

SERVICE BULLETIN

SERVICE BULLETIN NO: 24-010

REF NO: 076

MODIFICATION NO: 98 0130

ATA CHAPTER: 24

ELECTRICAL POWER - DC GENERATION REPLACEMENT OF GENERATOR 2

1. Planning Information

A. Effectivity

All PC-12 and PC-12/45 aircraft from MSN 101 up to and including MSN 230.

This Service Bulletin (SB) will be incorporated prior to delivery on aircraft MSN 231 and subsequent.

Revision 1 of this SB:

- Changes the format to the current SB standard.
- Includes the necessary data and instructions to change the location (if installed) of the voltage-spike suppression filter in the Generator 2 electrical system (Ref. SB 24-012). It is possible for mandatory SB 24-012 to be incorporated on the aircraft before the incorporation of this SB. SB 24-012 includes the installation of the voltage-spike suppression filter. The location of this component must be changed when the Generator 2 is replaced.
- Includes a new table (Additional Material to be Procured) which contains the Generator 2 Assembly. The Generator 2 Assembly is not supplied with the modification kit because it is possible for the Operator to order a new or an exchange item.
- Contains minor text changes.

B. Concurrent Requirements

SB 24-009 (Electrical Power - DC Generation - Installation of a Cut-out Relay) and SB 24-012 (Modification of the GEN 2 Excitation) must be incorporated concurrently or before this SB.

C. Reason

Replacement of the Generator 2 (P/N 524.32.12.147) with a new generator (P/N 524.32.12.158).

D. Description

This SB gives the data and instructions necessary to replace the:

- Generator 2
- Drive housing assembly
- Related electrical components

E. Compliance

Optional.

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F. Approval

The technical content of this document is approved under the authority of FOCA DOA No. FOCA. JA. 002.

PILATUS advises Operators/Owners to check with their local Airworthiness Authorities for any changes, local regulations or sanctions that can affect the embodiment of this SB.

G. Manpower

	Total
Preparation	0.5
Replacement	8.0
Close up	0.5
Adjustment/Test	0.5
TOTAL MAN-HOURS	9.5

NOTE: Man-hours figures do not include the time required to cure sealants and adhesives.

H. Weight and Balance

(1) Weight Change

Not affected.

(2) Moment Change

Not affected.

I. Electrical Load Data

Not changed.

J. Software

Not changed.

K. References

Aircraft Maintenance Manual (AMM), 06-20-00, 20-20-00, 20-20-01, 24-30-02, 24-30-03, 24-30-04, 24-30-04, 25-10-01, 25-10-03, 25-10-04, 25-21-01, 25-21-04, 25-21-05, 25-22-01, 71-00-00 and 71-10-00.

Pratt & Whitney Canada, Engine Maintenance Manual (EMM), 72-60-00.

SB, 24-012.

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L. Publications Affected

- I AMM, 24-30-02, 24-30-03, 24-30-03, 24-30-04 and 24-30-04.
- Illustrated Parts Catalog, 24-30-00.
- Wiring Manual, 24-30-30.

M. Interchangeability of Parts

- I Pre and post SB 24-010 generators are not interchangeable as single units.

2. Material Information

A. Material - Price and Availability

Operators should send orders for Service Bulletin modification kits, to their Authorized Pilatus Service Center, or to:

PILATUS AIRCRAFT LTD.,
CUSTOMER LIAISON MANAGER,
CH-6371 STANS,
SWITZERLAND

General Aviation:
Tel : + 41 41 619 6319
Fax: + 41 41 619 6224
eMail: pilga@pilatus-aircraft.com

Government:
Tel : + 41 41 619 6509
Fax. + 41 41 619 6224
eMail: rpaterson@pilatus-aircraft.com

PILATUS BUSINESS AIRCRAFT LTD.,
PRODUCT SUPPORT DEPARTMENT
11755 AIRPORT WAY
BROOMFIELD, CO 80021.
UNITED STATES OF AMERICA

Tel : 303 465 9099
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PILATUS AUSTRALIA (Pty.) LTD.,
PO BOX 732
MARLESTON SA 5033
AUSTRALIA

Tel : (08) 8234 4433
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eMail: info@pilatus.com.au

NOTE: Operators are requested to advise Pilatus Aircraft Ltd, of the Manufacturer's Serial Number (MSN) and the flying hours of aircraft which are affected by this Service Bulletin.

Modification Kit Number	Price	Availability
500.50.12.176	Contact address above	Contact address above

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B. Material Necessary for Each Aircraft

(1) Material to be Procured

Modification Kit No. 500.50.12.176 consists of the following:

New Part No.	Description	Old Part No.	Qty	Disp. Code	Fig	Item
110.70.07.953	Placard K234	N/A	1	N	4	13
112.55.07.400	Woodruff Key	N/A	1	N	2	7
511.35.12.139	Placard A571	N/A	1	N	1	-
511.35.12.465	Placard G231	N/A	1	N	2	-
511.35.12.770	Placard K233	N/A	1	N	4	-
524.32.12.121	Gasket	N/A	1	N	2	25
524.32.12.130	Laminated Shim	N/A	2	N	3	15
524.32.12.149	Housing Assembly	N/A	1	N	2	19
524.32.12.151	Bracket	N/A	1	N	3	10
524.32.12.153	Sleeve	N/A	1	N	3	16
524.32.12.159	Pulley	N/A	1	N	2	8
524.52.12.319	Mounting Plate	N/A	1	N	4	5
526.11.12.053	Support	N/A	1	N	1	14
6232.0299.01	Washer Special	N/A	2	N	5	5
919.79.41.302	Wire, Elec. (P65B22)	N/A	1000 mm	N		N/A
919.79.41.303	Wire, Elec. (P117C20)	N/A	3000 mm	N		N/A
919.79.41.303	Wire, Elec. (P109B20)	N/A	3000 mm	N		N/A
919.79.41.303	Wire, Elec. (P110B20)	N/A	3000 mm	N		N/A
919.79.41.303	Wire, Elec. (P110D20)	N/A	500 mm	N		N/A
919.79.41.303	Wire, Elec. (P118A20N)	N/A	500 mm	N		N/A
919.79.41.303	Wire, Elec. (P119A20)	N/A	1200 mm	N		N/A
919.79.41.303	Wire, Elec. (P109D20)	N/A	1200 mm	N		N/A
919.79.41.303	Wire, Elec. (P112A20)	N/A	500 mm	N		N/A
919.79.41.303	Wire, Elec. (P111A20)	N/A	500 mm	N		N/A

Disposition Codes: D - Discard / N - New / R - Return to Pilatus

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New Part No.	Description	Old Part No.	Qty	Disp. Code	Fig	Item
919.79.41.303	Wire, Elec. (P110C20)	N/A	3000 mm	N		N/A
919.79.41.303	Wire, Elec. (P111B20)	N/A	1000 mm	N		N/A
919.79.41.303	Wire, Elec. (P109A20)	N/A	500 mm	N		N/A
919.79.41.303	Wire, Elec. (P109E20)	N/A	500 mm	N		N/A
919.79.41.303	Wire, Elec. (P120A20N)	N/A	2500 mm	N		N/A
919.79.41.303	Wire, Elect. (P109C20)	N/A	6500 mm	N		N/A
919.79.41.303	Wire, Elect. (P117B20)	N/A	6500 mm	N		N/A
919.79.41.303	Wire, Elect. (AWG20)	N/A	1000 mm	N		N/A
932.35.14.213	Bolt	N/A	2	N	3	8
932.35.14.248	Bolt	N/A	1	N	3	13
935.63.11.062	Screw	N/A	2	N	4	1
938.07.68.303	Nut	N/A	2	N	4	15
938.07.68.506	Nut	N/A	1	N	3	17
938.07.68.506	Nut	N/A	2	N	3	11
938.71.16.707	Washer	N/A	4	N	3	9
938.77.11.110	Washer	N/A	4	N	4	2/14
938.77.11.116	Washer	N/A	1 1 2	N	2 3 3	22 4 14
940.17.02.235	Cotter Pin	N/A	2	N	2 3	21 5
940.17.02.248	Cotter Pin	N/A	1	N	2	9
940.17.29.401	Locking Clip	N/A	2	N	3	1
940.26.28.123	Headed Pin	N/A	2	N	2 3	18 6
941.93.26.112	Clevis End, Turnbuckle	N/A	1	N	3	3
941.93.26.113	Clevis End, Turnbuckle	N/A	1	N	2	20
941.93.41.617	Turnbuckle Body	N/A	1	N	3	2
945.73.11.211	Drive Belt	N/A	1	N	3	7
946.91.27.103	Packing Preformed	N/A	1	N	2	17

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New Part No.	Description	Old Part No.	Qty	Disp. Code	Fig	Item
946.91.29.113	O-Ring Seal	N/A	1	N	2	26
971.19.38.602	Thermal sleeves End cap (Red)	N/A	20	N	N/A	N/A
971.31.18.526	Terminal Lug (Yellow - M6)	N/A	2	N	N/A	N/A
971.31.18.527	Terminal Lug (Yellow - M8)	N/A	2	N	N/A	N/A
971.31.18.573	Terminal Lug (Red - YAE18-N2)	N/A	2	N	N/A	N/A
971.31.18.820	Terminal Lug (AWG 22-16, M4)	N/A	3	N	N/A	N/A
971.31.18.830	Terminal Lug (AWG 22-16, M5)	N/A	3	N	N/A	N/A
971.32.51.101	Cable Ties	N/A	20	N	N/A	N/A
971.32.51.104	Cable Ties	N/A	20	N	N/A	N/A
971.32.51.105	Cable Ties	N/A	20	N	N/A	N/A
971.42.31.536	Standard Contact, M (20)	N/A	15	N	N/A	N/A
971.42.31.537	Standard Contact, M (16)	N/A	3	N	N/A	N/A
971.42.31.571	Single Mounting (For diode TB 093-02)	N/A	1	N	4	4
971.42.31.582	Diode Module (TB 093-02)	N/A	1	N	4	3
971.42.31.632	Label (TB) - 02	N/A	1	N	4	-
971.75.16.819	Connector Pin (J233) (AWG 20/16-20)	N/A	2	N	N/A	N/A
971.75.16.821	Connector Pin (J233) (AWG 20/20-24)	N/A	4	N	N/A	N/A
971.75.16.822	Connector Socket (P231) (AWG 20/20-24)	N/A	2	N	N/A	N/A
971.75.16.927	Connector Socket (K233, K234) (AWG 20/20-24)	N/A	15	N	N/A	N/A
971.75.18.903	Connector Socket (JB002)	N/A	3	N	N/A	N/A
971.75.18.913	Connector Pin (PB002)	N/A	3	N	N/A	N/A
971.31.32.636	In-line Splice (Red)	N/A	2	N	N/A	N/A
971.31.32.637	In-line Splice (Blue)	N/A	3	N	N/A	N/A
971.42.31.556	Single Junction	N/A	1	N	7	N/A

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New Part No.	Description	Old Part No.	Qty	Disp. Code	Fig	Item
971.75.81.166	Contact Pin (PG090) AWG20-24	N/A	2	N	N/A	N/A
972.55.38.499	Contact Pin (S231) AWG20-24	N/A	5	N	N/A	N/A
973.61.42.840	Switch Cap	N/A	1	N	5	4
974.20.01.201	Relay, Voltage Control Unit (K234)	N/A	1	N	4	11
974.22.00.104	Relay Socket (K234)	N/A	1	N	4	12

Disposition Codes: D - Discard / N - New / R - Return to Pilatus

(2) Additional Material to be Procured

Order the Generator 2 Assembly from PILATUS and indicate the selection of a new or an exchange item.

