

VSP-35  
April 21, 1982

To:

All Affected Piper CORPAC's and Distributors

Subject:

Global Navigation Service Bulletin No. 21  
(Highly recommends modification to the  
battery charging card which is installed in  
Optional Equipment Unit P/N 10600-2-2XX.)

Models Affected:

PA-31-350 Chieftain  
PA-42 Cheyenne III  
PA-31T Cheyenne II  
PA-31T1 Cheyenne I  
PA-31T2 Cheyenne II XL

Applies only to aircraft with Global GNS-500A  
Series 2A, 2M, 3A and 3B installed. Refer  
to attached Global Navigation Service Bulletin  
No. 21 to identify specific affected installations.

Purpose:

To distribute the attached Global Navigation publication to Piper CORPACs/Distributors.  
Detailed instructions relative to compliance are contained in that attached publication;  
additional/supplemental data is contained in the following "Special Instructions".

SPECIAL INSTRUCTIONS

Please insure that all aircraft owners/operators in your  
area are aware of the provisions of the attached Global  
Navigation Service Bulletin. All material and labor credit  
will be issued through Global Navigation Sundstrand Corporation.

ATA: 3400



# Global Navigation

A UNIT OF SUNDSTRAND CORPORATION  
2144 MICHELSON DRIVE, IRVINE, CA 92715 USA  
TELEX 68-1340 • TWX 910-595-2451 • TEL (714) 851-0119

# SERVICE BULLETIN

## MODIFICATION OF BATTERY CHARGING CARD P/N 11745-1

### A. EFFECTIVITY

This service bulletin is to be accomplished as soon as possible. This bulletin is applicable to Series 2A, 2M, 3A and 3B Systems with Optional Equipment Unit (OEU) P/N 10600-2-2XX incorporating battery charging board, P/N 11745-1, Rev. F or below.

### B. BACKGROUND

There have been two verified service failures of battery charging card P/N 11745-1 in which the card overheated. Global has identified the cause and is modifying all P/N 11745-1 boards in stock and in service through a field modification program.

The boards in service and in spares should be modified by cutting two tracks and installing jumper wires per Section D.

The Engineering Order implementing this change is 247. Any P/N 11745-1 board Rev. F and below which is field modified will be identified by "SB0021" marked on the board. Any board modified at Global will be marked E.O. 247. New production boards will be marked Revision G or subsequent.

### C. DESCRIPTION

The modification of the charging board is accomplished by cutting two tracks and replaced with jumper wires. After modification the board should be marked "SB0021".

### D. PROCEDURE

- (1) Remove top cover from OEU P/N 10600-2-2XX.
- (2) Remove battery charging card P/N 11745-1 from Slot J2 in OEU.
- (3) Perform the following impedance check using a digital multimeter with a minimum input impedance of 10 Megohms.
  - (a) Connect positive lead to Pin 1 on connector. See Figure 1 (Sheet 1).
  - (b) Connect negative lead to Pin 24 (ground). See Figure 2.

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- (c) Check potentiometer R35 for resistance value. Resistance value may either be 20K ohms or 2K ohms. See Figure 1 (Sheet 1).

NOTE: The part number on the potentiometer, either 66WR20K or 66WR2K, will determine whether R35 is a 20K ohm or 2K ohm device.

- (d) Measure resistance. If R35 is 20K ohms, measured value should be 100K ohms minimum. If R35 is 2K ohms, the value should be 20K ohms minimum.

- (e) If value does not meet criteria of Step (d) return board to Global for exchange.

- (4) Remove keying pin from connector at end adjacent to Pin 1. See Figure 1 (Sheets 1 and 2).

- (5) Cut tracks at location A (under Pin 1) and at location B (on track near R37) with an Exacto knife or equivalent. See Figure 1 (Sheets 1 and 2).

NOTE: In cutting the track at least 0.050 inch of track should be removed at each location.

- (6) On solder side of board, cut tracks at locations C and D, removing at least 0.050 inch of track at each location. See Figure 2.

- (7) Perform continuity check between the following and verify that the circuit is open. See Figure 1.

(a) Pin 1 on connector and R37.

(b) Pin 23 on connector and negative terminal on VR-5.

- (8) Solder a 4 inch, 22 gage bus wire covered with teflon sleeving between Pin 23 and negative terminal on VR-5. Trim and dress wire to look neat. See Figure 3.

