

EAGLE TECHNICAL BULLETIN

REF. TCCA STC: SH07-28
REF. FAA STC: SR02831NY

Eagle Technical Bulletin Number: **TB-E212-725-4**

Purpose: To provide instructions for the installation of a Utility Power Plug on the side of the Center Console.

Eligible Serial Numbers: All

Compliance: Optional

Description: This Technical Bulletin (TB) provides the information required for the installation of a Utility Power Plug on the side of the Center Console.

Parts List:

ITEM	QTY -011	PART NUMBER	DESCRIPTION
	X	TB-E212-725-4-011	Utility Power Plug Installation
1	1	MS3100E16-11S	Cannon Plug
2	1	M85049/31-16W	Back Shell
3	1	M85049/95-16A-A	Retainer Ring
4	1	MS25043-16DA	Dust Cap
5	4	MS27039-0807	Screw
6	4	AN960JD8	Washer
7	4	MS21044N08	Nut
8	1	36152-0	Terminal Lug
9	1	320551-0	Terminal Lug
10	1	MS22073-15	Circuit Breaker

Weight and Balance: The incorporation of this Technical Bulletin has a negligible effect on the rotorcraft weight and balance.

Electrical Load Analysis:

ELECTRICAL LOAD ANALYSIS				
SYSTEM	START & WARM-UP 15 MIN.	TAKEOFF 15 MIN.	CRUISE 15 MIN.	LAND 15 MIN.
TOTAL ALL DC BUSSES	50.9 A	109.7 A	114.0 A	110.2 A
TB-E212-725-4 (Max)	15.0 A	15.0 A	15.0 A	15.0 A
TOTAL ALL DC BUSSES	65.9 A	124.7 A	129.0 A	125.2 A

B	CORRECTED TYPO IN SCHEMATIC	EB	2023-03-20
A	NEW ISSUE	MC	2021-12-17
REV	DESCRIPTION	BY	DATE
DESIGN	<i>EB</i>	EAGLE COPTERS LTD CALGARY, AB, CANADA	
DRAWN	N/A	DRAWING NO.	REV. B
CHECKED	<i>EB</i>	TB-E212-725-4	SHEET 1 OF 8
MFG. APPR.	N/A	TITLE	
RELEASED	<i>EB</i>	UTILITY POWER PLUG INSTALLATION	
DE APPR.	N/A		
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Procedure:

1. Disconnect the battery and external DC power from the helicopter.
2. Remove required panelling to gain access to the inside of the centre console, the overhead circuit breaker panel, and the wire routing from the circuit breaker to the Utility Plug.
3. Cut out a hole $\varnothing 1.0$ inch diameter, position as shown in Figure 1. Drill four (4) 0.169" holes to match Cannon Plug (Item 1) pattern.
4. Install the Cannon Plug using the hardware shown in Figure 2.
5. Install Utility Plug power wiring in accordance with Figure 4.
6. Place Retainer Ring (Item 3) on the connector.
7. Install Circuit Breaker in accordance with Figure 3 and circuit breaker wiring in accordance with Figure 4. The CB can be installed in any location inside the red box.
8. Apply decal "28 VDC AUX RECPT" (PTouch or equivalent), as shown in Figure 1.

28 VDC AUX RECPT

9. Apply decal "28 VDC A = NEGATIVE B = POSITIVE MAX 15 AMPS" (PTouch or equivalent), as shown in Figure 1.

28 VDC A = NEGATIVE B = POSITIVE MAX 15 AMPS

10. Re-install circuit breaker panel and apply labelling "AUX POWER" (PTouch or equivalent), as shown in Figure 3.
11. Re-install any panelling or components that were removed in Step 2.
12. Reconnect power and push in deactivated CB's.
13. Complete test procedure for Utility Power Plug.
14. Add the Electrical Load Analysis information for this modification into the Aircraft Electrical Load Analysis.
15. Make entry in aircraft technical reports to indicate TB-E212-725-4 has been completed.
16. Notify Eagle Copters that this Technical Bulletin has been accomplished by filling out the attached form (Sheet 8) and emailing it to Eagle Copters.

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Test Procedure:

1. Check all pins for shorts to ground or adjacent pins.
2. Ensure that all cables are properly secured, and shields are connected IAW Figure 4.
3. Ensure that the Utility Power Plug is grounded, and all connectors are disconnected. Record the measurement to airframe ground per the table below.