New Part No.	Description	Old Part No.	Qty	Disp. Code	Fig	Item
524.32.12.158	Generator 2 Assembly	N/A	1	N	3	29

Disposition Codes: D - Discard / N - New / R - Return to Pilatus

(3) Operator Supplied Materials

Part No.	Description	Qty	Remarks
N/A	Engine Oil	A/R	Item No. P10-004
908.18.12.075	Corrosion Preventative (Tectyl 506)	A/R	Item No. P10-005
908.24.02.001	Compound, anti-seize	A/R	Item No. P04-029
908.40.32.251	Corrosion Preventative (Alodine 1200S)	A/R	Item No. P07-001
910.42.12.123	Loctite 241A/R	A/R	Item No. P08-017
919.01.11.103	lockwire (6.0 mm)	A/R	Item No. P02-007


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3. Accomplishment Instructions - Aircraft

WARNING: BE CAREFUL WHEN YOU USE CONSUMABLE MATERIALS. OBEY THE MANUFACTURERS HEALTH AND SAFETY INSTRUCTIONS

A. Preparation

- (1) Obey the safety precautions given in Electrical Power - Maintenance Practices (Ref. AMM, 24-00-00, Page Block 201).
- (2) Open and safety circuit breakers:

STARTER (BATTERY BUS)
GEN 2 BUS (GENERATOR 2 BUS)
GEN 2/BAT TIE (GENERATOR BUS)
- (3) Open the engine cowlings 43AL and 43AR (Ref. AMM, 71-10-00, Page Block 401).
- (4) Remove the left bulkhead from the flight compartment (Ref. AMM, 25-10-03, Page Block 401).
- (5) On aircraft with executive passenger interiors, remove the:
 - Left forward storage unit (Ref. AMM, 25-21-05, Page Block 401)
 - Left and right forward passenger seats (Ref. AMM, 25-21-01, Page Block 401)
 - Right storage cabinet (Ref. AMM 25-21-06, Page Block 401).
 - Toilet compartment (Ref. AMM 25-21-07, Page Block 401).
 - Carpet forward of Frame 18, that cover the floor panels 12AZ, 12BZ and 12CZ (Ref. AMM, 25-21-04, Page Block 401)
- (6) On aircraft with standard passenger interiors, remove the:
 - Right bulkhead (Ref. AMM, 25-10-03, Page Block 401)
 - Left and right forward passenger seats (Ref. AMM, 25-22-01, Page Block 401).
 - Carpet forward of Frame 18, that cover the floor panels 12AZ, 12BZ and 12CZ (Ref. AMM, 25-22-04, Page Block 401).
- (7) Remove the co-pilots seat (Ref. AMM, 25-10-01, Page Block 401).
- (8) Remove the trim panels 21LZ and 21PZ from the flight compartment (Ref. AMM, 25-10-04, Page Block 401).
- (9) Remove the panels 11CZ, 12AZ, 12BZ and 12CZ from the passenger compartment floor (Ref. AMM, 06-20-00, Page Block 1).

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B. Generator 2 and Drive Assembly - Removal

- (1) Disconnect the following cables and wires (Ref. Fig 6):
 - P75A4N from G231 (pin GRD)
 - P65A4 from G231 (pin BAT)
 - P71A20N from G231 (pin GRD)
 - P29A20 from P232 (pin STA)
 - P68A20 from P232 (pin FLD)
- (2) Remove and discard the drive belt from the Generator 2 (Ref. AMM, 24-30-03, Page Block 401).
- (3) Remove and discard the Generator 2 and the turn-buckle assembly (Ref. AMM, 24-30-02, Page Block 401).
- (4) Remove the starter/generator (Ref. AMM, 24-30-01, Page Block 401). Hold the starter/generator clear of the its drive shaft then remove and discard the O-ring seal.
- (5) Remove and disassemble the drive assembly (Ref. AMM, 24-30-04, Page Block 401). Discard the drive pulley and drive housing.

C. Fire Wire Connector and Sensor - Installation (Ref. Fig. 1)

- (1) Install the fire wire connector and sensor. This step is only applicable on aircraft with no pressure sensor (9) installed.
 - (a) Remove the nuts (12), washers (11), bolts (10), P-clamps (8), fire-wire connector (13). When you do this keep the fire-wire connector (13) in position and do not electrically disconnect it.
 - (b) Remove the nuts (6) and washers (5), from the studs (2) and (3) then remove and discard the attachment bracket (7).
 - (c) Remove the nut (16) and washer (15) from the stud (4) then install them on the stud (2).
 - (d) Obey the manufacturers instructions and install the placard (A571) on the support (14) at the position shown.
 - (e) Put the support (14) in position on the studs (3) & (4) and install the washers (5) and nuts (6).
 - (f) Loosen the clamp (1) and pull the fire-wire through the until the fire-wire connector (13) is in the correct position. Tighten the clamp.
 - (g) Assemble the fire wire connector (13) and the P-clamps (8) on the support (14) and install the bolts (10), washers (11) and nuts (12).

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- (2) Install the fire wire connector and sensor. This step is only applicable on aircraft which have the pressure sensor (9) installed (post SB 77-001).
 - (a) Disassemble and (were necessary remove) the nuts (12), washers (11), bolts (10), P-clamps (8), fire-wire connector (13) and the pressure sensor (9). Hold the pressure sensor and fire-wire connector in their correct positions. Do not electrically disconnect them.
 - (b) Remove the nuts (6) and washers (5) from the studs (2) and (3) then remove and discard the attachment bracket (7).
 - (c) Remove the nut (16) and washer (15) from the stud (4) and install them on the stud (2).
 - (d) Obey the manufacturers instructions and install the placard (A571) on the support (14) at the position shown.
 - (e) Put the support (14) in position on the studs (3) & (4) and install the washers (5) and nuts (6).
 - (f) Loosen the clamp (1) and pull the fire-wire through the until the fire-wire connector (13) is in the correct position. Tighten the clamp.
 - (g) Assemble the fire wire connector (13) pressure sensor (9) and the P-clamps (8) on the support (14) and install the bolts (10), washers (11) and nuts (12).

D. Drive Assembly - Modification and Installation (Ref. Fig. 2)

- (1) Examine the engine internal gearshift for damage and wear (Ref. EMM 72-60-00).
- (2) Obey the manufacturers instructions and install the placard (G231) on the new drive housing (19) at the position shown.
- (3) Obey the manufacturers instructions and apply layers of corrosion preventative (Item No. P10-005) on the applicable surfaces of the:
 - Cover (3)
 - Drive housing (19)
 - Drive shaft (1) (do not apply to splines)
 - Washers (4), (10), (13) and (22)
 - Bolts (5), (12) and (14)
 - Woodruff key (7)
 - Pulley (8) (surface of the internal bore only)
 - Centring sleeve (24)
 - Distance sleeve (6)
 - Turn-buckle (20)
 - Pin (18)
 - Nut (11)
- (4) Install the new packing (17) and union (16) in the oil drain of the drive housing (19).

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- (5) Install the bearing (23), centring sleeve (24), drive shaft (1) and bearing (2) in the drive housing (19).
- (6) Put the cover (3) in position on the housing (19) and Install the washers (4) and bolts (5).
- (7) Assemble the distance sleeve (6), new Woodruff key (7), pulley (8), washer (10) and nut (11) on the drive shaft (1).
- (8) Torque the nut (11) to between 141 and 177 lbf in. (16 and 20 Nm) (Ref. AMM, 20-20-01, Page Block 1).
- (9) Safety the nut (11) it with a new cotter pin (9) (Ref. AMM, 20-20-00, Page Block 1).
- (10) Use the engine oil (Item No. P10-004) to lubricate the splines of the drive shaft (1).
- (11) Put the new gasket (25) and the drive housing (19) in position on the engine gearbox and install the washers (13) and bolts (12) and (14).
- (12) Torque the bolts (12) and (14) to between 75 and 85 lbf in. (8,5 and 9,6 Nm) (Ref. AMM, 20-20-01, Page Block 1).
- (13) Safety the bolts (12) and (14) with lock wire (Ref. AMM, 20-20-00, Page Block 1).
- (14) Connect the drain pipe (15) to the union (16).
- (15) Use the engine oil (Item No. P10-004) to lubricate the new O-ring seal (26) and the splines of the starter/generator (28).
- (16) Install the starter/generator (28) (Ref. AMM, 24-30-01, Page Block 401).
- (17) Connect the new turn-buckle (20) on the lug of the drive housing (19) with the pin (18), washer (22) and a new cotter pin (21) (Ref. AMM, 20-20-00, Page Block 1).

E. Generator 2 - Installation (Ref. Fig. 3)

- (1) Obey the manufacturers instructions and apply layers of corrosion preventative (Item No. P10-005) on the applicable surfaces of the:
 - Bracket (10)
 - Washers (4), (9), (14) and (15)
 - Bolts (8), (12) and (13)
 - Nut (11), (17) and (22)
 - Pin (6)
- (2) Put the bracket (10) in position on the new Generator 2 (29) and install the bolts (8), washers (9) and nuts (11).
- (3) Obey the manufacturers instructions and apply a layer of the anti-seize compound (Item No. P04-029) on the applicable surface of the sleeve (16).
- (4) Install the sleeve (16) in the lug of the drive housing. Remove the unwanted anti-seize compound.
- (5) Put the Generator 2 (29) in position and loosely install the bolt (13) and new shims (15).

