAS I audio is broadcast.
17. Using the appropriate cables, plug USB-charged devices (e.g., personal phone, tablet) into USB ports. Ensure that devices indicate that they are charging normally. Repeat for all other USB chargers installed.

4.2. Test Procedure for the -013 Installation

1. Check the following connections:
 - a. Ensure that the USB LH AFT PWR circuit breaker is pulled and collared. Disconnect the USB charger connectors 2006-4P1 and 2006-5P1.
 - b. Check all pins for shorts to ground or adjacent pins.
 - c. Ensure that all cables are properly secured, and shields are connected IAW Figure 10.
 - d. Ensure that all LRUs are grounded, and all connectors are disconnected. Record the measurement to airframe ground per Table 8.

LRU Point	Ground Point	Measurement	Pass/Fail
Suitable ground location on USB charger chassis	Airframe ground near the USB charger attachment	3 Milliohms (< 0.003 Ω)	Resistance: _____ Ω Pass: <input type="checkbox"/> Fail: <input type="checkbox"/> Initial: _____

Table 8 - Grounding Check for the AFT LWR USB Chargers

2. Connect ground power and turn on aircraft power IAW ICA-D212-725.

WARNING: OBEY ALL THE SAFETY PRECAUTIONS WHEN PERFORMING MAINTENANCE ON OR NEAR ELECTRICAL/ELECTRONIC EQUIPMENT.

3. Remove collar and push in the USB LH AFT PWR circuit breaker.
4. On the 2006-4P1 connector check the following pins:

Pin	Measurement	Pass/Fail
A	+28 VDC relative to ground	Pass: <input type="checkbox"/> Fail: <input type="checkbox"/> Initial: _____
B	Continuity to ground (less than 0.5 Ω)	Pass: <input type="checkbox"/> Fail: <input type="checkbox"/> Initial: _____

Table 9 - 2006-4P1 Pin Check

5. On the 2006-5P1 connector check the following pins:

Pin	Measurement	Pass/Fail
A	+28 VDC relative to ground	Pass: <input type="checkbox"/> Fail: <input type="checkbox"/> Initial: _____
B	Continuity to ground (less than 0.5 Ω)	Pass: <input type="checkbox"/> Fail: <input type="checkbox"/> Initial: _____

Table 10 - 2006-5P1 Pin Check

6. Ensure the USB LH AFT PWR circuit breaker is pulled and collared.
7. Connect the USB charger connectors 2006-4P1 and 2006-5P1.

8. Using the appropriate cables, plug USB-charged devices (e.g., personal phone, tablet) into USB ports. Ensure that devices indicate that they are charging normally. Repeat for all other USB chargers installed.

4.3. Test Procedure for the -015 Installation

1. Check the following connections:
 - a. Ensure that the USB RH AFT PWR circuit breaker is pulled and collared. Disconnect the USB charger connectors 2006-6P1 and 2006-7P1.
 - b. Check all pins for shorts to ground or adjacent pins.
 - c. Ensure that all cables are properly secured, and shields are connected IAW Figure 10.
 - d. Ensure that all LRUs are grounded, and all connectors are disconnected. Record the measurement to airframe ground per Table 11.

LRU Point	Ground Point	Measurement	Pass/Fail
Suitable ground location on USB charger chassis	Airframe ground near the USB charger attachment	3 Milliohms (< 0.003 Ω)	Resistance: _____ Ω Pass: <input type="checkbox"/> Fail: <input type="checkbox"/> Initial: _____

Table 11 – Grounding Check for the AFT UPR USB Installation

2. Connect ground power and turn on aircraft power IAW ICA-D212-725.

WARNING: OBEY ALL THE SAFETY PRECAUTIONS WHEN PERFORMING MAINTENANCE ON OR NEAR ELECTRICAL/ELECTRONIC EQUIPMENT.

3. Remove collar and push in the USB RH AFT PWR circuit breaker.
4. On the 2006-6P1 connector check the following pins:

Pin	Measurement	Pass/Fail
A	+28 VDC relative to ground	Pass: <input type="checkbox"/> Fail: <input type="checkbox"/> Initial: _____
B	Continuity to ground (less than 0.5 Ω)	Pass: <input type="checkbox"/> Fail: <input type="checkbox"/> Initial: _____

Table 12 - 2006-6P1 Pin Check

5. On the 2006-7P1 connector check the following pins:

Pin	Measurement	Pass/Fail
A	+28 VDC relative to ground	Pass: <input type="checkbox"/> Fail: <input type="checkbox"/> Initial: _____
B	Continuity to ground (less than 0.5 Ω)	Pass: <input type="checkbox"/> Fail: <input type="checkbox"/> Initial: _____

Table 13 - 2006-7P1 Pin Check

6. Ensure the USB RH AFT PWR circuit breaker is pulled and collared.
7. Connect the USB charger connectors 2006-6P1 and 2006-7P1.
8. Using the appropriate cables, plug USB-charged devices (e.g., personal phone, tablet) into USB ports. Ensure that devices indicate that they are charging normally. Repeat for all other USB chargers installed.

