TEXTRON AVIATION INC.
AIRCRAFT DIVISION
WICHITA, KANSAS 67277

USB Cabin Power Interface for NAV III Option Airplanes

ICA Supplement

MODEL NO: 172

SUPPLEMENT NO: ICA-172-24-00002
SUPPLEMENT DATE: 12/23/2020

TEXTRON AVIATION INC.
AIRCRAFT DIVISION
WICHITA, KANSAS 67277

REVISIONS

ICA-172-24-00002	Rev: -	Date: Dec 23, 2020
ICA Summary	Pages 1-6	
Manuals Affected	**Description**	**Title**
Maintenance Manual	24-60-02 pages 201-205	12-Volt Cabin Power System
• 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	See Appendix A	See Attached Parts Table.
Appendix B: Wiring Diagram Manual	24-50-01 Figure 06 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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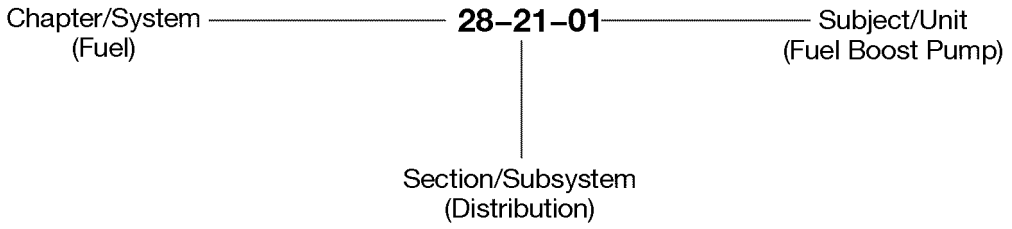


B. When the chapter/system element number is followed with zeros in the section/subsystem and subject/unit element number (28-00-00), the information is applicable to the entire system.

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.

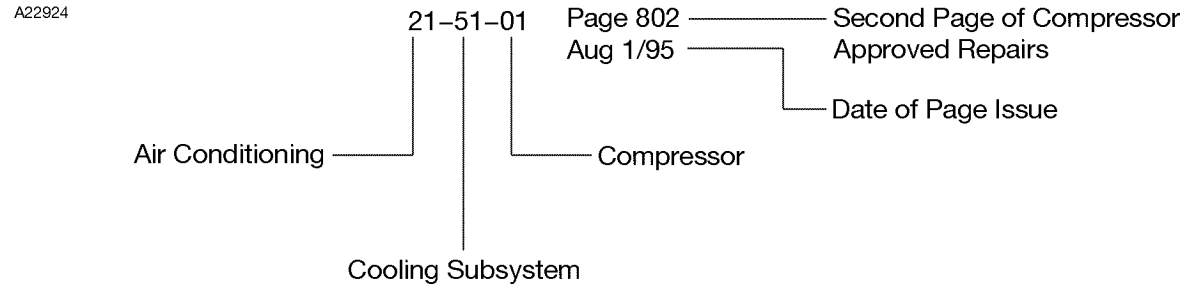
E. All system/subsystem/unit (chapter/section/subject) maintenance data is separated into specified types of information: Description and Operation, Troubleshooting, Maintenance Practices, etc. Blocks of page numbers that are in sequence are used to identify the type of information:

(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:



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.

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 Cabin Power Interface Update for NAVIII Option Airplanes on the Cessna Model 172 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 172 (Series 1996 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 172 (Series 1996 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
172S	12609	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 172. All items must be available to the operator at initial delivery.
(1) Model 172 (Series 1996 and On) Maintenance Manual
(2) Model 172 (Series 1996 and On) Wire Diagram Manual
(3) Model 172 (Series 1996 and On) Illustrated Parts Catalog

4. System Components

A. Refer to Appendix A: Illustrated Parts Catalog

B. Refer to Appendix B: Wiring Diagram Manual

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LIST OF INSTRUCTIONS FOR CONTINUED AIRWORTHINESS

1. Model 172 (Series 1996 and On) Maintenance Manual

A. Chapter 24 - Electrical Power
(1) Refer to Chapter 24-60-02 - 12-Volt Cabin Power System - Maintenance Practices

2. Model 172 (Series 1996 and On) Wiring Diagram Manual

A. Chapter 24 - Electrical Power
(1) Refer to Appendix B, 24-50-01, Figure 06 - Cabin Equipment Power Interface, 172S12609 and On, with NAVIII Option.