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- (6) Make sure the pulleys are correctly aligned.
 - (a) Use a straight edge (or equivalent tool) make sure the pulley of the Generator 2 (29) is correctly aligned with the pulley (8, Fig 2). If necessary, measure and record the distance and direction to which the pulleys are incorrectly aligned.
 - (b) If the pulleys are incorrectly aligned, remove the bolt (13, Fig 3), Generator 2 (29) and shims (15).
 - (c) Add or remove the shims (15) as necessary to adjust the position of the Generator 2 (29) in relation to the values recorded in Step (a).
 - (d) Put the Generator 2 (29) in position and loosely install the bolt (13) and shims (15).
 - (e) Do Step (a) again to make sure the pulley of the Generator 2 (29) is correctly aligned with the pulley (8, Fig 2). Do Steps (a) thru (e) as many times as necessary to align the pulleys.
- (7) Install the washers (14) and nut (17) on the bolt (13).
- (8) Install the new drive belt.
 - (a) Put the drive belt (7) in position on the pulley of the Generator 2 (29) and the pulley (8, Fig 2).
 - (b) Put the turnbuckle fork end (3, Fig 3) in position on the bracket (10) and install the new pin (6), washer (4) and cotter pin (5).
 - (c) Adjust drive belt (7) (Ref. AMM, 24-30-03, Page Block 503).
- (9) Torque the nut (17) to between 44 and 70 lbf in. (5 and 8 Nm) (Ref. AMM, 20-20-01, Page Block 1).

F. Wiring - Removal (Ref. Fig. 5, 6 and 7)

- (1) Remove the four screws (1) and overhead EPM panel (2) (Ref. Fig. 5).
- (2) Disconnect, and where necessary, remove the wires (Ref. Table, Wire/Cable - Removal and Fig. 6).

NOTE: It is not necessary to disassemble and remove the components in the sequence in Table - Wire/Cable - Removal.

Wire	Terminal/Connector	Terminal/Connector	Remarks
N/A	Wire from R232	TB181-05, Pin G	Disconnect from TB181-05
N/A	Wire from TB181-10/A	TB181-05, Pin A	Disconnect from TB181-05
N/A	Wire from TB181-10/B	TB181-05, Pin J	Disconnect from TB181-05
P100C20	S231, Pin 5	TB181-09, Pin B	Remove and discard (MSN 181 thru MSN 230)
P100D20	S231, Pin 4	TB181-05, Pin H	Remove and discard (MSN 181 thru MSN 230)

Wire/Cable - Removal

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Wire	Terminal/Connector	Terminal/Connector	Remarks
P109A20	PB002, Pin U	TB093-01, Pin F	Remove and discard
P109B20	TB181-05, Pin F	JB002, Pin U	Remove and discard
P109D20	TB093-01, Pin A	CB234	Remove and discard
P109E20	K231, Pin A	K233, Pin 4	Remove and discard
P109F20	TB93, Pin B	J233, Pin A	Remove and discard
P109G20	TB93, Pin D	J233, Pin J	Remove and discard
P109H20	TB093-01, Pin C	J233, Pin C	Remove and discard
P109I20	K233, Pin 3	J233, Pin G	Remove and discard
P109J20	K233, Pin 2	CB234	Remove and discard
P109K20	TB093-01, Pin G	K233, Pin 7	Remove and discard
P110A20	S232, Pin 2	N/A	Disconnect at specified end
P110B20	TB093-01, Pin E	N/A	Disconnect at specified end
P117A20	TB181-05, Pin K	N/A	Disconnect at specified end
P117A20	S232, Pin 3	N/A	Disconnect at specified end
P34A20N	S232, Pin 1	N/A	Disconnect at specified end
P78A22	S231, Pin 1	N/A	Disconnect at specified end

Wire/Cable - Removal (Continued)

G. Terminal Block and Relay - Installation (Ref. Fig. 4)

- (1) Install the new terminal block. This Step is only applicable on aircraft with the Generator 2 Cut-out relay installed as a factory option.
 - (a) Remove the screws (8) and the washers (9), terminal block (TB093/01) (7) and support (6). Do not electrically disconnect the terminal block.
 - (b) Assemble the terminal block (TB093/01) (7), support (6) and the new attachment bracket (5). Put the assembly in position and install the screws (8) and washers (9).
 - (c) Assemble the new diode module TB093-02 (3), attachment bracket (5) and new support (4). Put the assembly in position and install the screws (1) and washers (2).
 - (d) Obey the manufacturers instructions and install the placard (02) on the support (4) at the position shown.
- (2) Install the new relay assembly. This step is only applicable if there is no rectangular cut-out for a second relay in the bracket (10).
 - (a) Remove the two nuts (15), washers (14) and the mounting (12) (together with the relay K233) from the bracket (10). It is not necessary to electrically disconnect the relay.

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- (b) Make marks to show the position of the rectangular cut-out and bolt holes for the second relay on the bracket (10). You can use the mounting (12) as a template. The marks must show the second rectangular cut-out and bolt holes to be:
- Vertically aligned below, and parallel to, the cut-out and bolt holes for relay K233
 - The same dimensions as the cut-out and bolt holes for relay K233
- Make sure the mark for the top edge of the cut-out is 0.2 in. (5,0 mm) below the bottom edge of the cut-out for relay K233.
- (c) Cut and drill as necessary, the second rectangular cut-out and bolt holes in the bracket (10). Make sure there are no sharp edges.
- (d) Obey the manufacturers instructions and apply a layer of the corrosion preventative (Item No. P07-001) on the applicable edges of the second rectangular cut-out and bolt holes.
- (e) Put the mounting (12) (together with the relay K233) in position in the top cut-out of the bracket (10) and install the washers (14) and nuts (15).
- (f) Assemble the relay K234 and new mounting (12).
- (g) Put the mounting (12) and relay assembly in position in the bottom cut-out of the bracket (10) and install the new washers (14) and nuts (15).
- (h) Obey the manufacturers instructions and install the placard (K234) on the bracket (10) at the position shown.
- (3) Install the new diode module and relay assembly. This step is only applicable on post SB 24-009 aircraft.
- (a) Assemble the diode module TB093-02 (3) and new support (4).
- (b) Put the support (4) and diode assembly in position on the bracket (16) and install the new washers (2) and screws (1).
- (c) Obey the manufacturers instructions and install the placard (02) on the support (4) at the position shown.
- (d) Assemble the relay K234 and new mounting (12).
- (e) Put the mounting (12) and relay assembly in position in the bottom cut-out of the bracket (16) and install the new washers (14) and nuts (15).
- (f) Obey the manufacturers instructions and install the placard (K234) on the bracket (16) at the position shown.

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H. Wiring - Installation (Ref. Figs. 3, 5, 6, 7 and 8)

- (1) Put the applicable wires in their correct routing positions and connect as necessary (Ref. Table, Wire/Cable - Installation and Fig. 6).

NOTE: The data in Table - Wire/Cable - Installation, is shown in sequence by Wire/cable identification number. It is not necessary to assemble and install the components in the same sequence.

Component From & Ident		End Connector	Wire/Cable	End Connector	Component To & Terminal Ident		Remarks
N/A	N/A	N/A	N/A		B	TB093-02	Install reducer
N/A	N/A	N/A	N/A		A	TB093-02	Install reducer
N/A	N/A	N/A	R232	N/A	K	TB181-05	No wire ident
TB181-10	B	N/A	N/A	N/A	B	TB181-05	No wire ident
TB181-10	A	N/A	N/A	N/A	H	TB181-05	No wire ident
CB234	-	-	P109A20	971.42.31.536	C	TB093-01	
PB002	U	971.75.18.913	P109B20	971.42.31.536	E	TB093-01	
JB002	U	971.75.18.903	P109C20	971.42.31.536	J	TB181-05	
K233	7	971.75.16.927	P109D20	971.42.31.536	D	TB093-01	
CB234	-	-	P109E20	971.75.16.927	2	K233	
JB002	X	N/A	P110A20	972.55.38.499	5	S231	
PB002	X	N/A	P110B20	971.42.31.536	F	TB093-01	
K234	3	971.75.16.927	P110C20	971.42.31.536	A	TB093-01	
J233	C	971.75.16.821	P110D20	971.42.31.536	B	TB093-01	
K234	8	971.75.16.927	P111A20	971.42.31.537	B	TB093-02	
K234	4	971.75.16.927	P111B20	971.31.18.820	D+	GEN2	Install lug
TB181-05	G	971.42.31.536	P117A20	972.55.38.499	4	S231	
JB002	Y	971.75.18.903	P117B20	971.42.31.536	F	TB181-05	
PB002	Y	971.75.18.913	P117C20	971.75.16.927	7	K234	
J233	G	971.75.16.821	P118A20N	971.75.16.927	3	K233	Ground wire
K233	4	971.75.16.927	P119A20	971.75.16.822	A	P231	
N/A	N/A	N/A	P29A20	971.31.18.830	W	GEN2	Install lug STA
N/A	N/A	N/A	P34A20N	972.55.38.499	6	S231	

Wire/Cable - Installation

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Component From & Ident		End Connector	Wire/Cable	End Connector	Component To & Terminal Ident		Remarks
N/A	N/A	N/A	P65A4	971.31.18.526	B+	GEN2	Install lug (yellow) BAT
J233	A	971.75.16.821	P65B22	971.31.18.830	1	K231	
N/A	N/A	N/A	P68A20	971.31.18.820	DR	XP232	FLD XP232
N/A	N/A	N/A	P71A20N	971.31.18.573	B-	GEN2	Install lug (red) GRD
N/A	N/A	N/A	P75A4N	971.31.18.527	B-	GEN2	Install lug (yellow) GRD
N/A	N/A	N/A	P78A22	972.55.38.499	3	S231	Ident 4
K234	8	971.75.16.927	AWG20	971.75.16.927	4	K234	Bridging wire
K234 Link J233	2 J	971.75.16.927 No Terminal 971.75.16.819	AWG20 AWG20 P112A20	971.31.32.637		Splice	Blue (Ref. Fig 7)
K234	6	971.75.16.927	AWG20	No Terminal			
TB093-01	G	971.42.31.536	AWG20	971.42.31.537	A	TB093-02	Bridging wire
TB181-09	B	971.42.31.536	AWG20	971.42.31.536	A	TB181-05	

Wire/Cable - Installation (Continued)

- (2) Remove and discard the GEN 2 RESET switch S232 from the overhead EPM panel (2). Install the new blanking plate and special washers (4 and 5) to cover the hole.
- (3) Re-install the overhead EPM panel with the four screws (1).
- (4) Install the rear cover on the new Generator 2 (Ref. Fig. 3):
 - (a) Fully install the rubber boots (25) and (26) over the electrical connections at the rear of the new Generator 2 (29) with cable ties.
 - (b) Install the protection (23) and (24) around the electrical cables with cable ties.
 - (c) Install the new cover (20) on the new Generator 2 (29) with the new screws (12), washers (21) and nuts (22).
- (5) Install the floor panels 11CZ, 12AZ, 12BZ and 12CZ in the passenger compartment (Ref. AMM, 06-20-00, Page Block 1).
- (6) Install the side wall panels 21LZ and 21PZ in the flight compartment.
- (7) Install the co-pilot seat (Ref. AMM, 25-10-01, Page Block 401).

