

TEXTRON AVIATION INC.
AIRCRAFT DIVISION
WICHITA, KANSAS 67277

USB Cabin Power Interface for NAV III Option Airplanes ICA Supplement

MODEL NO: 182

**SUPPLEMENT NO: ICA-182-24-00001
SUPPLEMENT DATE: 12/23/2020**

TEXTRON AVIATION INC.
AIRCRAFT DIVISION
WICHITA, KANSAS 67277

REVISIONS

ICA-182-24-00001	Rev: -	Date: Dec 23, 2020
ICA Summary	Pages 1-6	
Manuals Affected	Description	Title
Maintenance Manual	24-60-02 pages 101-106	12-V Cabin Power System
<ul style="list-style-type: none"> Added description, removal/installation, adjustment/test, and troubleshooting procedures for the new USB cabin power interface for NAV III Option Airplanes. 		
Appendix A: Illustrated Parts Catalog	Refer to Appendix A	See attached Parts Table.
Appendix B: Wiring Diagram Manual	24-50-01 Figure 05 pages 1-3	See attached Wiring Diagram.

1. Export Compliance

- A. This publication contains technical data and is subject to U.S. export regulations. This information has been exported from the United States in accordance with export administration regulations. Diversion contrary to U.S. law is prohibited.

ECCN: 9E991

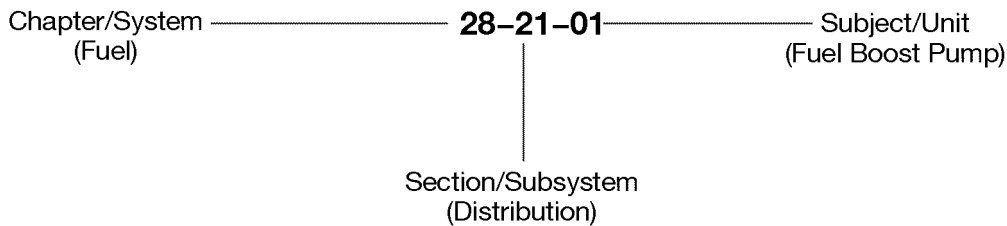
2. Revision Bars

- A. Revision bars in this ICA supplement identify new ICAs and/or changes to the current ICAs in the released maintenance manual.
- New ICAs that are not in the current maintenance manual will have a revision bar from top to bottom along the left margin.
 - ICAs that are in the current maintenance manual and have information added, deleted or revised will have a revision bar(s) in the left margin adjacent to the added, deleted or revised information.
 - New or changed illustrations will have a change bar for the entire length of the page.

3. Page Numbering

- A. The page number system for ICA included in this supplement have three-element numbers that are separated by dashes. The three-element number is found at the bottom right corner of the page, left of the page number. The date is found below the page number.

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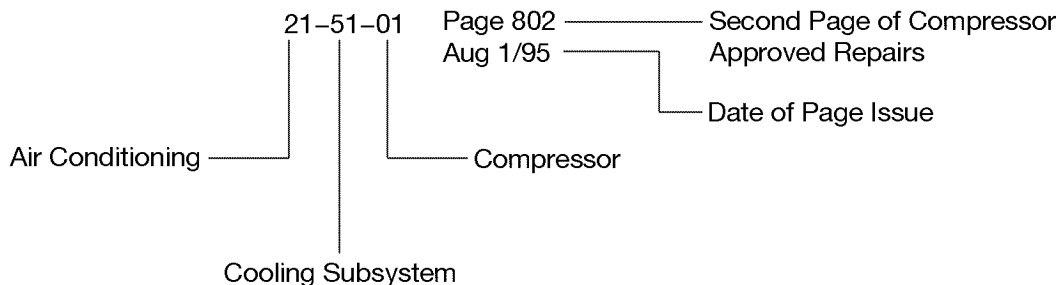


- B. When the chapter/system element number is followed with zeros in the section/subsystem and subject/unit element number (28-00-00), the information is applicable to the entire system.