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 172 (Series 1996 and On) Maintenance Manual, Chapter 4, Airworthiness Limitations, contains the system and airframe limitations for the Model 172.

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.

12-VOLT CABIN POWER SYSTEM - MAINTENANCE PRACTICES

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.

B. 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.

C. Airplanes 172S12609 and On with the NAV III option have a USB cabin power interface installed in the pedestal. This 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.

2. 12 Volt DC Power Converter Removal/Installation (Firewall Installation)

NOTE: All G1000 equipped airplanes prior to the model year 2008 have the power converter mounted on the firewall.

A. Remove the Power Converter (Refer to Figure 201).
   (1) Put the MASTER switch in the off position.
   (2) Put the AVIONICS switch in the off position.
   (3) Remove the Multi-Function Display (MFD). Refer to Chapter 34, Control Display Unit - Maintenance Practices .
   (4) Disconnect the electrical connector.
   (5) Remove the screws.
   (6) Remove the unit from the airplane.

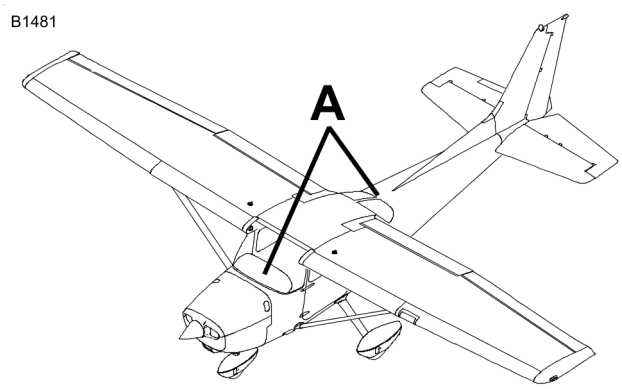
B. Install the Power Converter (Refer to Figure 201).
   (1) Install the power converter with screws
   (2) Connect the electrical connector.
   (3) Install the MFD. Refer to Chapter 34, Control Display Unit - Maintenance Practices.
   (4) Check the cabin power system for correct operation. Refer to Cabin Power System Test

3. 12 Volt DC Power Converter Removal/Installation (Tailcone Installation)

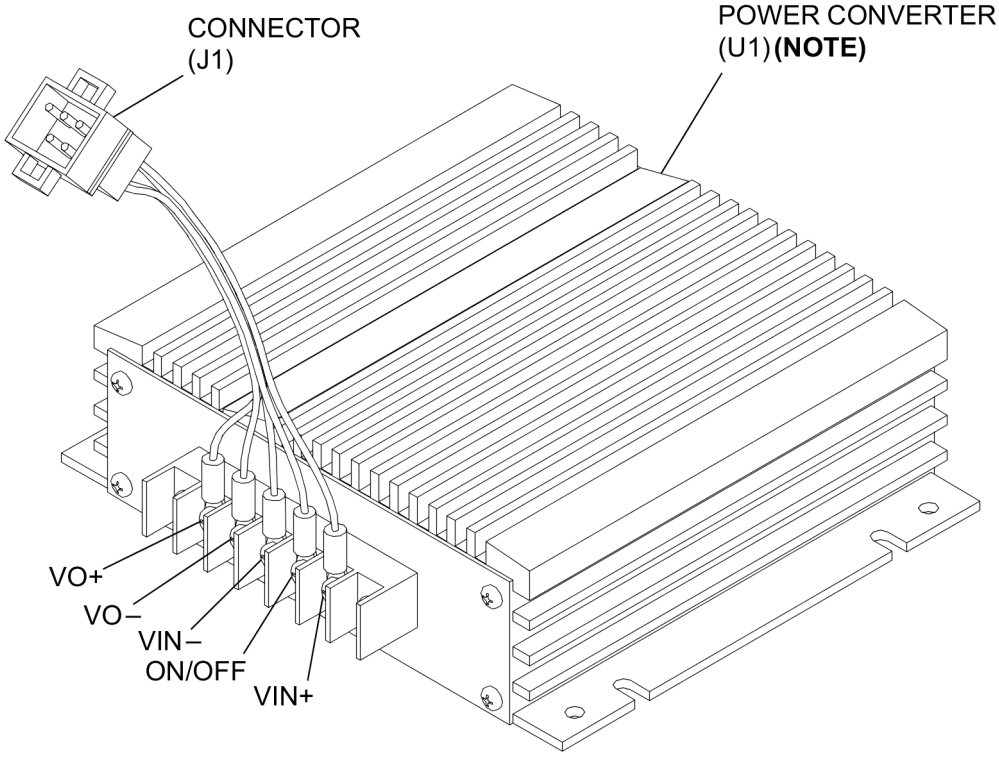
NOTE: All non G1000 airplanes and G1000 equipped airplanes model year 2008 and On have the power converter mounted in the tailcone