NOTE: A solid conductor, 22 gage teflon wire may be substituted for sleeved 22 gage bus wire.

- (9) Solder a 1.25 inch 22 gage bus wire covered with teflon sleeving between Pin 1 on connector and resistor R18. Trim and dress wire to look neat. See Figure 3.



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- (10) Perform continuity check between the following and verify that continuity is present.
  - (a) Pin 1 and R18.
  - (b) Pin 23 and negative terminal on VR-5.
- (11) Touch up conformal coating as necessary in modified area with Hysol PC 28 or equivalent.
- (12) Tack wires down with Loctite Tak-pak or equivalent in areas shown in Figure 3.
- (13) Install keying pin in connector and set pin to position 'D'.
- (14) Mark "SB0021" on board with indelible ink under part number on solder side of board. See Figure 2.
- (15) Install board in Slot J2 of OEU and reinstall top cover.
- (16) Functional check battery charging card per Report 1060 Appendix B, 1096 or 1113 as applicable by performing the following tests.
  - (a) STANDBY BATTERY SHUTDOWN AND CROSS-OVER VOLTAGE TEST.
  - (b) BATTERY CHARGING CURRENT TEST.

## E. APPROVAL

This modification is FAA approved.

## F. MANPOWER

2 Hours for modification and checkout.

## G. MATERIAL

1 ea. bus wire, 22 gage, 1.25 in. length  
1 ea. bus wire, 22 gage, 4 in. length  
1 ea. teflon sleeving, 1.25 in.  
1 ea. teflon sleeving, 4 in.  
Hysol PC 28 or equivalent  
Loctite Tak-pak or equivalent

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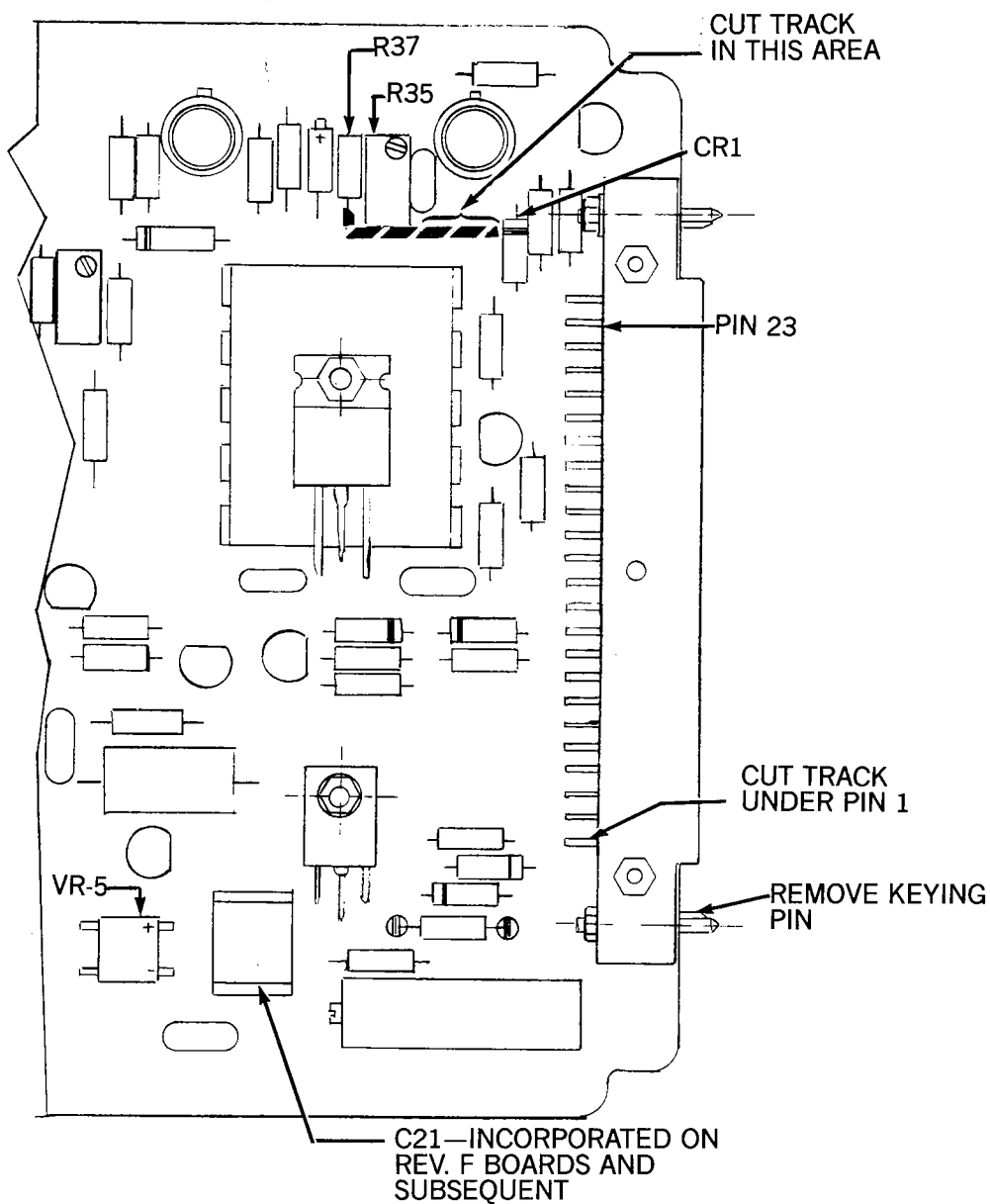