I. Voltage-spike Suppression Filter - Change Location (Ref. Fig 8)

- (1) Disconnect the Positive wire of the voltage -spike suppression filter (filter) (A250) from the terminal block (TB093-01/K). The filter is installed adjacent to the terminal block (TB093).
- (2) Remove and discard the end contact from the Positive wire of the filter (A250).

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- (3) Disconnect the negative wire of the filter (A250) from the ground terminal (PG090/H).
- (4) Remove and discard the end contact from the Negative wire of the filter (A250).
- (5) Connect the link and Positive wires.

(a) Use the applicable stripper tool to remove the insulation from the ends of the:

- link wires (AWG20) connected to the relay (K234, Pins 2 and 6)
- Positive wire of the filter (A250)

Make sure you remove sufficient insulation for the installation of the in-line splice (blue).

(b) Use the applicable crimp tool and install the in-line splice (blue) to connect the link and Positive wires (AWS20).

(6) Connect the Negative wire.

(a) Use the applicable stripper tool to remove the insulation from:

- The end of the Negative wire of the filter (A250)
- One end of the wire (P120A120N)

Make sure you remove sufficient insulation for the installation of the in-line splice (red).

(b) Use the applicable crimp tool and install the in-line splice (red) to connect the wire (P120A120N) and the Negative wire of the filter (A250).

(7) Connect the wire (P120A120N) to (PG090/H).

(a) Use the applicable stripper tool to remove the insulation from the remaining end of the wire (P120A120N). Make sure you remove sufficient insulation for the installation of the crimp contact.

(b) Use the applicable crimp tool and install the pin contact (971.75.81.166).

J. Close up

- (1) Remove all tools and materials. Make sure the work areas are clean.

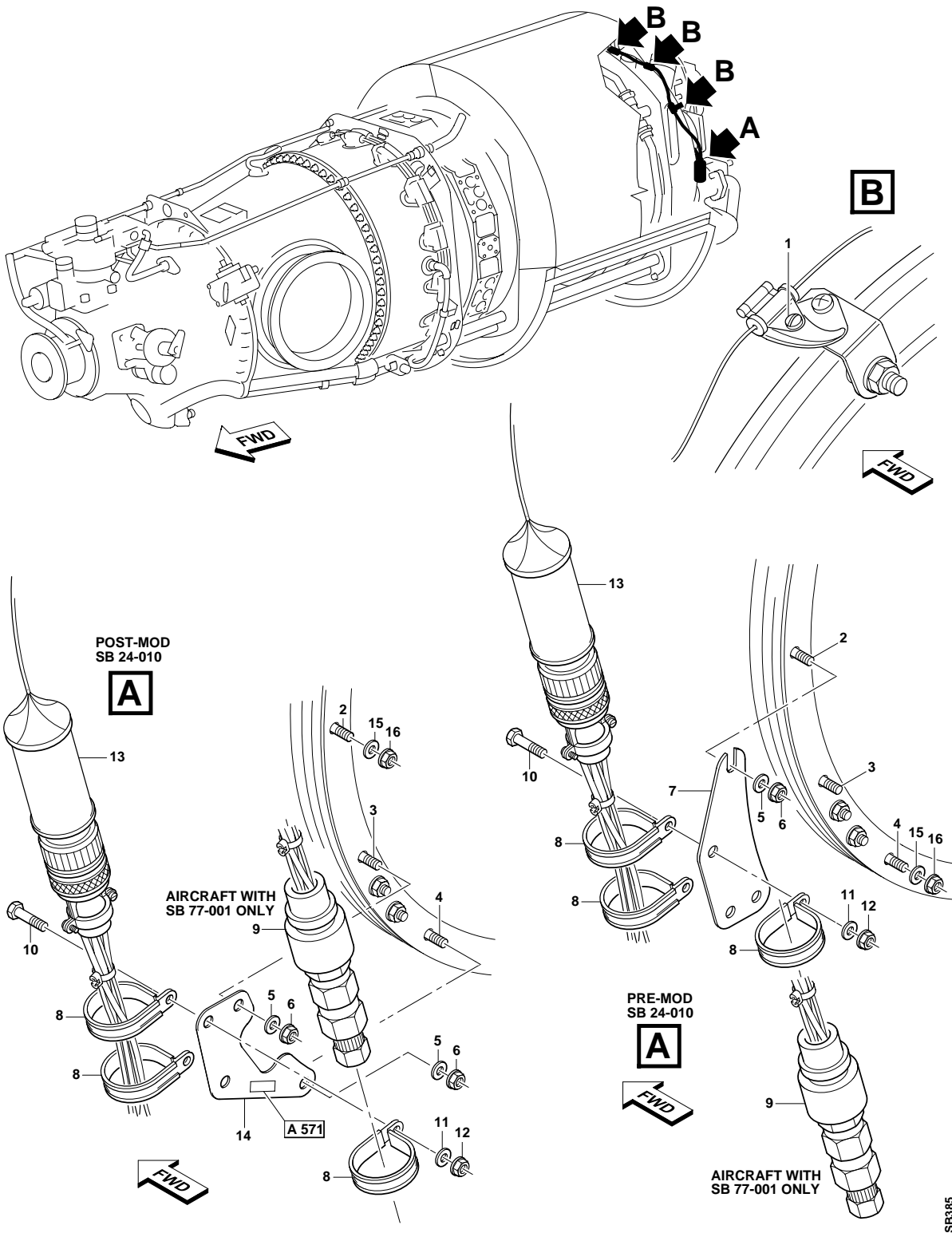
K. Documentation

- (1) Make an entry in the Aircraft Logbook that this SB has been incorporated.
- (2) Use the SB Evaluation Sheet to report your results and the serial number of the modified aircraft to PILATUS.

4. Accomplishment Instructions - Spares

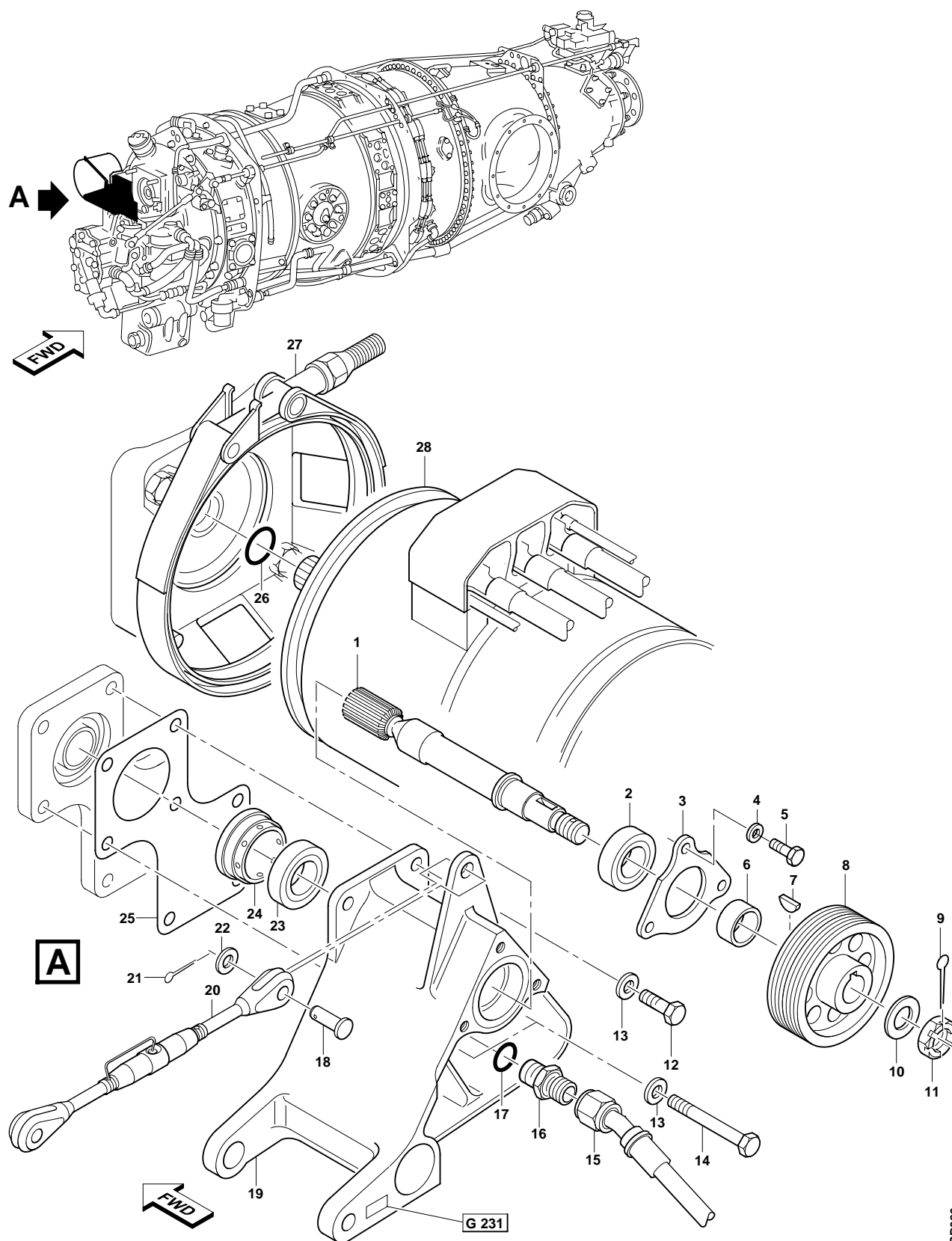
Not applicable.