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- C. When the section/subsystem element number is followed with zeros in the subject/unit element number (28-21-00), the information is applicable to the subsystems in the system.
- D. The subject/unit element number is used to identify information applicable to units in the subsystems. The subject/unit element number continues in sequence from the number -01- with the number of subsystem units in which maintenance information is necessary.
- E. All system/subsystem/unit (chapter/section/subject) maintenance data is separated into specified types of information: Description and Operation, Troubleshooting, Maintenance Practices, etc. Blocks of page numbers that are in sequence are used to identify the type of information:
 - (1) Description and Operation or Troubleshooting information may not be included if the procedure is easy. When subtopics are short, they may be put together into the Maintenance Practices section. Maintenance Practices can have a mix of subtopics that includes information to service, remove, install, adjust, test, clean, paint or do approved repairs.
 - (2) Longer procedures that are not as easy to do may be included in a specified section.
 - Page 1 through 99 - Description and Operation
 - Page 101 through 199 - Troubleshooting
 - Page 201 through 299 - Maintenance Practices
 - Page 301 through 399 - Servicing
 - Page 401 through 499 - Removal/Installation
 - Page 501 through 599 - Adjustment/Test
 - Page 601 through 699 - Inspection/Check
 - Page 701 through 799 - Cleaning/Painting
 - Page 801 through 899 - Approved Repairs
- F. A typical page number:

A22924



- G. Illustrations use the same figure numbers as the page block in which they appear. For example, Figure 202 would be the second figure in a Maintenance Practices section.

4. Supplement Revisions

- A. Revisions to this supplement may be accomplished if changes to this supplement are required after release of the original issue and prior to incorporation into the manuals listed in the REVISIONS table.
- B. All revisions to this supplement will have changes identified in detail in the revision block(s) above.
- C. All pages in this ICA supplement will have the same date and are valid as of the date shown.

5. ICA Incorporation into Applicable Manuals

NOTE: Most ICA supplements will be incorporated in the next available revision to the manuals listed above and should be used in conjunction with those manuals until the next available revision is released.

- A. The ICA Supplement List located in the Introduction section of each manual listed in the REVISIONS table will indicate the incorporation status as of the release date of the published revision.

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- B. The manual revision level of the supplement incorporation will be listed in the "Manual Incorporation Status" column in the ICA Supplement List, when those ICAs associated with that manual have been incorporated. After ICAs are incorporated, the manual that they are incorporated in must now be used for those ICAs instead of the supplement.
- Based on revision cycle times for the affected manuals, MM ICAs, WDM ICAs, etc. in this supplement may be incorporated in the manuals at different times.
 - There will not be a revision to this supplement to indicate incorporation in the manuals. Users are required to check the ICA Supplement List for each manual affected to determine incorporation status.
- C. This supplement will be completely superseded by the manuals listed in the REVISIONS table when it has been incorporated in all of the manuals.

INTRODUCTION

1. Purpose

- A. The purpose of this Supplement is to provide the maintenance technician with the information necessary to ensure the correct functionality and performance of the USB Cabin Power Interface for NAV III Option Airplanes on the Cessna Model 182 until this information gets incorporated into the next revision to the manuals listed in the "REVISIONS" section of this supplement.
- B. This ICA supplement is designed to satisfy the requirements of 14 CFR 23.1529 "Instructions for Continued Airworthiness" associated with this installation. This document is a supplement to the Model 182 (Series 1997 and On) Maintenance Manual and will be incorporated in the next revision to the manual.
- C. When this information is incorporated in the next revision to the manuals listed in the "REVISIONS" section, those manuals shall take precedence over this supplemental document. Refer to the "ICA Supplement List" in the "Introduction" section of the respective manual for the status of all applicable ICA Supplements.
- D. Revisions to this supplement may occur if there is a change to any of the ICAs in this supplement prior to incorporation into all of the affected manuals.

NOTE: This document must be placed with the aircraft operator's Technical Library CD-ROM or Model 182 (Series 1997 and On) Maintenance Manual and incorporated into the operator's scheduled maintenance program.

2. Effectivity

- A. These Instructions for Continued Airworthiness (ICA) are effective for the following aircraft model and serialization.