Figure 1 (Sheet 1)

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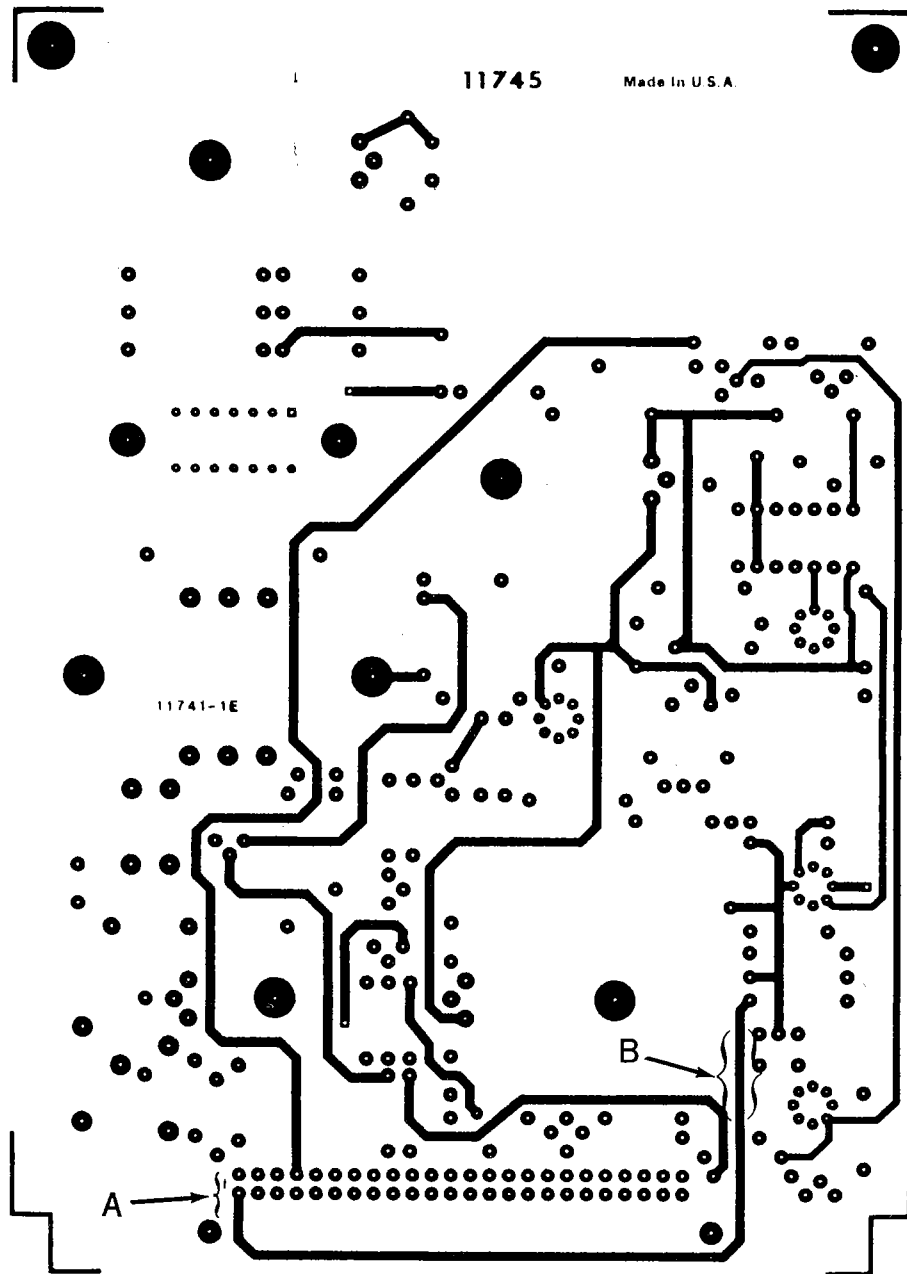
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COMPONENT SIDE OF BOARD  
Figure 1 (Sheet 2)