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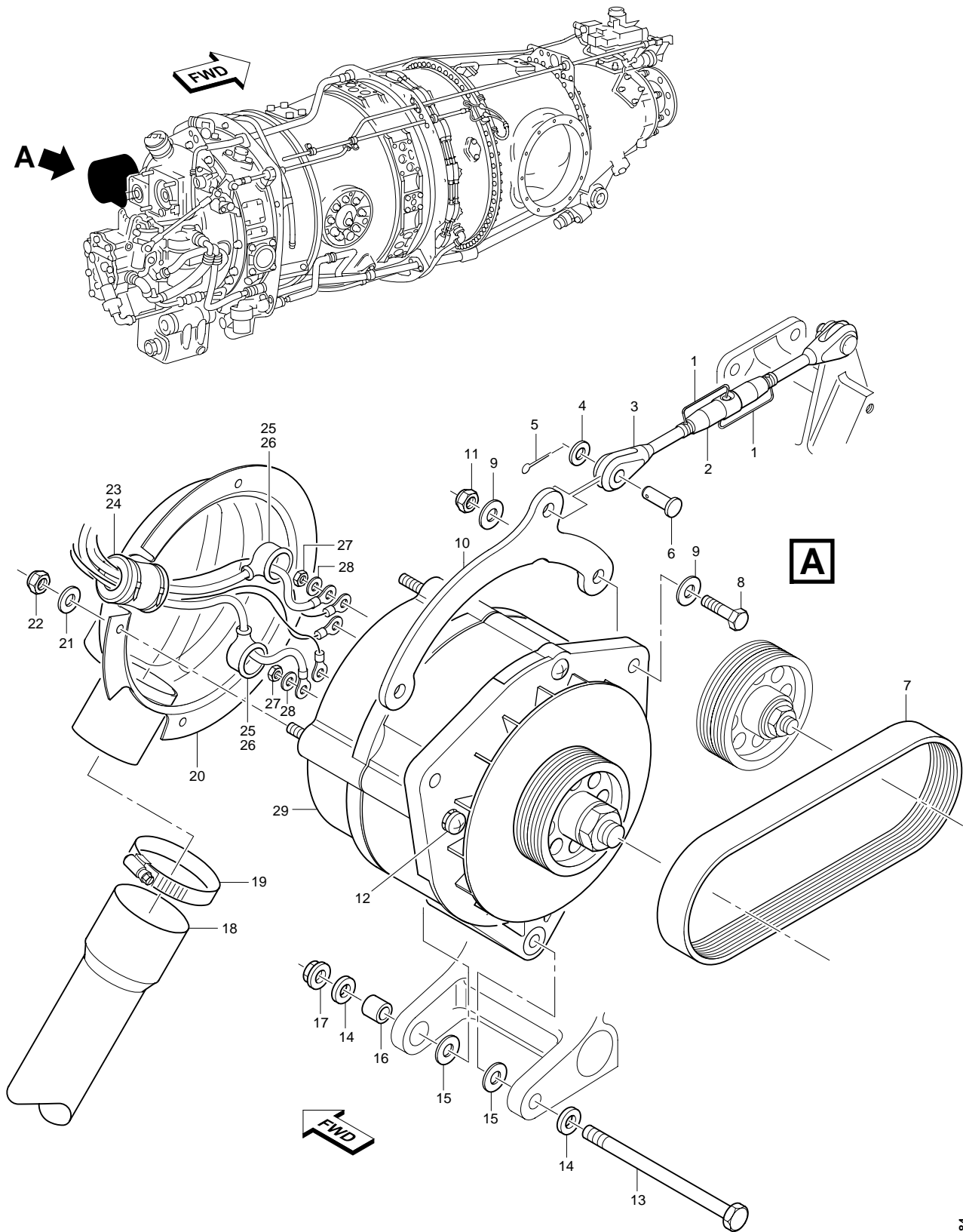
Relocation of the Fire Wire Connector and Sensor
Figure 1

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SERVICE BULLETIN



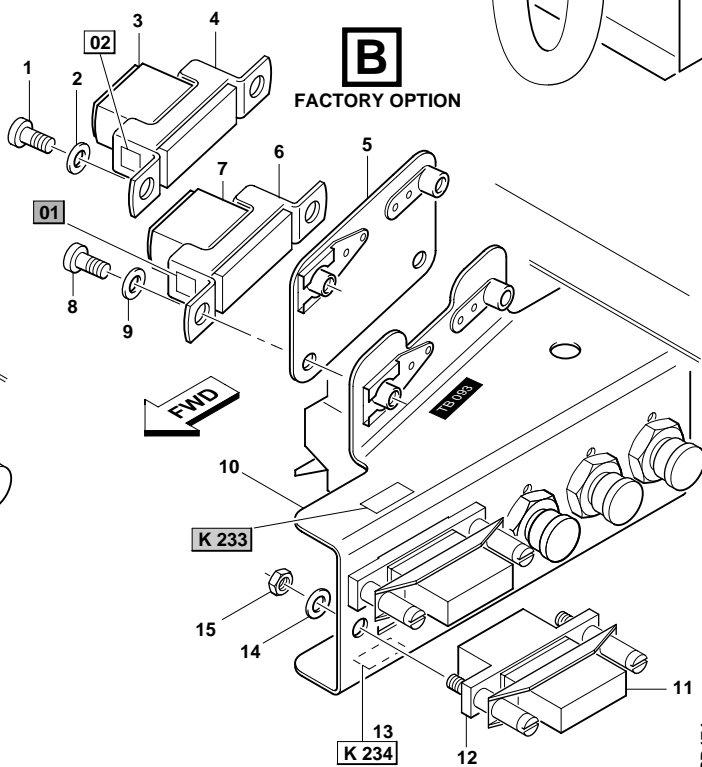
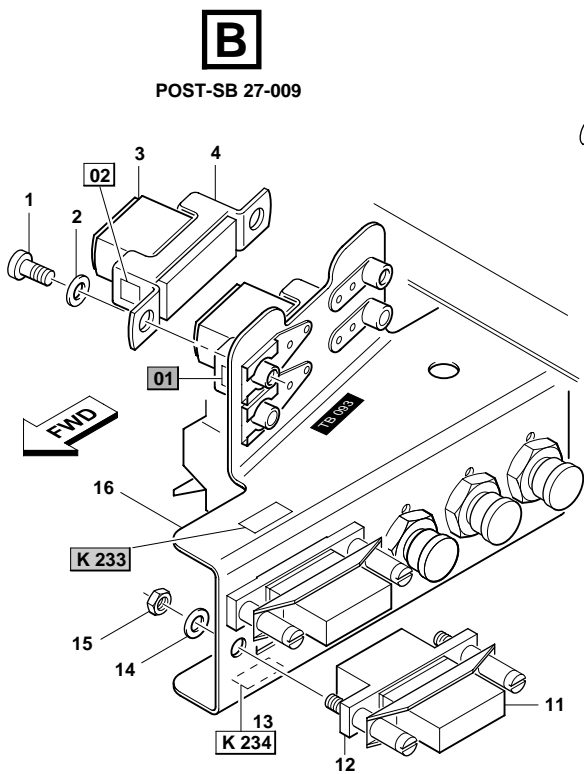
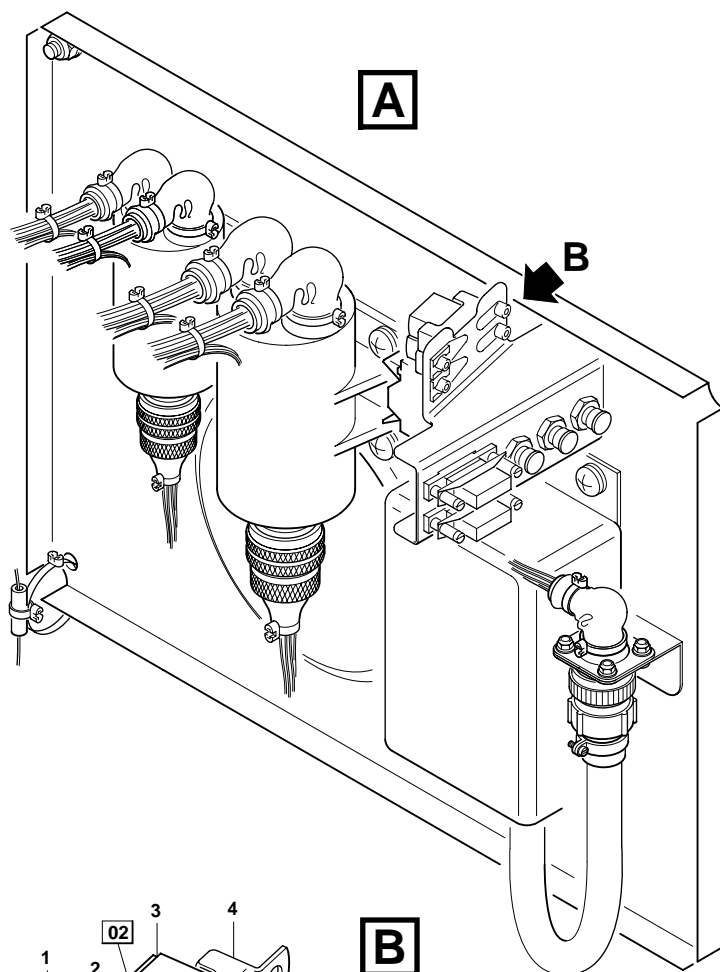
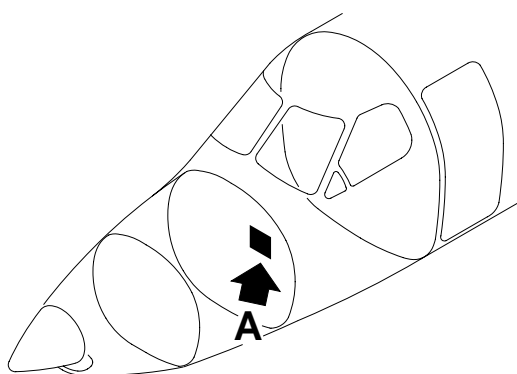
Installation of the New Drive Assembly
Figure 2