Model	Beginning Effectivity	Ending Effectivity
182	83121	and On

3. Complete ICA Documents

- A. The following document(s), in conjunction with this supplement, constitute the Instructions for Continued Airworthiness for the USB Cabin Power Interface for NAV III Option Airplanes on the Cessna Model 182. All items must be available to the operator at initial delivery.
 - (1) Model 182 (Series 1997 and On) Maintenance Manual
 - (2) Model 182 (Series 1997 and On) Wire Diagram Manual
 - (3) Model 182 (Series 1997 and On) Illustrated Parts Catalog

4. System Components

- A. Refer to Appendix A: Illustrated Parts Catalog

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LIST OF INSTRUCTIONS FOR CONTINUED AIRWORTHINESS

- 1. Model 182 (Series 1997 and On) Maintenance Manual**
 - A. Chapter 24 - Electrical Power
 - (1) Refer to Chapter 24-30-02 - 12-Volt Cabin Power System - Troubleshooting
- 2. Model 182 (Series 1997 and On) Wiring Diagram Manual**
 - A. Chapter 24 - Electrical Power
 - (1) Refer to Appendix B, 24-50-01, Figure 05 - Power Interface w/NAV III Option, 18283121 and On,

INSPECTION PROGRAM AND AIRWORTHINESS LIMITATIONS

1. Continuous Inspection Program

- A. This ICA Supplement does not affect the current inspection program.

2. Airworthiness Limitations

- A. Cessna Aircraft Company Model 182 (1997 Series and On) Maintenance Manual, Chapter 4, Airworthiness Limitations, contains the system and airframe limitations for the Model 182.

NOTE: The Airworthiness Limitations section is FAA-approved and specifies maintenance required under Section 43.16 and 91.403 of Title 14 Code of Federal Regulations, unless an alternative program has been FAA approved.

- (1) There are no new (or additional) airworthiness limitations associated with this equipment and/or installation.

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12-VOLT CABIN POWER SYSTEM - TROUBLESHOOTING

1. General

- A. The 12-volt cabin power outlet on the pedestal uses a power converter to convert 28-volt DC input power to 13.8-volt DC output power. In airplanes with the Garmin G1000 the power converter is in the cockpit on the aft, right side of the firewall. The power converter in all other airplanes is in the tailcone.
- B. The 12-volt cabin power outlet behind the copilot's seat and near the headset jacks on airplanes with Garmin G1000 uses a power converter to convert 28-volt DC input power to 13.8-volt DC output power. The 20 amps of 12-volt power are split evenly between the forward and the aft power outlets. In airplanes with the Garmin G1000 installed, a CABIN PWR 12V switch is located on the switch panel.
- C. The converter output is used to power electrical devices that require a 12-volt power input. The electrical connections are made with the use of a terminal block that is on the side of the converter. The converter's output can be turned on and off by the use of the ON/OFF signal terminal on the converter's terminal block. When 28 VDC is applied to this terminal, the converter will turn the output on. When the 28 VDC is removed from the terminal, the output is turned off.
- D. Airplanes 18283121 and On with the NAV III option have a USB cabin power interface installed in the pedestal in place of the 12-Volt cabin power interface. The USB interface is a self-contained, DC-DC power converter with USB type A and type C outlets that are used to supply USB compatible electronic devices with power. The USB power interface obtains 28 VDC of current through the CABIN LTS/PWR (HI056) circuit breaker and does not connect directly to the power converter.

2. Cabin Power Interface

- A. Complete a Test of the Cabin Power Interface (Refer to Figure 101).
 - (1) Make sure the ALT/BAT Master switch is in the ON position.
 - (2) For airplanes with serials 18280001 thru 18281197 and airplanes T18208001 thru T18208185, use a 12-Volt DC power adapter to do the test. Refer to Tools, Equipment and Materials.
 - (a) Attach the adapter to the cabin power system.
 - (3) Use a voltmeter to make sure the output shows 13.4 volts, +0.9 or -0.9 volts at the cabin power interface.
 - (4) If the correct voltage is not indicated, refer to the Power Converter troubleshooting procedures.

