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# SERVICE BULLETIN

## INTRODUCTION OF FLITETRONICS PC125 INVERTER AS A REPLACEMENT FOR THE PC14C (BASIC) OR P14B(A) (MOD N228) TYPE INVERTERS

### 1. PLANNING INFORMATION

#### A. Effectivity

All Nomad N22-Series and N24-Series aircraft whose log books do not already record the embodiment of Mod N385 or compliance with Service Bulletin NMD-24-4.

Pre-certification implementation of the intent of this service bulletin is recorded in the airframe log book as Mod N385.

(1) Spares Affected

None.

#### B. Reason

Stocks of inverters type PC14C and PC14B(A) are limited and type PC125 is introduced as a replacement for both the PC14C and PC14BI(A) inverters when existing stocks are exhausted.

#### C. Description

When inverters type PC14C or PC14B(A) become unserviceable and existing stocks of the same type are unavailable, inverter type PC125 may be used as a replacement. If a type PC14C inverter is being replaced (Ref Para 2 Part A) the connector PN CA3106R145-5S/F8 (Ref IPC 24-20-0 Figure 1 item 3) is replaced by connector PN CA3106RAS-6S/F8 accompanied by changes in wire connections, the addition of another earth wire and the addition of a resistor between the inverter selector switch and earth (Ref Figure 1). Should an inverter type PC14BI(A) (Post Mod N228) become unserviceable no change of connector is needed, however an earth wire from Pin E of the existing connector to earth is added and a resistor is fitted between the inverter selector switch and earth (Ref Para 2. Part B.). The PC125 type inverter can be mounted exactly in the same location as that of the PC14C and PC14BI(A) type inverters using the same attaching parts.

#### D. Compliance

It is recommended that operators should replace the PC14C or PC14B(A) type inverters when they become unserviceable, and cannot be repaired, with a PC125 type inverter as detailed in Para 2. Part A. or Part B. as appropriate.

#### E. Approval

The rework detailed herein has been approved pursuant to Air Navigation Regulation 4 and conforms with the type certification requirements.

#### F. Manpower

Four Manhours.

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### G. **Material, Price and Availability**

Refer to Para 3.

### H. **Tooling, Price and Availability**

None Required.

### I. **References**

Maintenance Manual

Illustrated Parts Catalogue

### J. **Publications Affected**

Maintenance Manual

Illustrated Parts Catalogue

Wiring Diagram Manual.

## 2. **ACCOMPLISHMENT INSTRUCTIONS**

### A. **Part A – Replacement of Inverter Type PC14C with Inverter Type PC125 (Ref Figure 1)**

- (1) Remove the inverter type PC14C (Ref IPC Chap 24–20–0 Figure 1 item 7) from the aircraft (Ref MM Chap 24–20–00). Retain the attaching parts and note the order of assembly of wires and washers at the top two attaching points.
- (2) Remove the connector PN CA3106R14S–5S/F8 from the cable assembly and replace with connector PN CA3106R14S–6S/F8 connecting the wires to the connector pins as shown in Figure 1.

#### **NOTE**

A new wire manufactured from 22 AWG and identified V4A22N (MAIN inverter installation) or V9A22N (ALTN inverter installation) is to be connected between Pin E and the same earthing point as wire V3A14N or V8A14N as appropriate.

- (3) Install the replacement inverter type PC125 onto the inverters mounting panel with the connector uppermost and reassemble the earthing wires and washers as noted in step (1) at the two top attachment positions.
- (4) Connect the replacement connector (Ref step (2)) to the replacement inverter.
- (5) Obtain a suitable length of heat shrink sleeving, fit sleeving over a 15 ohm 6 watt resistor PN 5905–99–014–0413 (or equivalent) and shrink the sleeving.
- (6) Crimp a lug PN MS25036–102 on each end of the resistor pigtails.
- (7) Using a No.28 drill (9/64 inch dia), drill a hole through the metal generator switch panel on the overhead console (Ref IPC Chap 39–10–03 Figure 1 item 3). The hole is to be in line with the two forward screws attaching the panel to the overhead console structure and directly in front of the forward panel light.