LRU POINT	GROUND POINT	MEASUREMENT	PASS /FAIL
Suitable ground location on Utility Power Plug	Airframe ground near the Utility Power Plug attachment.	3 Milliohms (< 0.003Ω)	Resistance: _____Ω Pass: <input type="checkbox"/> Fail: <input type="checkbox"/> Initial: _____

4. Connect ground power and turn on aircraft power IAW ICA-D212-725.
5. Ensure Utility Power Plug is powered on.
6. Perform EMI / EMC testing per AC 500-002. Reference Table 1.
7. Turn off aircraft power and disconnect ground power IAW ICA-D212-725.

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MFG. APPR.	NA	TB-E212-725-4	SHEET 3 OF 8
RELEASED	MP	TITLE	
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Aircraft Systems	EMI Source Utility Power Plug		EMI Victim Utility Power Plug		Notes
	YES	NO	YES	NO	
VHF COMM 1					
VHF COMM 2					
NAV (VOR/ILS) No. 1					
NAV (VOR/ILS) No. 2					
GPS1					
GPS2					
Pilot Audio					
Co-pilot Audio					
Public Address System					
Pilot PFD / MFD					
Co-Pilot PFD / MFD					
ADAHRS 1					
ADAHRS 2					
HSVT					
Standby Instrument					
Standby Compass					
Traffic Advisory System (TCAS I)					
Radio Altimeter					
Transponder					
DME					
ELT					
Generator / Inverter					
Exterior Lights					
Interior Lights					
Pumps / Motors					
Pilot Torque					
Pilot Dual Tach					
Co-Pilot Torque					
Co-Pilot Dual Tach					
Ng					
MGT					
Fuel Quantity					
Fuel Pressure					
Engine Oil Temp. and Pressure					
Transmission Oil Temp. and Pressure					
Hydraulic Oil 1 Temp. and Pressure					
Hydraulic Oil 2 Temp. and Pressure					
Generator Voltmeter and Ammeter					
Master Caution Panel					
Fire Detection and Warning					
Other:					
Other:					

Table 1: EMI / EMC Check Sheet

DESIGN	EB	EAGLE COPTERS LTD CALGARY, AB, CANADA	
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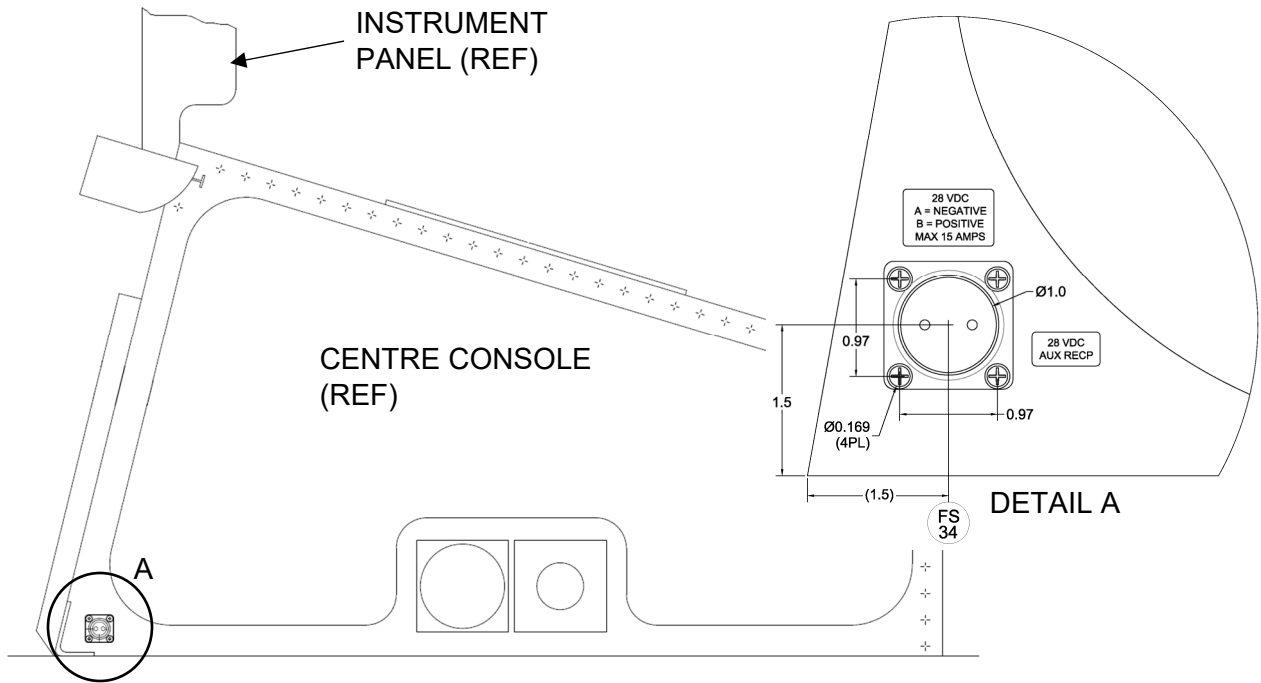