3. Power Converter

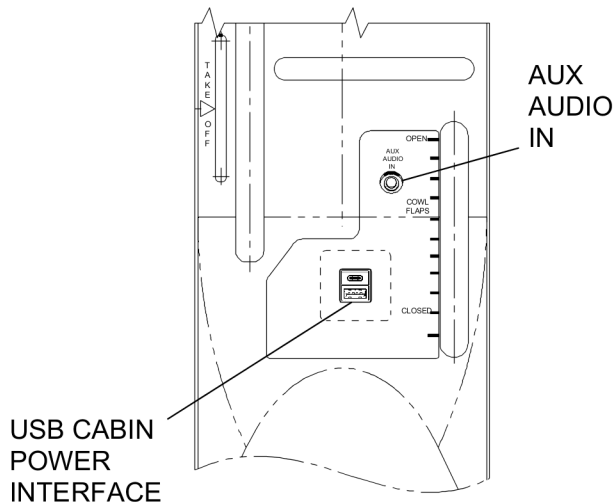
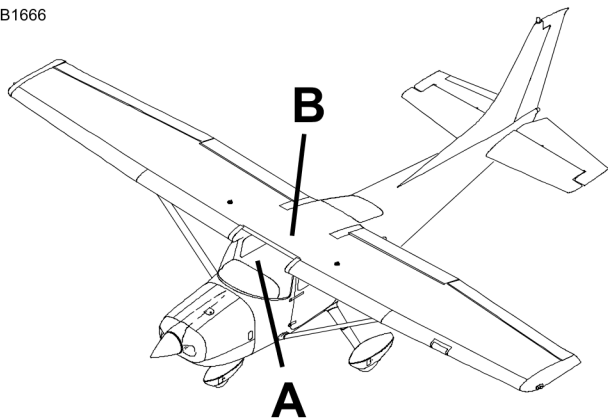
- A. Test the Power Converter (Refer to Figure 102 and to the Model 182 Wire Diagram Manual, Chapter 24, Power Interface).
 - (1) Disconnect the connector (JI).
 - (2) Test for approximately 24-Volts between VI+ and VI- at the connector (JI).
 - (3) Test for approximately 24-Volts between the ON/OFF and VI- at the connector (JI).
 - (4) If there is no voltage, examine the wiring from the power converter to the connector (JI) for damage or bad connections.
 - (a) Repair or replace the connector (JI) or the wiring as necessary.
 - 1 Attach the connector (JI).
 - 2 Test the cabin power interface for correct operation. Refer to Cabin Power Interface.
 - 3 Proceed to step 3.A.(5) if the cabin power interface does not operate correctly.
 - (5) Test the pins VO+ and VO- for an output of 13.4 volts, +0.9 or -0.9 volts.
 - (a) If the correct voltage is supplied, test the continuity from the connector (JI) to the cabin power interface in Figure 101.
 - 1 If the wire continuity is not correct or the wire is damaged, replace the wiring as necessary.
 - 2 If the wire continuity is correct, replace the power converter.

4. USB Cabin Power Interface Removal/Installation (Airplanes 18283121 and On with NAV III Option)

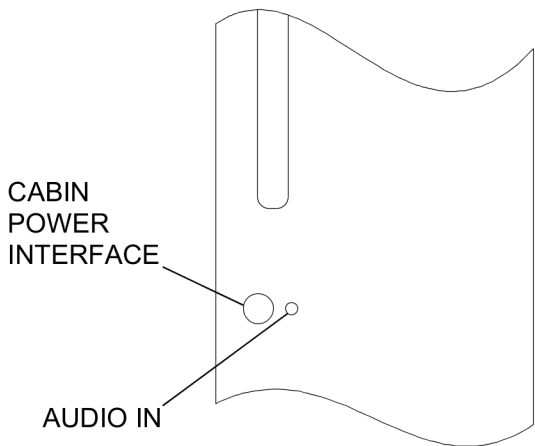
- A. Remove the USB Cabin Power Interface (Refer to Figure 101).
 - (1) Get access to the USB Cabin Power Interface wire bundle. Remove the pedestal cover assembly. Refer to Chapter 25, Interior Upholstery - Maintenance Practices.

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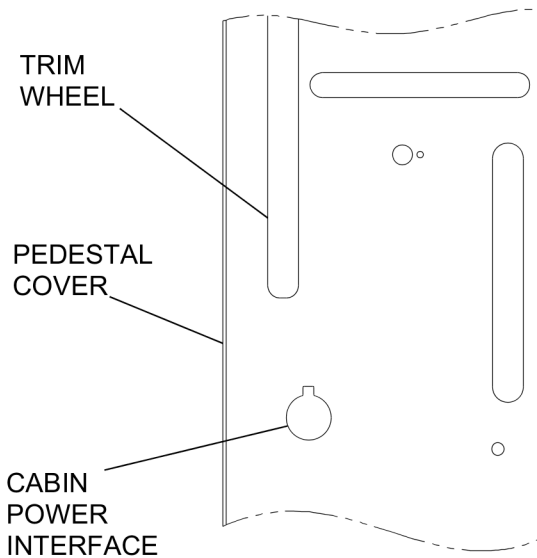
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DETAIL A
 AIRPLANES 18283121 AND ON