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SERVICE BULLETIN



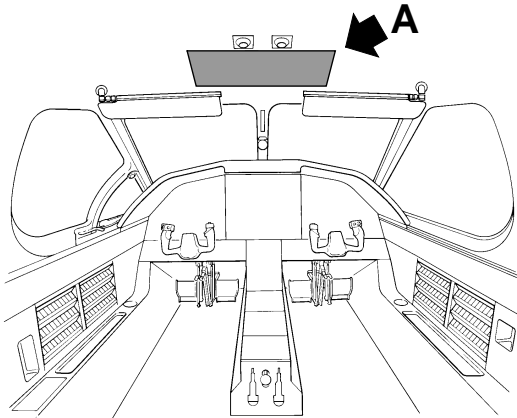
Installation of the New Generator 2
Figure 3


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SERVICE BULLETIN



Modification of the Electrical Panel Assembly in the Engine Compartment
Figure 4

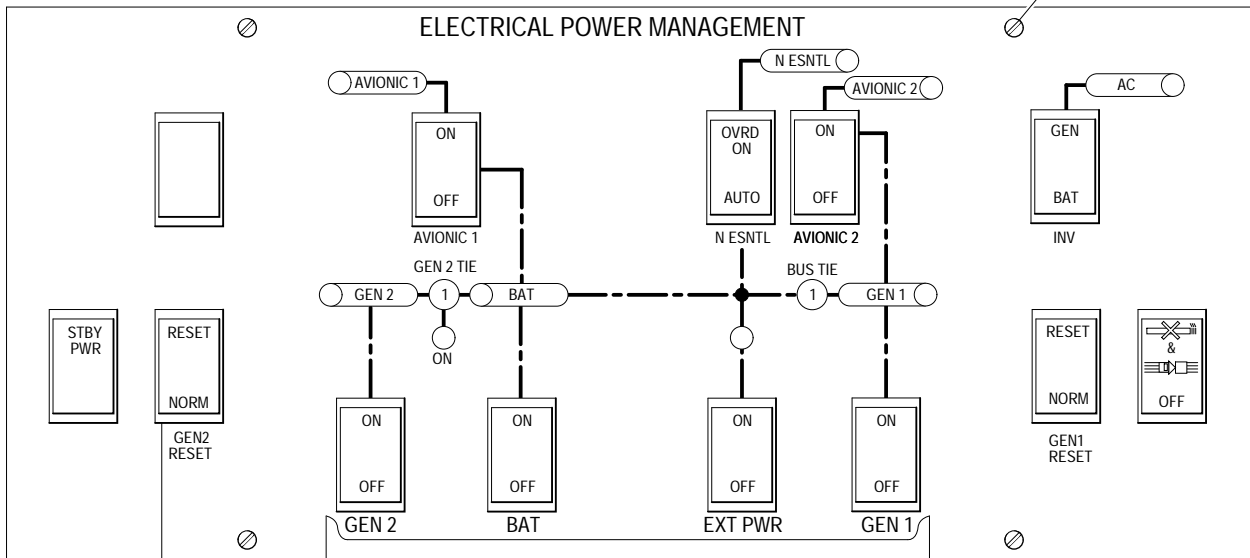
PILATUS PC12 SERVICE BULLETIN



A

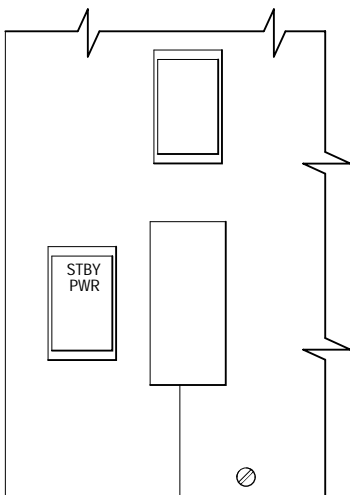
PRE SB 24-010

1 ATTACHMENT
SCREWS



3

2



4
5

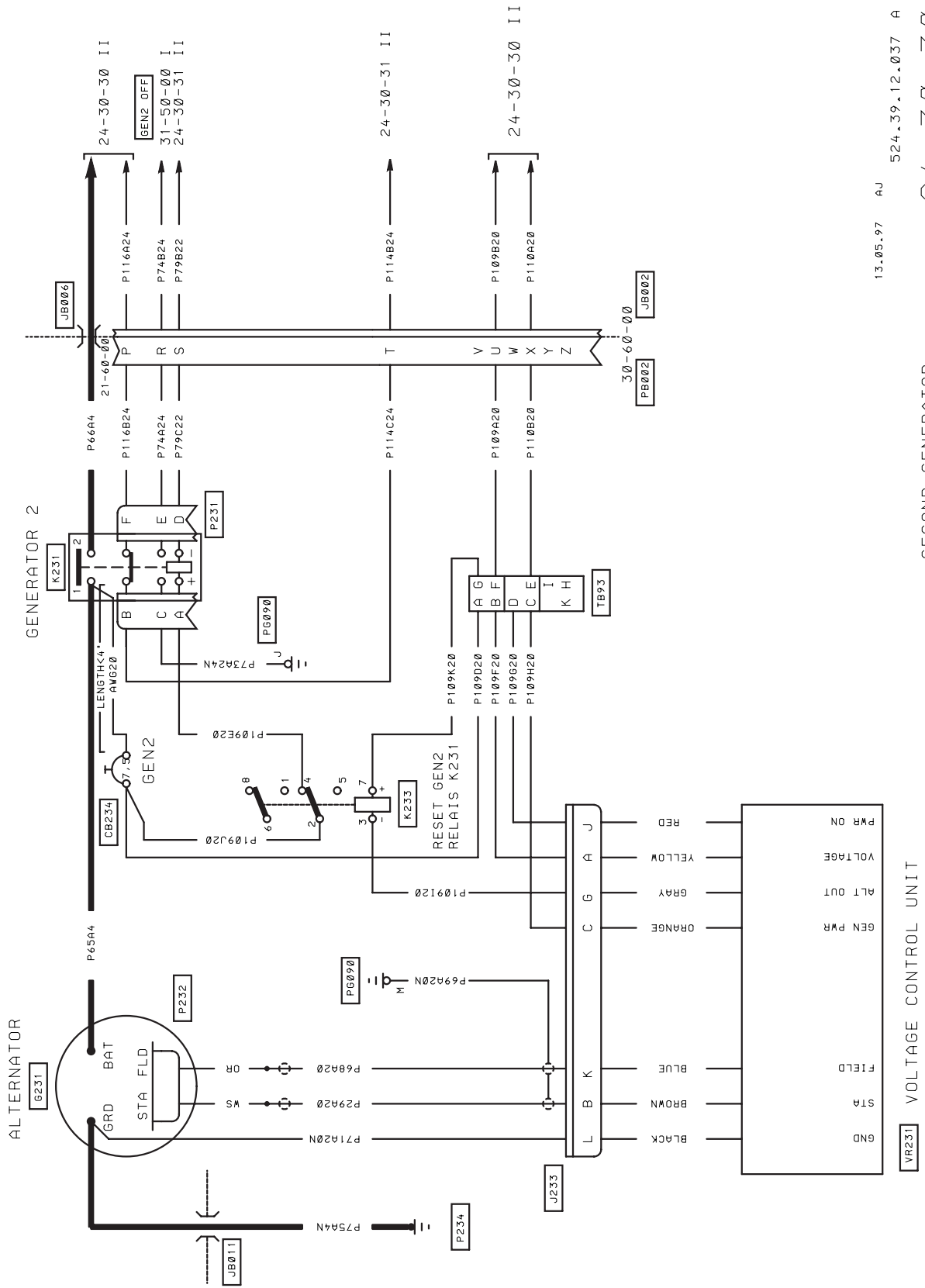
A

POST SB 24-010

Overhead Panel
Figure 5

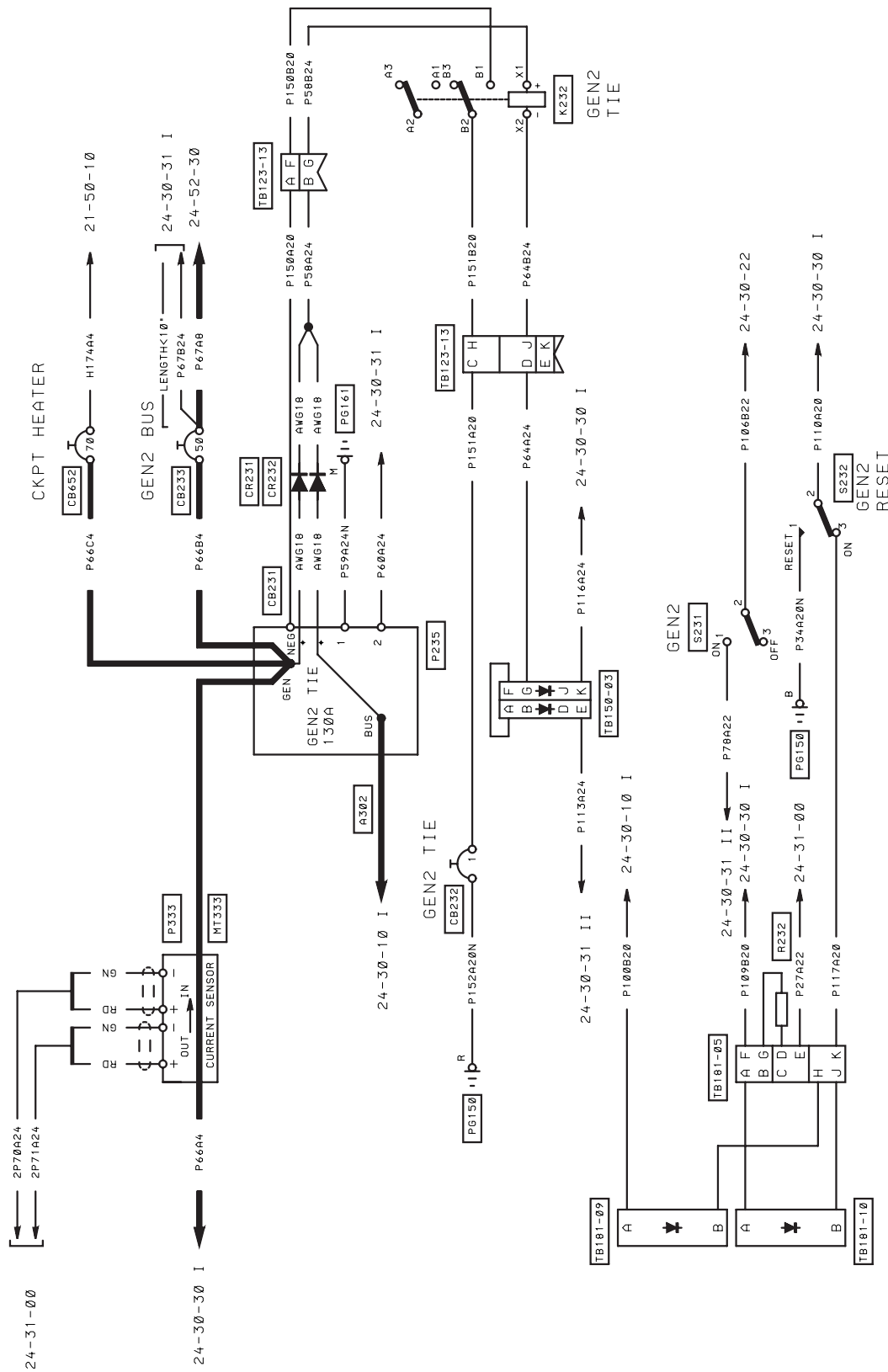
SB409

PILATUS PC12 SERVICE BULLETIN