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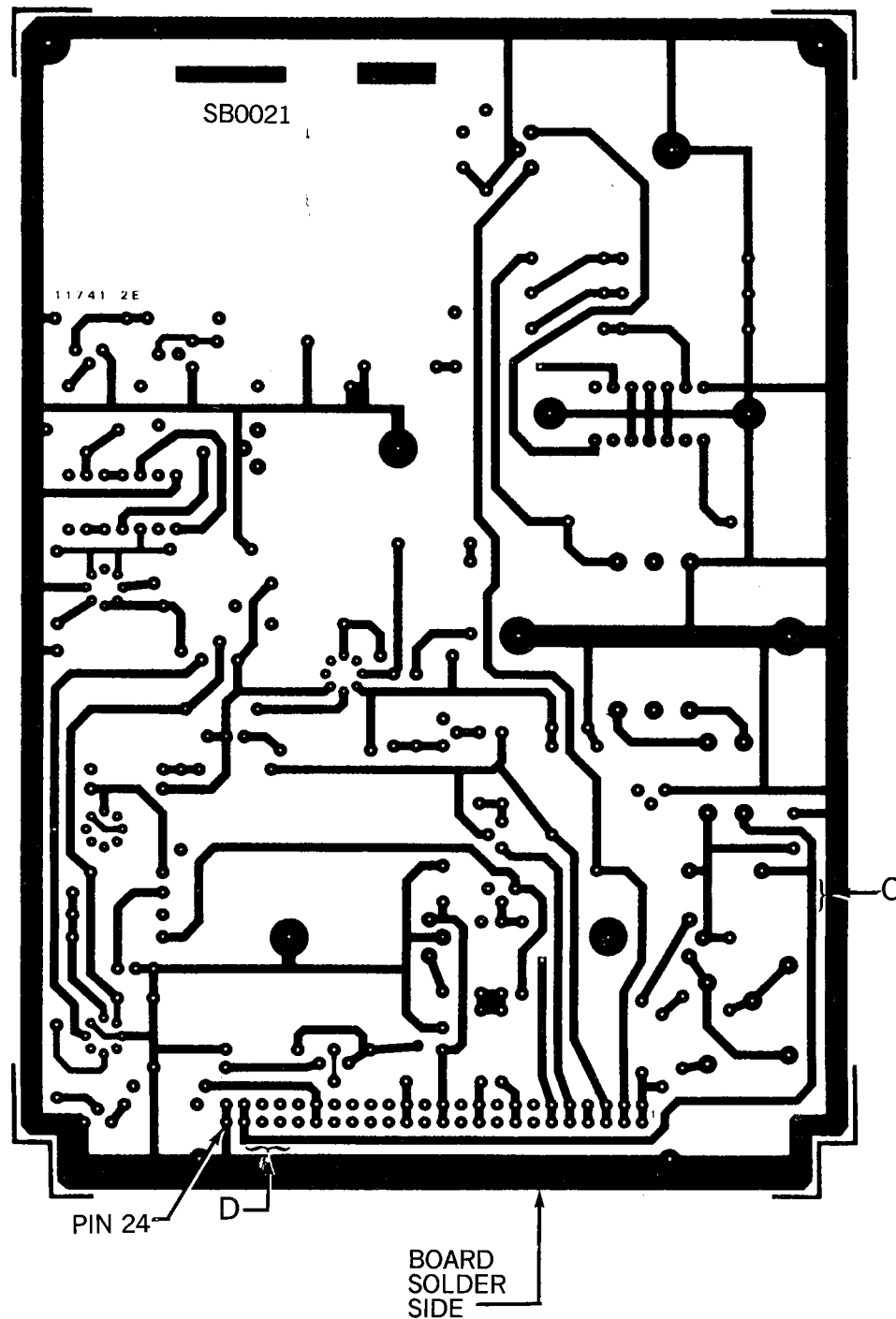