DETAIL A
 AIRPLANES 18280001 THRU 18280944,
 AIRPLANES 18280945 THRU 18281197 AND
 AIRPLANES T18208001 THRU T18208185



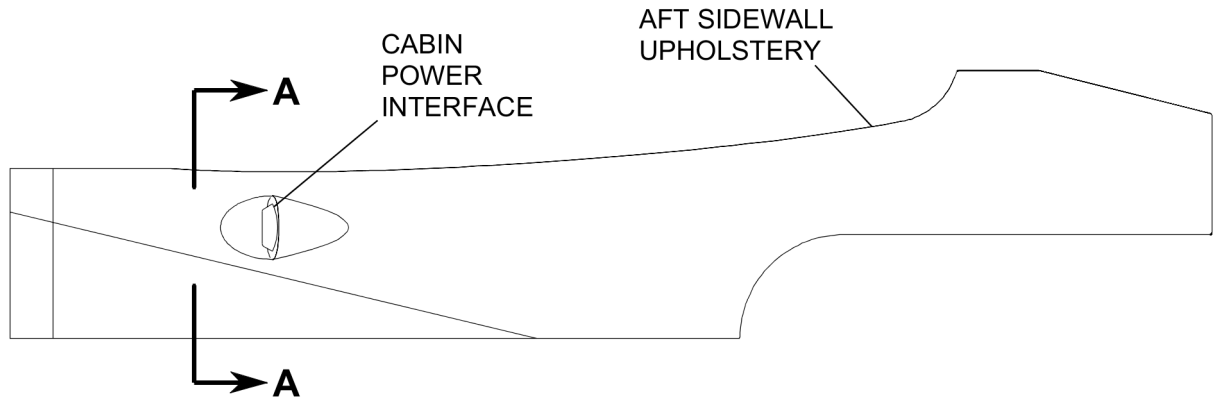
DETAIL A
 AIRPLANES 18281198 AND ON AND
 AIRPLANES T18208186 AND ON

Cabin Power Interface
 Figure 101 (Sheet 1)

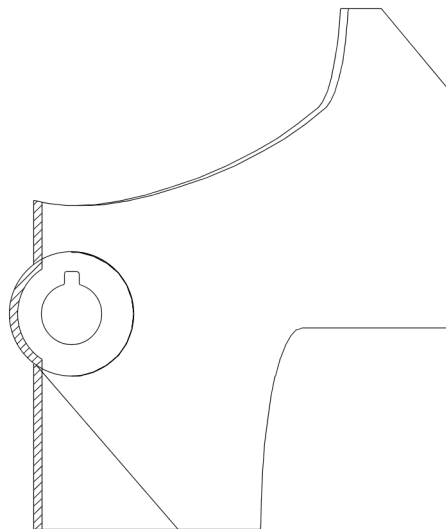
0710T1001
 A0719T1031
 A0719T1032

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DETAIL B
VIEW LOOKING OUTBOARD
ON RIGHT SIDE



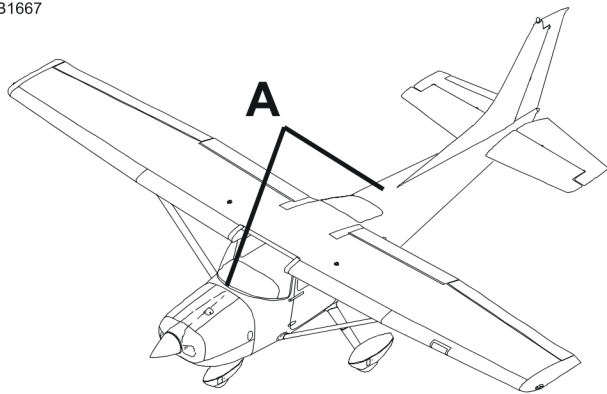
VIEW A-A
VIEW WITH CAP REMOVED

Cabin Power Interface
Figure 101 (Sheet 2)