Generator 2 - Schematic - MSN 101 thru MSN 230 (Pre-SB 24-010)
Figure 6 (Sheet 1 of 4)

PILATUS PC12 SERVICE BULLETIN

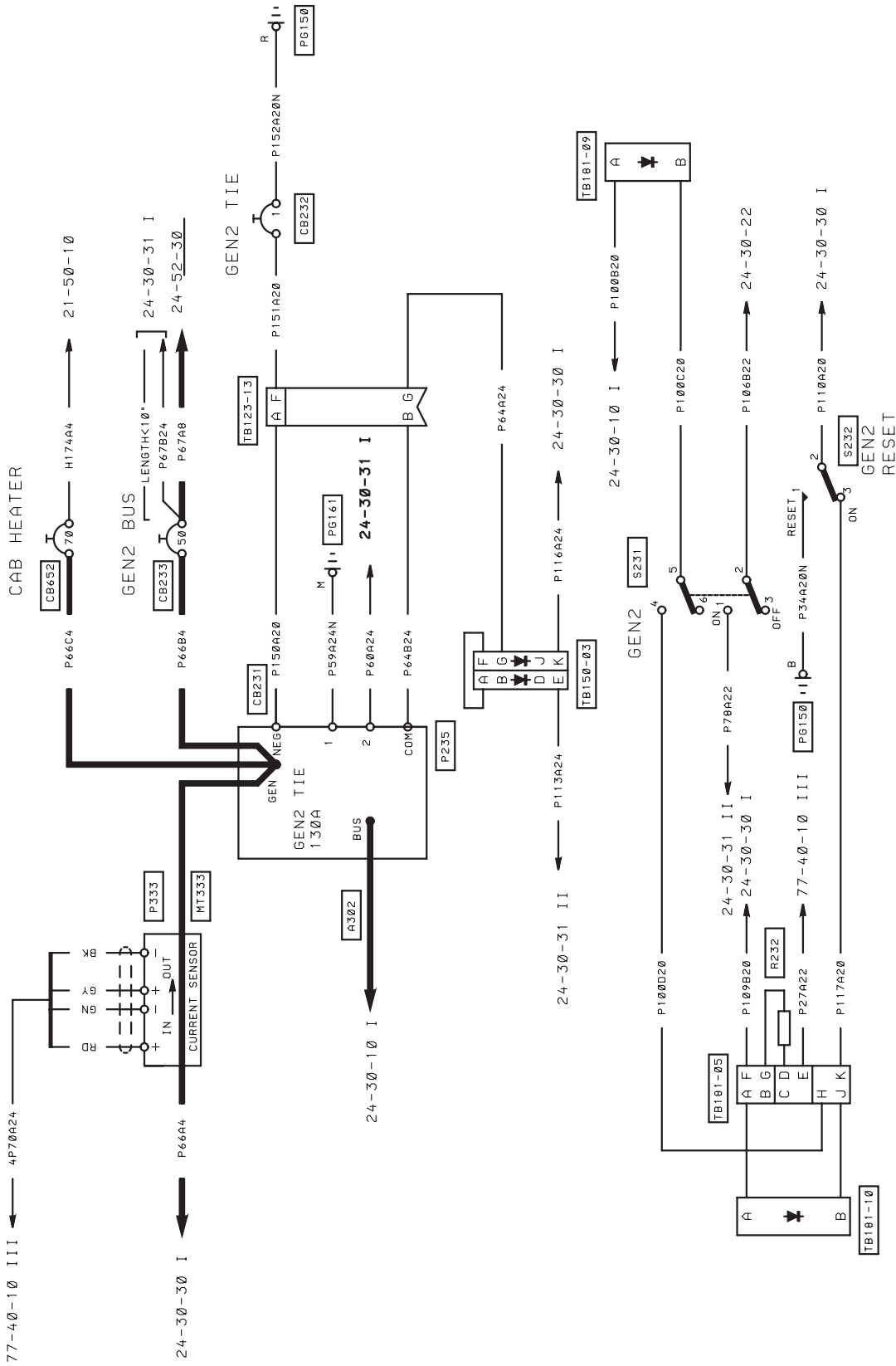


Generator 2 - Schematic (Sheet 2) - MSN 112 thru MSN 180 (Pre-SB 24-010)
Figure 6 (Sheet 3 of 4)

* BUILD IN SEPARATE WIRE WITH LENGTH ≤ 7"
23.11.94 J.A. 524.39.12.016 -
2 2 24-30-30

SECOND GENERATOR
(B1)

PILATUS
PC12
SERVICE BULLETIN



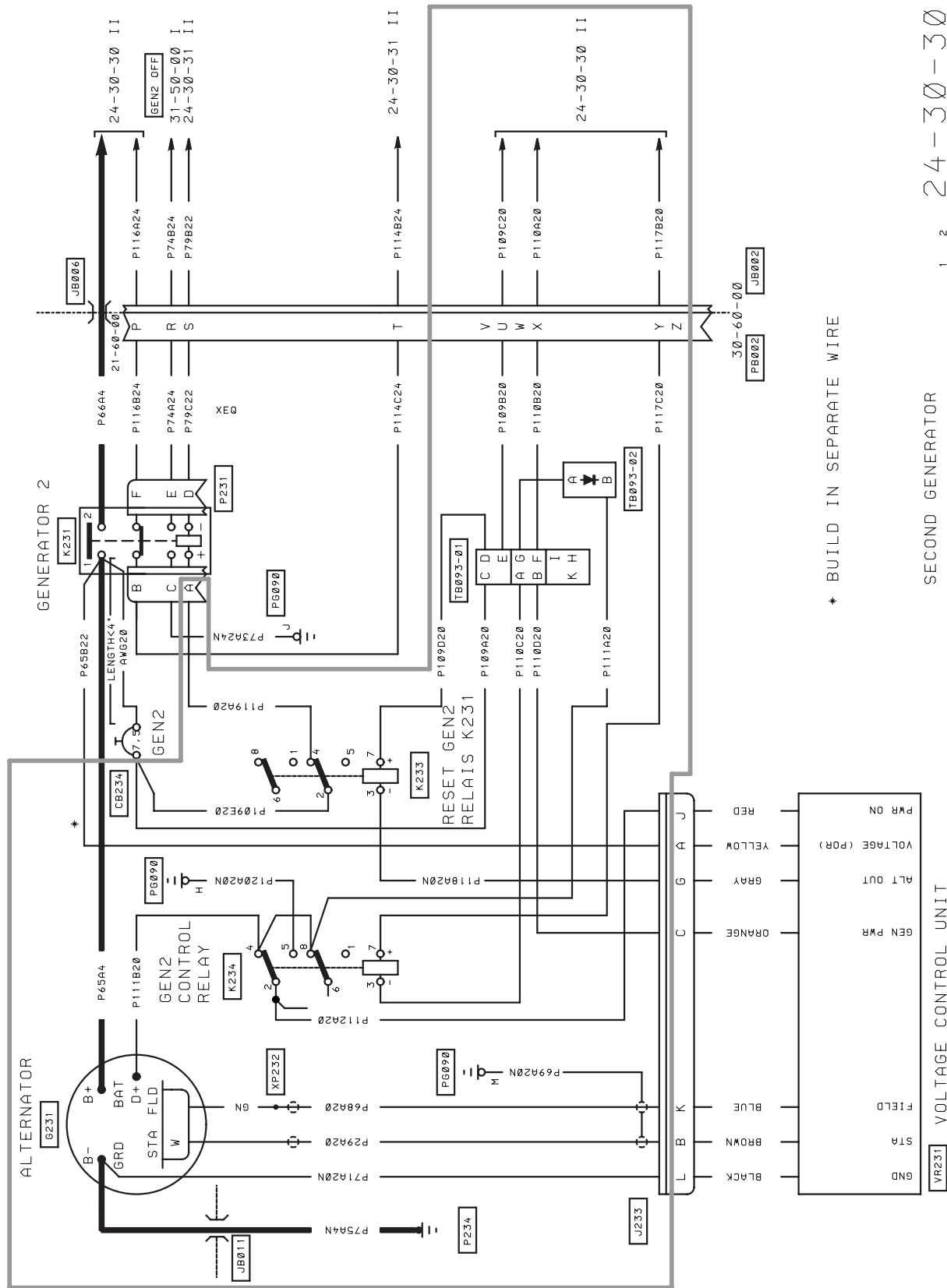
* BUILD IN SEPARATE WIRE WITH LENGTH ≤ 7" 13.05.97 AJ 524.39.12.037 A

SECOND GENERATOR 2 2 24-30-30

SB399

Generator 2 - Schematic (Sheet 2) - MSN 181 thru MSN 230 (Pre-SB 24-010)
Figure 6 (Sheet 4 of 4)