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- (8) Gain access to the inside of the metal generator switch panel and adhere the resistor to the panel with Araldite AW106/HV953U so that the resistor can be connected between terminal No.1 of the inverter selector switch (Ref IPC Chap 24-20-00 Figure 1 item 21) and the metal generator switch panel at the newly drilled hole.
- (9) When the Araldite has cured, connect the resistor to terminal No.1 of the inverter selector switch and secure the other end lug of the resistor to the metal generator panel using the following items:

Item PN	Qty	Title
MS35206-228	1	Screw UNC 6-32
AN960-6L	2	Washer UNC 6-32
AN960-D6	1	Washer UNC 6-32
MS35338-41	1	Lockwasher UNC 6-32
MS21033-NO6	1	Locknut UNC 6-32

### NOTE

The assembly of the above items and the resistor terminal lug to the metal generator switch panel is to be in accordance with MM Chap 20-20-00 Figures 1, 3 and 7.

- (10) Refit the metal and plastic generator switch panels to the overhead console.
- (11) Test the AC generation system (Ref MM. Chap 24-20-00).

### B. Part B- Replacement of Inverter Type PC14B(A) with Inverter Type PC125

- (1) Remove the inverter type PC14B(A) (Ref IPC Chap 24-20-00 Figure 1 item 7) from the aircraft (Ref MM. Chap 24-20-00). Retain the attaching parts and note the order of assembly of the earthing wires and washers at the two top attachment positions.
- (2) Manufacture a new earthing wire from 22 AWG and long enough to connect between Pin E of the cable assembly connector and the top left hand earthing point. The new wire is to be identified V14A22N (MAIN inverter installation) or V15A22N (ALTN inverter installation). Connect the wire to Pin E of the connector.
- (3) Install the replacement inverter type PC125 onto the inverters mounting panel with the connector uppermost and reassemble the earthing wires and washers as noted in step (1) at the two top attachment positions.
- (4) Install a resistor PN 5905-99-014-0413 between terminal No.1 of the inverter selector switch and the metal generator switch panel as detailed in Para 2. Part A. steps (5) to (11) inclusive.
- (5) After satisfactory test of the AC generation system, refit all panels removed to gain access to the inverter installation and inverter selector switch in the overhead console.

## 3. MATERIALS INFORMATION

### A. Parts Required per Inverter Replacement

Inverters type PC125 are to be obtained from Flitetronics Inc., 2525N Naomi Street, Burbank, California, U.S.A. or their agents or from the operator's local distributor.

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The following items are to be obtained from the operator's stock or local sources.

Item PN	Qty / Inverter	Title
*CA3106R14S-6S/F80	1	Connector
	AR	Electric wire 14AWG and 22AWG

Item PN	Qty / Aircraft	Title
5905-99-014-0413	1	Resistor, 15 ohm, 6 watt
MS25036-102	2	Terminal lug
AW106/HV953U	A/R	Epoxy Resin Adhesive-Araldite
MS35206-228	1	Screw, UNC 6-32
AN960-6L	2	Washer, steel, flat UNC 6-32
AN960-D6	1	Washer, al.alloy, flat UNC 6-32
MS35338-41	1	Lockwasher UNC 6-32
MS21083-NO6	1	Nut, self-locking UNC 6-32

\*This item only required when an inverter type PC14C is being replaced by an inverter type PC125.

**B. Parts Modified and Re-identified by the Operator**

None

**C. Parts Required to Modify Spares**

None

**D. Removed Parts**

Item PN	Qty	Title	Recommended Disposition
PC14C or	On condition	Inverter	Repair or scrap
PC14B(A)		Inverter	if not repairable
CA3106R14S-5S/F80	1	Connector *	Return to store

\* When inverter type PC14C is being replaced.