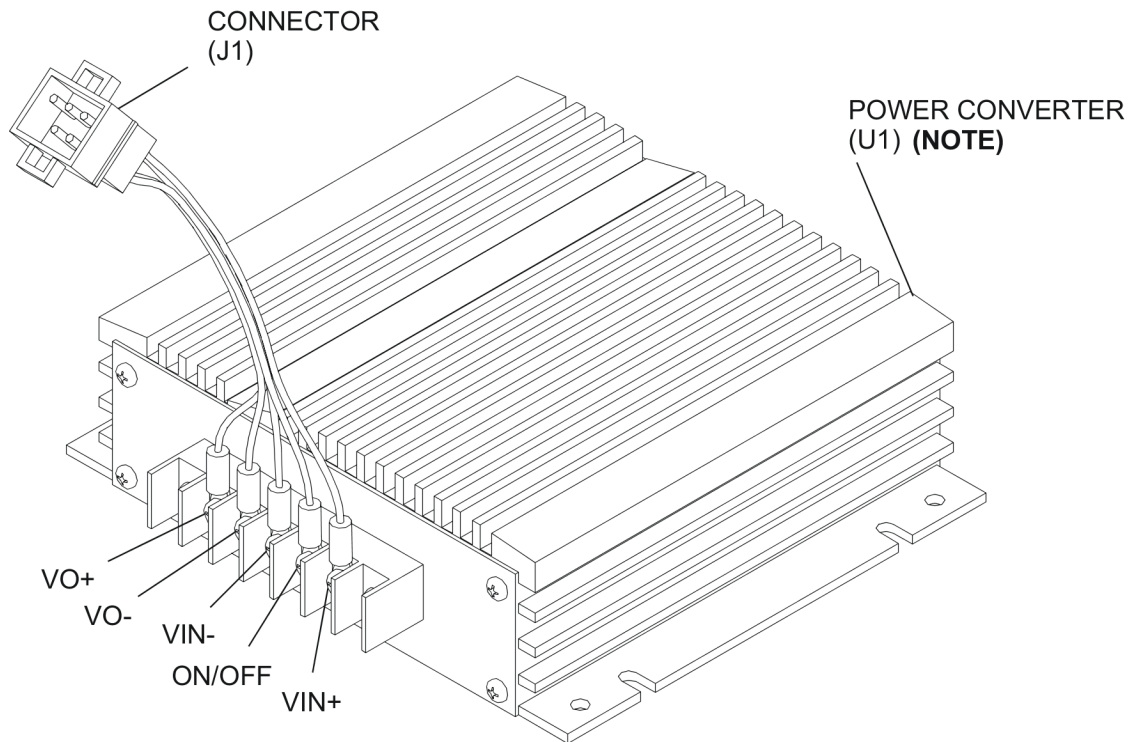
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AA0719T094

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NOTE: THE POWER CONVERTER CAN BE IN DIFFERENT LOCATIONS. IN AIRPLANES WITH THE GARMIN G1000 IT IS IN THE COCKPIT ON THE AFT, RIGHT SIDE OF THE FIREWALL. IN AIRPLANES WITH STANDARD AVIONICS IT IS IN THE TAILCONE.



DETAIL A

0710T1001
A1260T1012

Power Converter
Figure 102 (Sheet 1)