A. Remove the Power Converter (Refer to Figure 201).
   (1) Put the MASTER switch in the off position.
   (2) Put the AVIONICS switch in the off position.
   (3) Get access to the power converter through the baggage compartment door on the left side.
      (a) Remove the upper baggage closeout from the baggage area . Refer to Interior Upholstery-Maintenance Practices .
   (4) Disconnect the electrical connector.
   (5) Remove the screws.
   (6) Remove the unit from the airplane.

B. Install the Power Converter (Refer to Figure 201).
   (1) Install the power converter with screws
   (2) Connect the electrical connector.
   (3) Install the upper baggage closeout from the baggage area . Refer to Interior Upholstery-Maintenance Practices .
   (4) Check the cabin power system for correct operation. Refer to Cabin Power System Test



NOTE: THE POWER CONVERTER CAN BE IN DIFFERENT LOCATIONS.



DETAIL A

0510T1007
A1260T1012

12 Volt DC Power Converter Removal/Installation
Figure 201 (Sheet 1)

4. Cabin Power System Test

A. Complete a Test of the Cabin Power System.
(1) Make sure the ALT/BAT Master switch is in the ON position.
(2) For airplanes with serials 1728001 thru 17281142 and airplanes 172S8001 thru 172S9288, you will have to 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. Refer to Figure 202
(4) If the correct voltage is not shown, do the troubleshooting of the Power Converter.

5. Power Converter Troubleshooting

A. Troubleshoot the Power Converter (Refer to Figure 201 and to the Model 172 Wire Diagram Manual, Chapter 24, Power Interface).
(1) Disconnect the connector (JI).
(2) Make sure there is approximately 24-Volts between VI+ and VI- at the aircraft side of the connector (JI).
(3) Make sure there is approximately 24-Volts between the ON/OFF and VI- at aircraft side of the connector (JI).
(4) If there is no voltage, make sure the wiring from the power convertor to the connector (JI) is not damaged or has a bad connection.
(a) Repair or replace the connector (JI) or the wiring as necessary.
1 Attach the connector (JI).
2 Make sure the cabin power interface operates correctly. Refer to Cabin Power Interface.
(5) If the cabin interface does not operate correctly, make sure the pins VO+ and VO- at the converter have an output of 13.4 +0.9 or -0.9 volts.
(a) If the correct voltage is supplied, do a check of the continuity from the aircraft side of the connector (J1) to the cabin power interface (JC022 automotive style) or (JC008 airline style).
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.