**4. SPECIAL TOOLS AND EQUIPMENT REQUIRED**

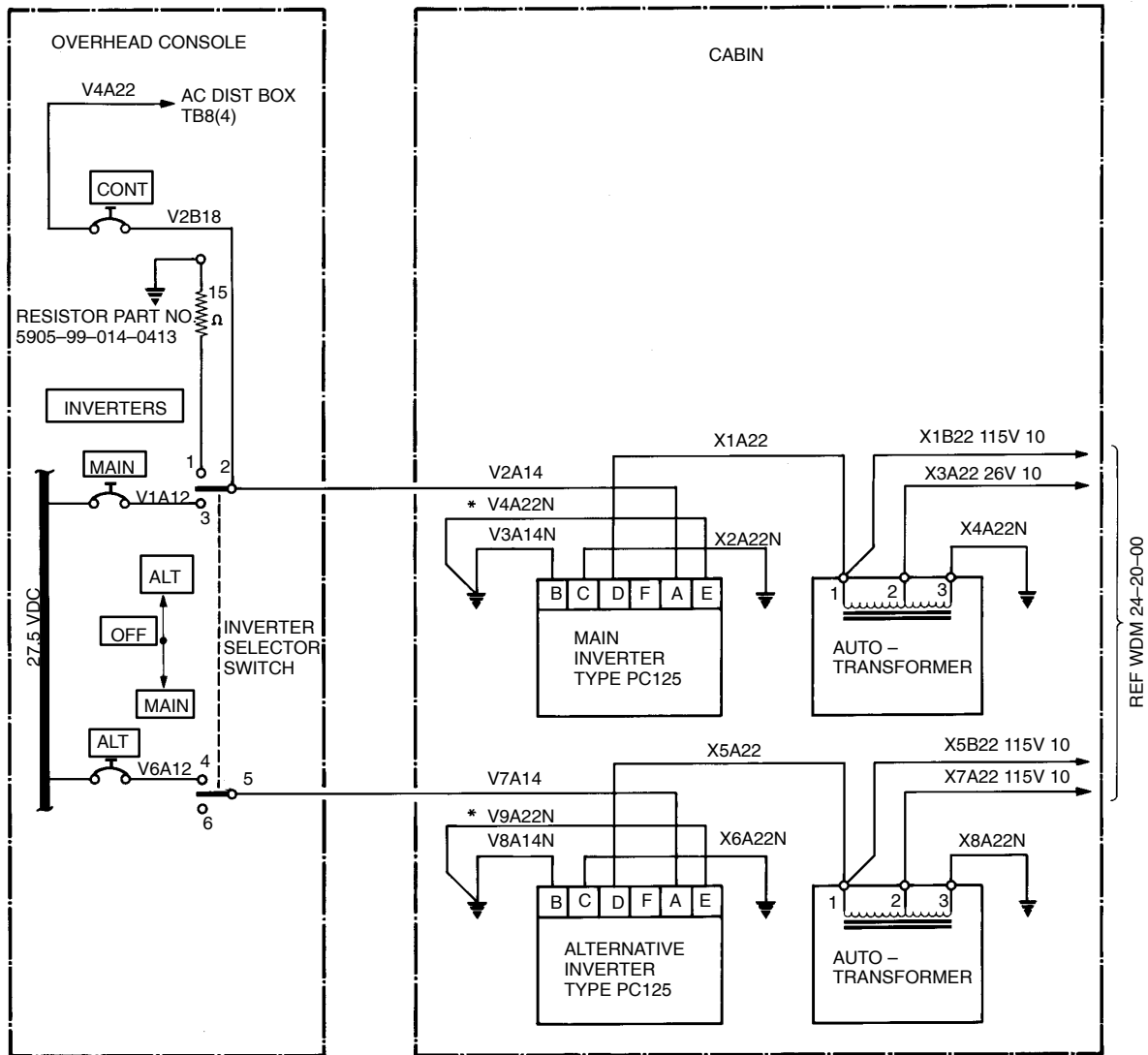
None

**5. RECORDING ACTION**

Record compliance with Service Bulletin NMD-24-4 in the airframe log book.

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\* NEW EARTH WIRE

Figure 1 Conversion From Inverter Type PC14C To Inverter Type PC125