4.4. EMI/EMC Testing

1. Perform EMI/EMC testing following the steps below. Refer to Table 14. For tests that include a frequency, test at the listed frequencies and at approximately one MHz intervals between the listed frequencies. For other radio systems with controllable frequencies, test in a similar manner for low, middle, and high frequency bands
 - a. Ensure all systems are installed and functioning correctly. All previous steps in this section must be successfully completed before beginning EMI/EMC checks.
 - b. Ensure the aircraft is in a normal flight configuration. For example: all doors and windows are closed.
 - c. Using ground power, test each system outline in, (as applicable) and record any aircraft abnormality that would indicate whether each system is a source or victim of EMI. Evaluate all possible scenarios and ensure that as many possible system settings are tested. Repeatedly perform tasks to ensure EMC (e.g., turn equipment on and off and adjust any user interfaces).
 - d. Using engine driven generators as the power source, complete testing of any systems that could not be tested on ground power (e.g., engine indications) and verify the evaluation performed in Step C. Ensure that all systems are tested and any potential EMI that was noted is investigated further.
2. Turn off aircraft power and disconnect ground power IAW ICA-D212-725.

Aircraft Systems	EMI Source USB/MP3		EMI Victim USB/MP3		Notes
	Yes	No	Yes	No	
VHF COMM 1, 118.000 MHz					
VHF COMM 1, 127.500 MHz					
VHF COMM 1, 135.975 MHz					
VHF COMM 2, 118.000 MHz					
VHF COMM 2, 127.500 MHz					
VHF COMM 2, 135.975 MHz					
NAV (VOR/ILS) NO. 1, 108.000 MHz					
NAV (VOR/ILS) NO. 1, 108.100 MHz					
NAV (VOR/ILS) NO. 1, 113.500 MHz					
NAV (VOR/ILS) NO. 1, 117.975 MHz					
NAV (VOR/ILS) NO. 2, 108.000 MHz					
NAV (VOR/ILS) NO. 2, 108.100 MHz					
NAV (VOR/ILS) NO. 2, 113.500 MHz					
NAV (VOR/ILS) NO. 2, 117.975 MHz					
GPS1					
GPS2					
PILOT AUDIO					
COPILOT AUDIO					
PUBLIC ADDRESS SYSTEM					
PILOT PFD/MFD					
COPILOT PFD/MFD					
ADAHRS 1					
ADAHRS 2					
HSV1					
STANDBY INSTRUMENT					
STANDBY COMPASS					
TCAS I					
RADIO ALTIMETER					
TRANSPONDER					
DME					
ELT					
GENERATOR / INVERTER					
EXTERIOR LIGHTS					
INTERIOR LIGHTS					
PUMPS / MOTORS					
PILOT TORQUE					
PILOT DUAL TACH					
COPILOT DUAL TACH					
NG					
MGT					
FUEL QUANTITY					
FUEL PRESSURE					
ENG OIL TEMP AND PRESS					
XMSN OIL TEMP AND PRESS					
HYD 1 OIL TEMP AND PRESS					
HYD 2 OIL TEMP AND PRESS					
GENERATOR VOLTMETER AND AMMETER					
MASTER CAUTION PANEL					

Aircraft Systems	EMI Source USB/MP3		EMI Victim USB/MP3		Notes
	Yes	No	Yes	No	
FIRE DETECTION AND WARNING					
OTHER:					
OTHER:					

Table 14 - (-011, -013, -015) EMI/EMC Check Sheet

5. Aircraft Record Set Update and Eagle Notification

1. Make an entry in the aircraft record set that TB-E212-725-3-011, TB-E212-725-3-013, and/or TB-E212-725-3-015 has been incorporated, as applicable.
2. Update the aircraft's Weight and Balance and Electrical Loads records with the values in Section 2 as required.
3. Notify Eagle Copters that TB-E212-725-3 has been incorporated by emailing the below information to customersupport@eaglecopters.com:

Aircraft Serial Number

Aircraft Owner

Date Incorporated

Configuration Incorporated