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- (2) Disconnect electrical connector JC024 from the ship-side connector PC024. Refer to 24-50-01, Figure 05 in the Model 182 (Series 1997 and On) Wiring Diagram Manual.
 - (3) Remove the screws that secure the USB Cabin Power Interface to the pedestal cover assembly.
 - (4) Remove the USB Cabin Power Interface from the airplane.
- B. Install the USB Cabin Power Interface (Refer to Figure 101).
- (1) Put the USB Cabin Power Interface in its place on the pedestal cover assembly.
 - (2) Install the screws that secure the USB Cabin Power Interface to the pedestal cover assembly.
 - (3) Connect the electrical connector JC024 to the ship-side connector PC024. Refer to 24-50-01, Figure 05 in the Model 182 (Series 1997 and On) Wiring Diagram Manual.
 - (4) Install the pedestal cover assembly in its place on the airplane. Refer to Chapter 25, Interior Upholstery - Maintenance Practices.
- 5. USB Cabin Power System Test (Airplanes 18283121 and On with USB Cabin Power Interface with NAV III Option)**
- A. Complete a test of the Cabin Power System.
- (1) Locate the USB Cabin Power Interface.
 - (2) Obtain a personal electronic device (PED) and charger cable that are USB compatible.
 - (3) Insert the USB charger cable into the applicable ports on the PED and the USB cabin power interface.
 - (a) The PED should indicate that it is charging.
 - (b) If the PED does not indicate that it is charging, troubleshoot the USB cabin power interface. Refer to the USB Cabin Power Interface Troubleshooting in this document.
 - (4) Locate and disengage the CABIN LTS/PWR (HI506) circuit breaker on the circuit breaker panel.
 - (a) The PED should indicate that it is not charging.
 - (5) Engage the CABIN LTS/PWR circuit breaker.
 - (6) Disconnect the PED and charger cable from the USB cabin power interface.
- 6. USB Cabin Power Interface Troubleshooting (Airplanes 18283121 and On with NAV III Option)**
- A. Complete the USB Cabin Power Interface Troubleshooting.
- (1) Check the CABIN LTS/PWR (HI056) circuit breaker as follows:
 - (a) Make the circuit breaker is engaged.
 - (b) Check the USB cabin power interface for proper operation with a USB compatible PED and charger cable. Refer to the USB Cabin Power System test in this document.
 - 1 If the USB cabin power interface indicates proper operation, return the airplane to service.
 - 2 If the USB cabin power interface does not indicate proper operation with an engaged circuit breaker, go to the next step of the troubleshooting.
 - (2) Check for proper electrical voltage as follows:
 - (a) Get access to the USB Cabin Power Interface wire bundle. Remove the pedestal cover assembly. Refer to Chapter 25, Interior Upholstery - Maintenance Practices.
 - (b) Disconnect electrical connector JC024 from the ship-side connector PC024. Refer to 24-50-01, Figure 05 in the Model 182 (Series 1997 and On) Wiring Diagram Manual.
 - (c) With a voltmeter, check Pin 1 on ship-side electrical connector PC024 for 28 VDC.
 - 1 If there is 28 VDC, replace the USB cabin power interface. Refer to the USB Cabin Power Interface Removal/Installation in this document. Go to the last step of the troubleshooting.
 - 2 If there is no 28 VDC, check the wiring for damage or kinks. Repair or replace any damaged wiring and proceed to the next step.
 - (d) If you repaired wiring for damage/kinks, check Pin 1 on PC024 for 28 VDC.
 - 1 If Pin 1 has 28 VDC, reconnect electrical connectors PC024 and JC024 and go to the next step.
 - 2 If Pin 1 does not have 28 VDC, replace the CABIN LTS/PWR (HI506) circuit breaker and go to the next step. Refer to Chapter 24, Circuit Breaker - Maintenance Practices.
 - (3) Check the USB cabin power interface for proper operation with a USB compatible PED and charger cable. Refer to the USB Cabin Power System test in this document.
 - (a) If the USB cabin power interface indicates proper operation, install the pedestal cover assembly as needed. Refer to Chapter 25, Interior Upholstery - Maintenance Practices.

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- █
- (b) If the USB cabin power interface does not indicate proper operation, contact Textron Aviation Customer Support.

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APPENDIX A: ILLUSTRATED PARTS CATALOG

Nomenclature	Part Number	Quantity
Cover ASSY - Console	0713811-33	1.0
Cover	0713811-34	1.0
LED Panel - Console Cover	9910620-2	1.0
High Power USB Charging Port	6430202-2	1.0
Washer	NAS1515H02L	2.0
Screw	MS35214-13	2.0

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APPENDIX B: WIRING DIAGRAM MANUAL