PILATUS PC12 SERVICE BULLETIN

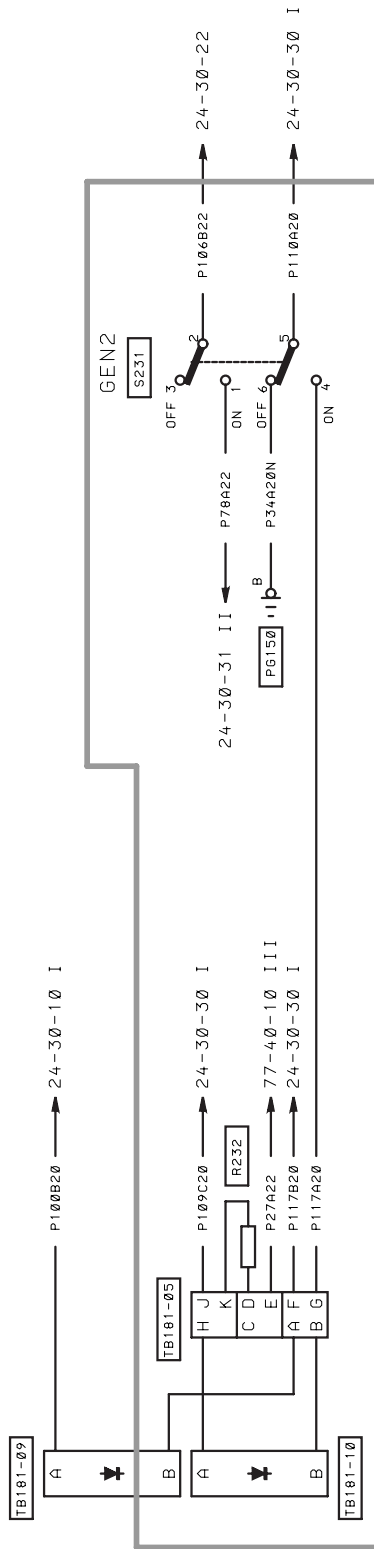


* BUILD IN SEPARATE WIRE

1 2 24-30-30 II
SECOND GENERATOR

Generator 2 - Schematic (Sheet 1) (Post SB 24-010)
Figure 7 (Sheet 1 of 2)


PILATUS
PC12
SERVICE BULLETIN

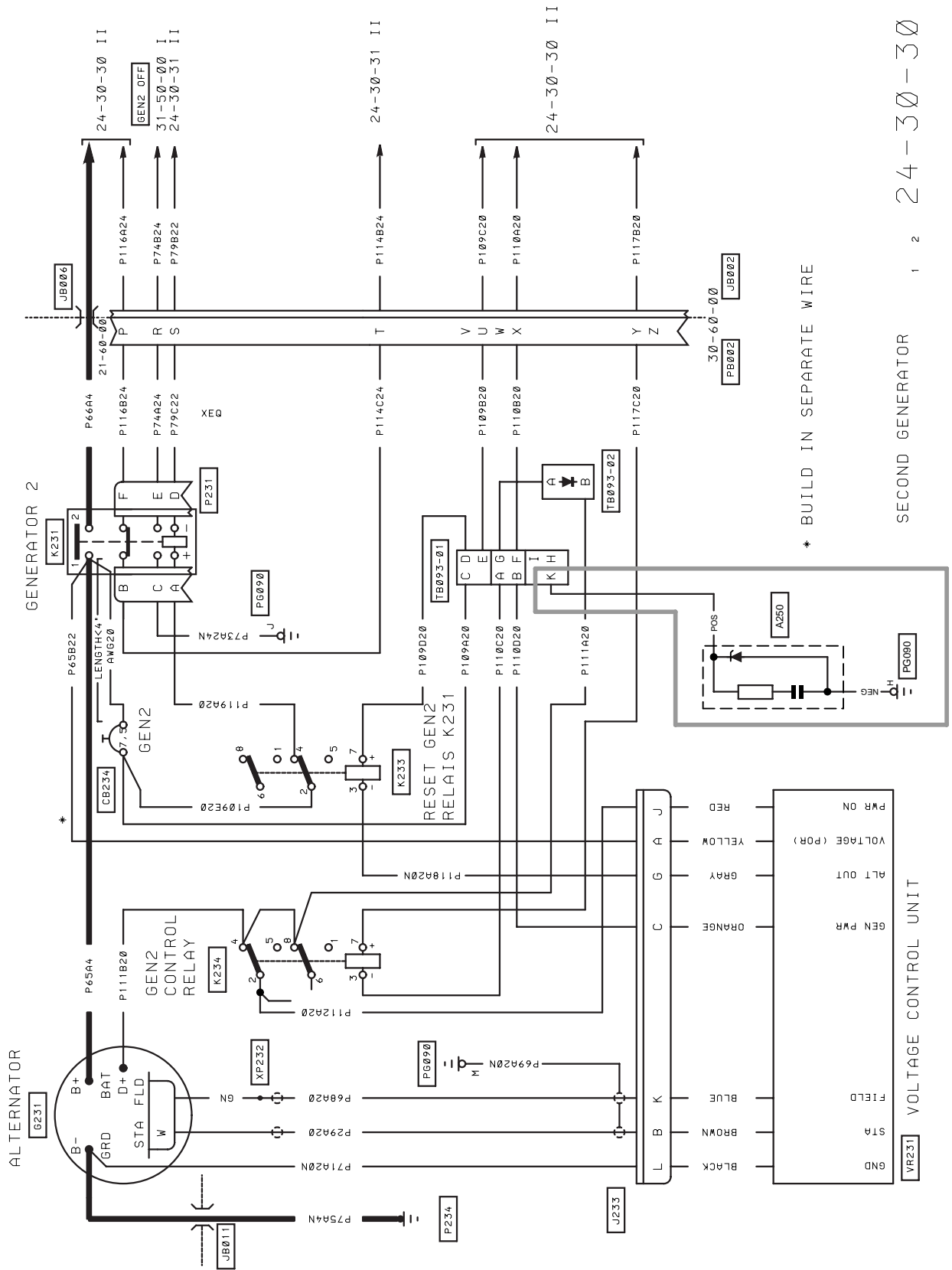


SECOND GENERATOR 2 24-30-30

SB1107

Generator 2 - Schematic (Sheet 2) (Post SB 24-010)
 Figure 7 (Sheet 2 of 2)

PILATUS PC12 SERVICE BULLETIN

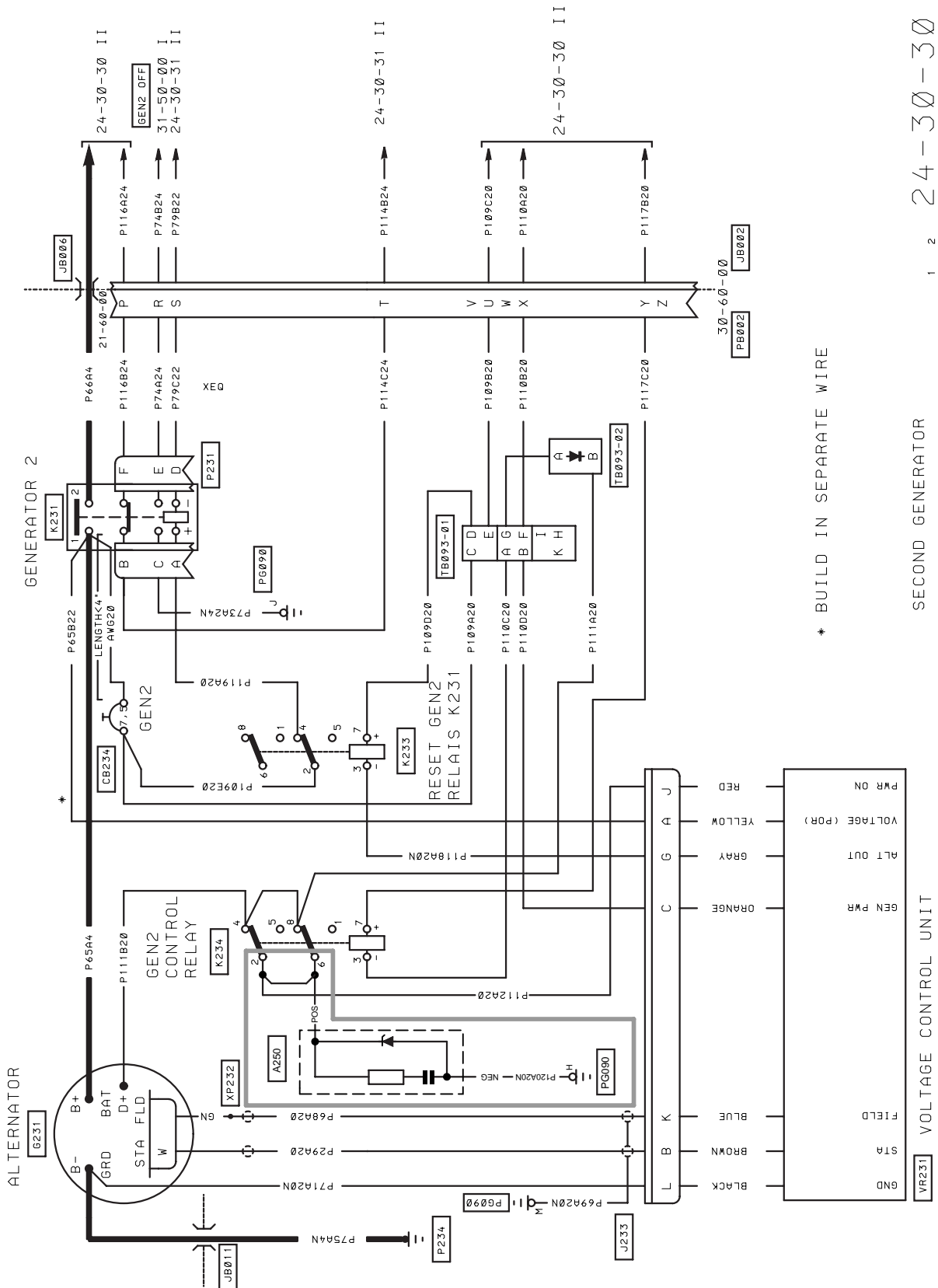


Voltage Spike Suppression Filter - Schematic - Pre-change of Location (Post SB 24-010)
Figure 8 (Sheet 1 of 2)

1 2 24-30-30
SECOND GENERATOR

SB1108

PILATUS PC12 SERVICE BULLETIN



Voltage Spike Suppression Filter - Schematic - Post Change of Location (Post SB 24-010)
Figure 8 (Sheet 2 of 2)