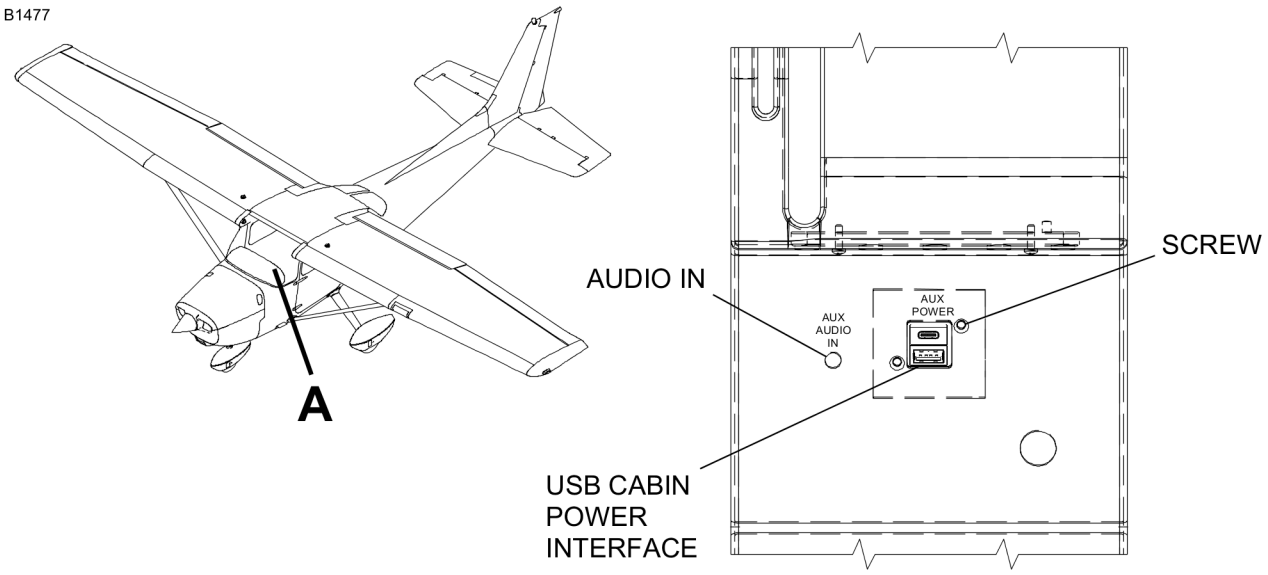
6. USB Cabin Power Interface Removal/Installation (Airplanes 172S12609 and On with NAV III Option)

A. Remove the USB Cabin Power Interface (Refer to Figure 202).
(1) Get access to the USB Cabin Power Interface wire bundle. Remove the pedestal cover assembly. Refer to Chapter 25, Interior Upholstery - Maintenance Practices.
(2) Disconnect electrical connector JC024 from the ship-side connector PC024. Refer to 24-50-01, Figure 06 in the Model 172 (Series 1996 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.

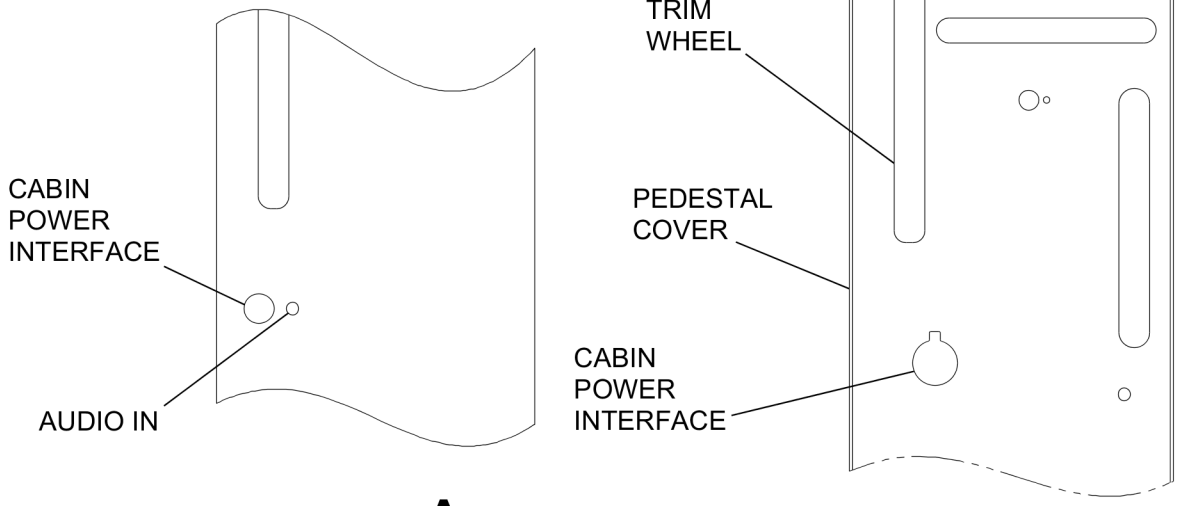
B. Install the USB Cabin Power Interface (Refer to Figure 202).
(1) Put the USB Cabin Power Interface in its place on the pedestal cover assembly.
(2) Install the screws that secure the USB Cabin Power Interface to the pedestal cover assembly.
(3) Connect the electrical connector JC024 to the ship-side connector PC024. Refer to 24-50-01, Figure 06 in the Model 172 (Series 1996 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.