Figure 1 Utility Power Plug Installation

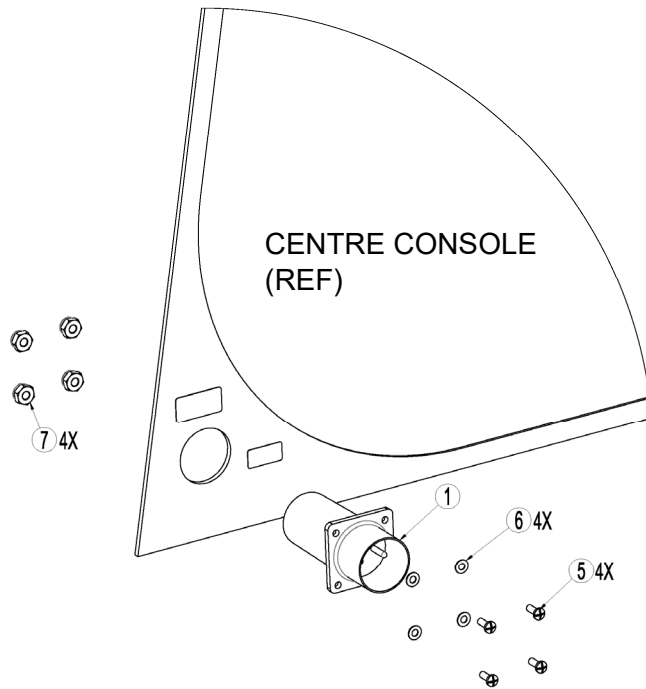


Figure 2 Utility Power Plug Exploded View

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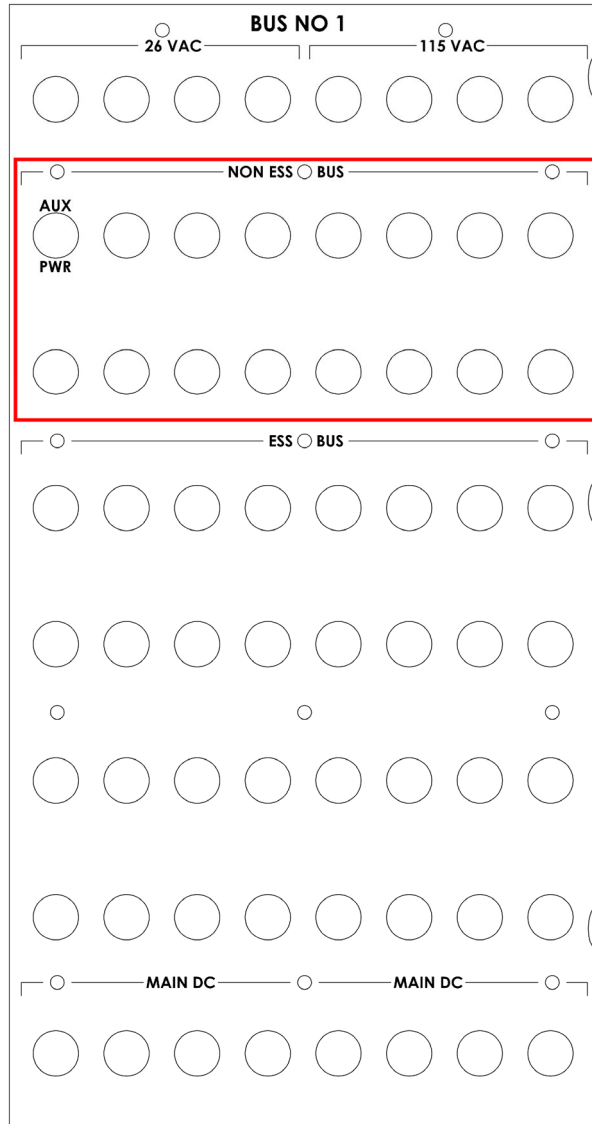
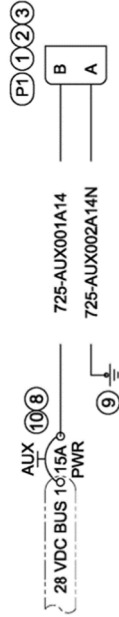