Figure 2

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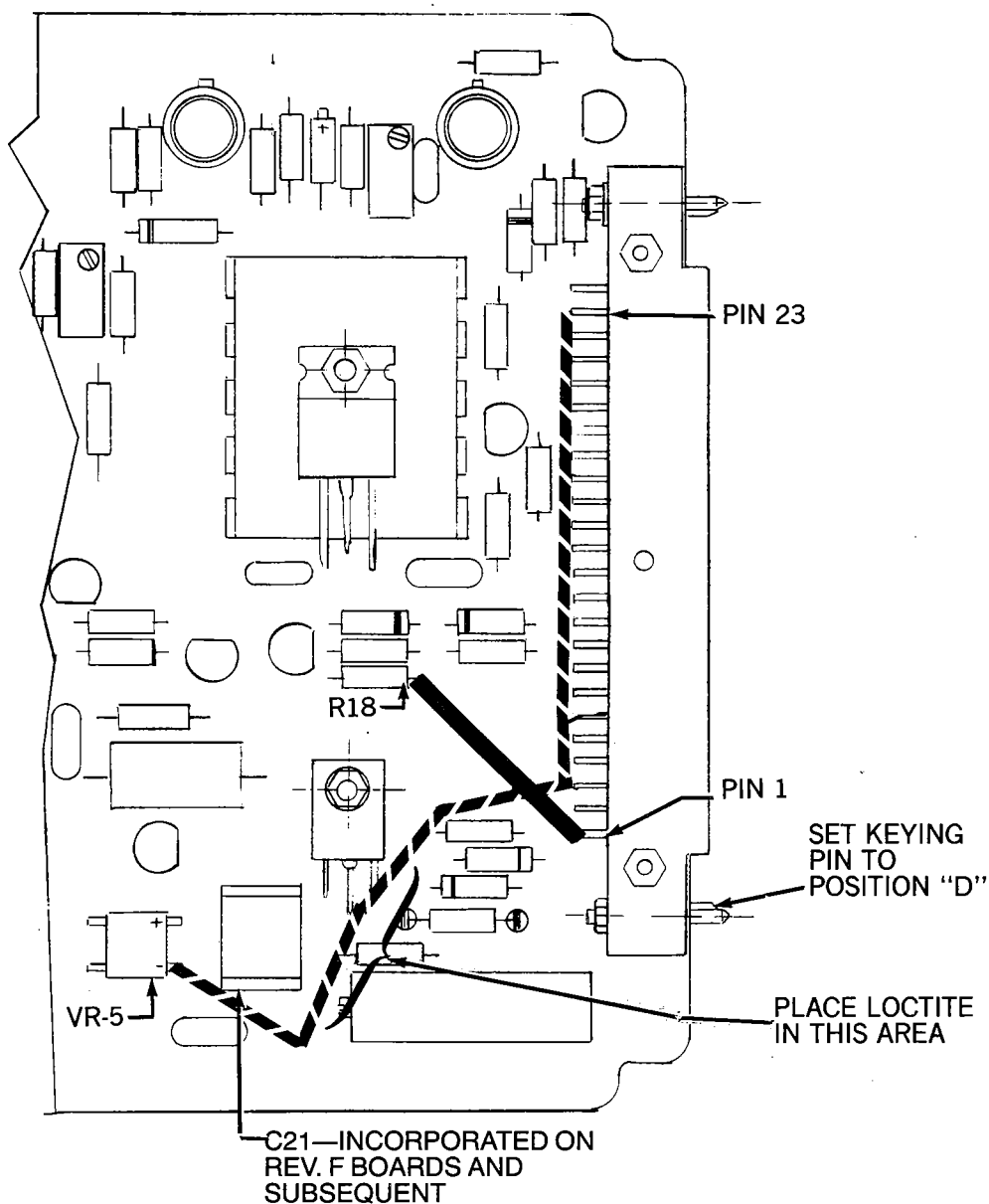


Figure 3

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