7. USB Cabin Power System Test (Airplanes 172S12609 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.



DETAIL A
AIRPLANES 172S12609 AND ON



DETAIL A
AIRPLANES 17280001 THRU 17281142 AND
AIRPLANES 172S8001 THRU 172S9288

DETAIL A
AIRPLANES 17281143 AND ON AND
AIRPLANES 172S9289 AND ON

0510T1007
A0519T103
A0719T1031
A0719T1032

Cabin Power Interface
Figure 202 (Sheet 1)

(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.
(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.

8. USB Cabin Power Interface Troubleshooting (Airplanes 172S12609 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 06 in the Model 172 (Series 1996 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.
  (b) If the USB cabin power interface does not indicate proper operation, contact Textron Aviation Customer Support.

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SUPPLEMENT NO: ICA-172-24-00002

APPENDIX A: ILLUSTRATED PARTS CATALOG

Nomenclature	Part Number	Quantity
0519103-6	Pedestal Cover Assembly	1.0
0519103-7	Pedestal Cover	1.0
0519103-8	Doubler	1.0
MS35198-13	Screw	2.0
MS35214-14	Screw	2.0

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APPENDIX B: WIRING DIAGRAM MANUAL

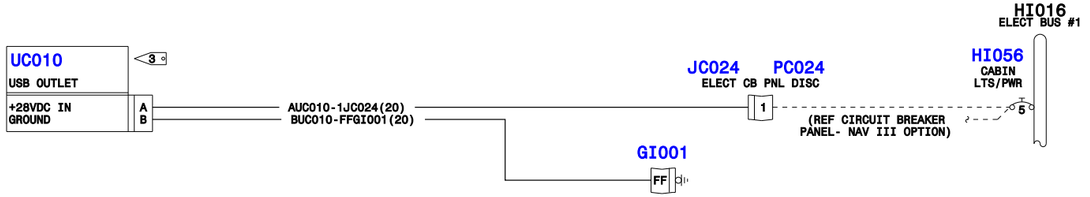
24-50-01

CABIN EQUIPMENT POWER INTERFACE

AIRPLANES (172S) 12609 & ON WITH NAV III OPTION

NOTES:

1. ALL WIRE 22AWG, EXCEPT AS NOTED.
3 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.



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CABIN EQUIPMENT POWER INTERFACE
Figure 06. (Sheet 1)

CABIN EQUIPMENT POWER INTERFACE

AIRPLANES (172S) 12609 & ON WITH NAV III OPTION

REF DES	PART NUMBER	NOMENCLATURE 1 2 3 4 5 6 7		EFFECTIVITY	UNITS PER ASSY
GI001	200838-2	CONNECTOR - GROUND (ZONE 211)	00779	(172R) 80884 & ON (172S) 8403 & ON	01
	201846-1	. CLAMP KIT	00779		01
	S2099-3	. CONTACT		(172R) 81143 & ON	AR
	203618-1	. JACK SCREW	00779		AR
	AN340-3	. NUT	88044		AR
	S2099-4	. SOCKET	00779	(172R) 80001 - 81142	AR
HI056	S2899L5.0	CIRCUIT BREAKER - CABIN LIGHTS POWER (ZONE 224) * AIRPLANES (172R) 81241 & ON WITH NAV III OPTION * AIRPLANES (172S) 9810 & ON WITH NAV III OPTION	82647	(172R) *81241 & ON (172S) *9810 & ON	01
JC024	S2353-5	PIN		(172S) 12609 & ON	1
PC024	S2349-3	CONNECTOR - CIRCUIT BREAKER PANEL DISCONNECT (ZONE 224)		(172R) 81241 & ON (172S) 9810 & ON	01
	S2099-3	. CONTACT			AR
	S2099-4	. CONTACT	00779		AR
UC010		USB OUTLET			RF