Figure 3 Circuit Breaker Installation

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— NEW WIRE / UNIT
 - - - - - EXISTING WIRE / UNIT

NOTES:

1. PERFORM ALL WORK IN ACCORDANCE WITH BELL HELICOPTER STANDARD PRACTICES MANUAL BHT-ELEC-SPM.
2. ALL NEW UNSHIELDED WIRE USE M22759/41-XX1-9 OR EQUIVALENT TYPE WIRE. (M22759/41-XX1-9 IS NOT INTENDED TO BE USED IN SOLDER APPLICATIONS. SOLDERABILITY CAN BE ACHIEVED WITH THE PROPER SOLDER. USE CRIMP SPLICES FOR REPAIR). ALL WIRES 22 AWG UNLESS OTHERWISE SPECIFIED BY WIRE CODE. ALL JUMPERS TO BE LESS THAN 6 INCHES.
3. ALL AIRFRAME GROUNDS SHALL BE VIA AMP LUG OR GROUNDING BLOCK AND PROVIDE SEPARATE GROUND STUD LOCATIONS FOR DC POWER GROUNDS, AC POWER GROUNDS, CHASSIS GROUNDS, SIGNAL GROUNDS AND SHIELD GROUNDS.
4. ALL EQUIPMENT BONDING TO ADJACENT AIRFRAME STRUCTURE TO BE 0.003 OHM OR LESS. ALL ELECTRICAL GROUNDING AND BONDING TO BE INSTALLED IN ACCORDANCE WITH THE LATEST REVISION OF BHT-ELEC-SPM CHAPTER 8.
5. ALL TERMINALS TO BE INSTALLED IN ACCORDANCE WITH THE LATEST REVISION OF BHT-ELEC-SPM PARAGRAPH 4-9.
6. ALL CONNECTORS TO BE INSTALLED IN ACCORDANCE WITH THE LATEST REVISION OF BHT-ELEC-SPM CHAPTER 5. ENSURE ALL UNUSED CONNECTOR CONTACTS ARE FILLED WITH SPARE PINS/sockets OR PLASTIC GROMMET SEALING PLUGS. ENSURE ALL BULKHEAD MOUNTED CONNECTORS ARE PROPERLY BONDED TO AIRFRAME.
7. ENSURE ALL SWITCHES, CIRCUIT BREAKERS, AND REMOTE MOUNTED BOXES ARE LABELED WITH A CONSISTENT SIZE, FONT, COLOR, BACKGROUND AND ARE ILLUMINATED CONSISTENT AS EXISTING LABELS.
8. ROUTE ALL WIRES AND CABLES WITH EXISTING WIRE ROUTES WHERE POSSIBLE AND CLAMP IN ACCORDANCE WITH THE LATEST REVISION OF BHT-ELEC-SPM CHAPTER 6. WIRES MUST BE ROUTED WITH A MINIMUM OF 6 INCHES OF SEPARATION FROM OXYGEN AND FLUID LINES (MIN 2 INCHES IF WIRES IN CONDUIT).
9. INSTALL SYSTEM IN ACCORDANCE WITH THE LATEST REVISION OF THE MANUFACTURES INSTALLATION MANUAL.
10. POWER WIRES NOT TO EXCEED 45 FT FROM A 15A CIRCUIT BREAKER.

Figure 4 Installation Wiring Diagram

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NOTIFY EAGLE COPTERS THAT THE TB-E212-725-4 HAS BEEN INCORPORATED INTO THE AIRCRAFT LISTED BELOW.

AIRCRAFT SERIAL NUMBER: _____

AIRCRAFT OWNER: _____

DATE TB-E212-725-4 WAS INCORPORATED ON THE ABOVE AIRCRAFT:

SIGNATURE OF PERSON RESPONSIBLE FOR ENTRY INTO AIRCRAFT TECHNICAL RECORD:

PRINT NAME OF PERSON RESPONSIBLE FOR ENTRY INTO AIRCRAFT TECHNICAL RECORD:

EMAIL THIS PAGE TO: customersupport@eaglecopters.com

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