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WIRING DIAGRAM MANUAL

24-50-01

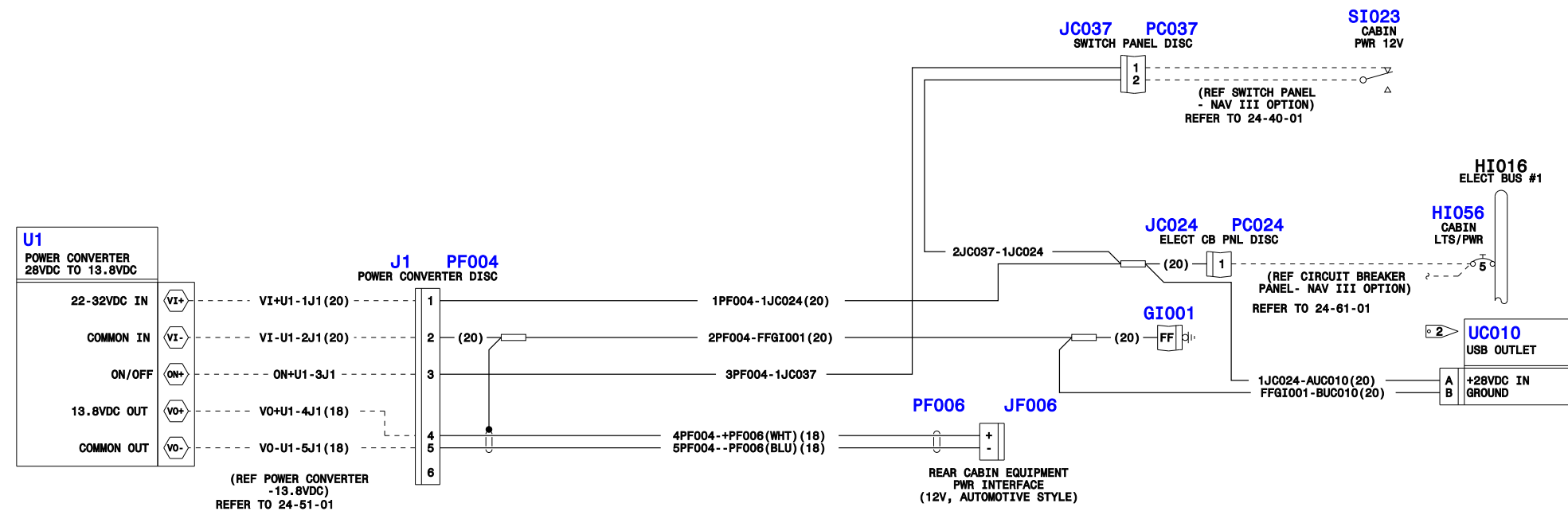
**CABIN EQUIPMENT POWER INTERFACE W/NAV III
OPTION**

AIRPLANES (182) 83121 & ON

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 WIRING DIAGRAM MANUAL

NOTES:

1. ALL WIRE 22AWG, EXCEPT AS NOTED.
2. CONNECTOR KIT COMPRISED OF 43030-0008 SOCKET AND 43645-0200 RECEPTACLE PART OF 6430202 USB INSTALLATION KIT
- *** REFER TO 91-10-01 FOR GROUND INFORMATION



077051615

CABIN EQUIPMENT POWER INTERFACE W/NAV III OPTION
 Figure 05. (Sheet 1)

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MODEL 182 (SERIES 1997 AND ON)
 WIRING DIAGRAM MANUAL

CABIN EQUIPMENT POWER INTERFACE W/NAV III OPTION
AIRPLANES (182) 83121 & ON

REF DES	PART NUMBER	NOMENCLATURE							EFFECTIVITY	UNITS PER ASSY	
		1	2	3	4	5	6	7			
GI001	200838-2	GROUND BLOCK (ZONE 211)							00779	(182) 83121 & ON	01
	201846-1	. CLAMP KIT							00779		01
	S2099-13	. CONTACT									02
	S2099-3	. CONTACT									AR
	S2099-4	. CONTACT							00779		AR
	203618-1	. JACKSCREW							00779		AR
	AN340-3	. NUT							88044		AR
	AN515-3R6	. SCREW							88044		AR
HI056		CIRCUIT BREAKER - CABIN LIGHTS/POWER									RF
J1	39-0050588-00	CONNECTOR - STROBE DISCONNECT (ZONE 121)							10402	(182) 83121 & ON	01
	39-0403023-04	. CONTACT							10402		01
JC024	S2350-4	CONNECTOR - ELECTRICAL CIRCUIT BREAKER PANEL DISCONNECT (ZONE 220)								(182) 83121 & ON	01
	S2353-4	. CONTACT									02
	S2353-5	. CONTACT									01
JC037	S2350-5	CONNECTOR							00779	(182) 83121 & ON	01
	S2353-5	. PIN									AR
JF006		CONNECTOR									RF
PC024	S2349-3	CONNECTOR - ELECTRICAL CIRCUIT BREAKER PANEL DISCONNECT (ZONE 220)								(182) 83121 & ON	01
	S2099-1	. CONTACT									01
	S2099-2	. CONTACT									01
	S2099-3	. CONTACT									01
	S2099-4	. CONTACT							00779		01
	PC037	S2349-2	CONNECTOR								
	S2099-4	. CONTACT							00779	AR	
PF004	S1641-6	CONNECTOR								(182) 83121 & ON	01
	S1636-1	. CONTACT									03
	S1636-2	. CONTACT									02
PF006	926522-1	CONNECTOR							00779	(182) 83121 & ON	01
	1-160759-1	. CONTACT							00779		AR
SI023		SWITCH - CABIN POWER									RF
U1		SENSOR - CURRENT									RF
UC010		USB OUTLET									RF