



CRUISER
AIRCRAFT

No.: SB-SC-096

DATE: 2024-03-21

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SERVICE BULLETIN

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REV.: -

DATE: -

MODEL AFFECTED:	SportCruiser / PiperSport operating outside EASA rules
SUBJECT:	Generator wiring modification
AIRCRAFT AFFECTED:	All SportCruiser / PiperSport aircraft
COMPLIANCE:	According to the owner's decision

DESCRIPTION:

This Service Bulletin contain instructions how to modify Rotax 912 electrical generator wiring to prevent voltage spikes.

REASON:

New generator wiring prevents voltage spikes during turning on and off the generator. Voltage spikes can damage electronic equipment. Especially digital avionics.

AUTHORISATION TO PERFORM:

Repairman (LS-M) or Mechanic (A&P)

MANPOWER:

2 hour

SPECIAL TOOLS:

Common tools for aircraft maintenance.

WEIGHT AND BALANCE:

N/A

ELECTRICAL LOAD DATA:

N/A

PUBLICATIONS AFFECTED:

Wiring manual: CR-WMA-1-0-01
CR-WMA-1-0-03
CR-WMA-1-0-03-S-03
CR-WMA-1-0-03-S-05
CR-WMA-1-0-04
CR-WMA-1-0-05

MATERIAL AND COSTS:

All costs to be covered by the aircraft owner / operator.

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Material:

ITEM No.	Part Number	CAG P/N	DESCRIPTION	QUANTITY
001	7610-03/04/100	66517024	Wire eye	1 pc
002	7122-03/100	66514004	Fastin-On Receptacle	1 pc

CONDITION BEFORE MODIFICATION

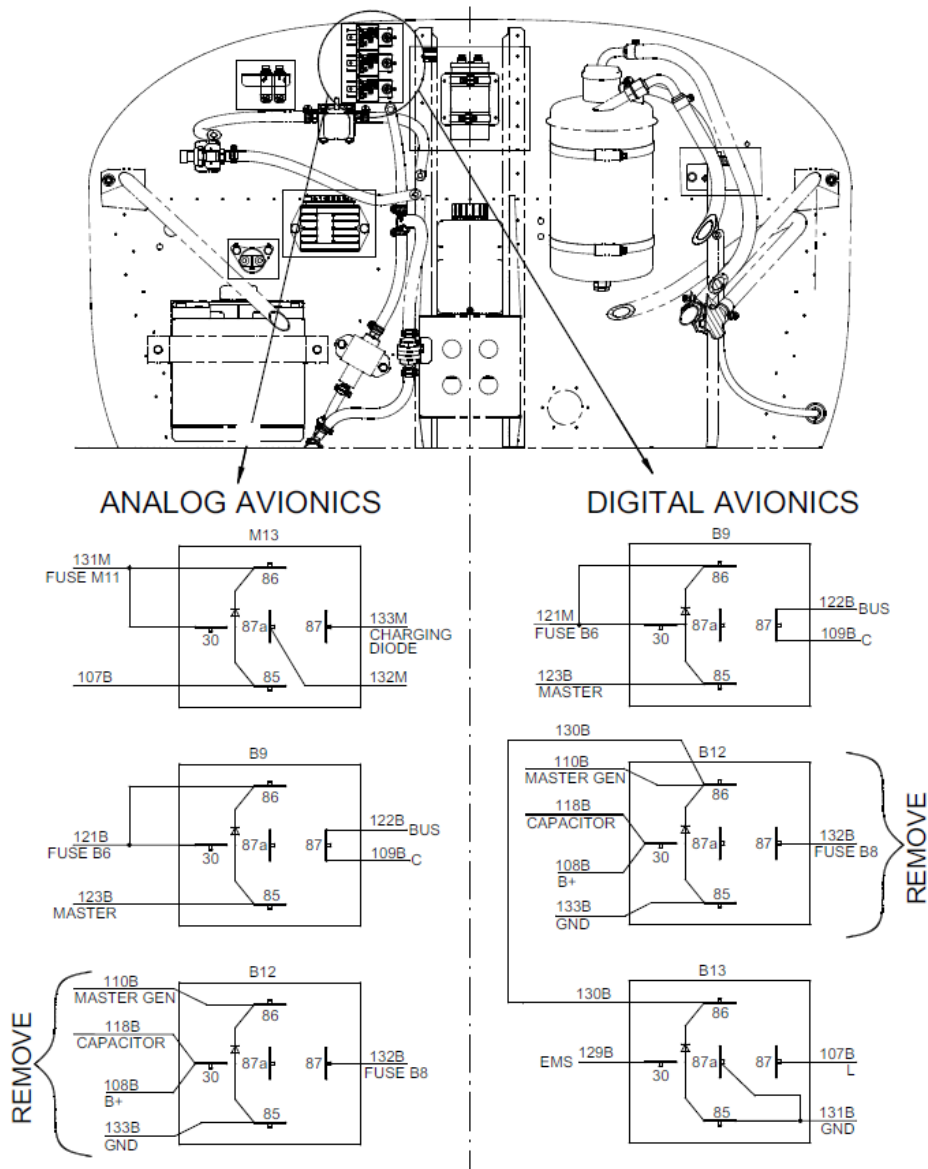


Fig. 1: Condition before modification

NOTE: Airplane S/N from C0637 (inclusive C0630) do not have wire 118B connected to relay B12. See wiring diagram in the end of this document

ACCOMPLISHMENT INSTRUCTIONS:

NOTE: There is a difference between aircraft with digital and analogue avionics equipment.

NOTE: Wiring diagram is attached at the end of the document.

- 1) Remove the engine cowling according to maintenance manual CR-MM-1-0-00, Chapter 10.
- 2) Disconnect the aircraft battery, first the negative terminal, then the positive terminal (See Fig. 2,3)



Fig. 2: Battery terminal

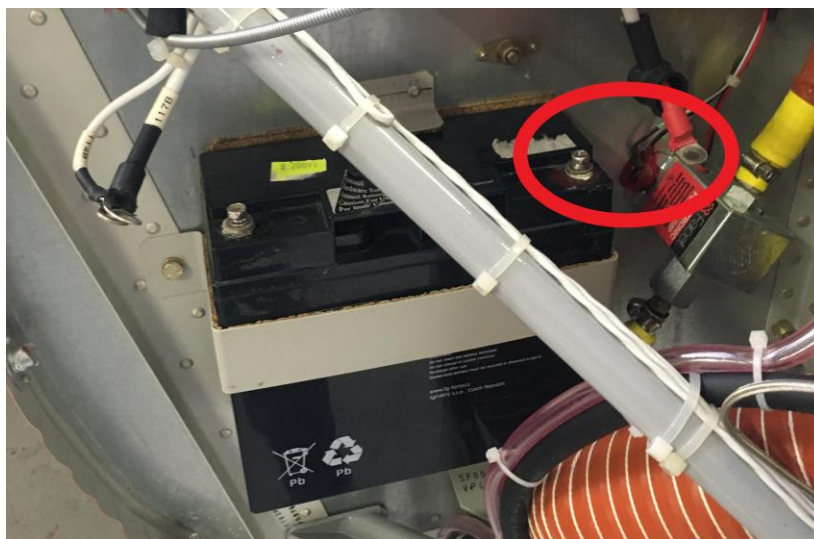


Fig. 3: Battery terminal

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- 3) Cut the zip ties according to the picture (See Fig. 4)

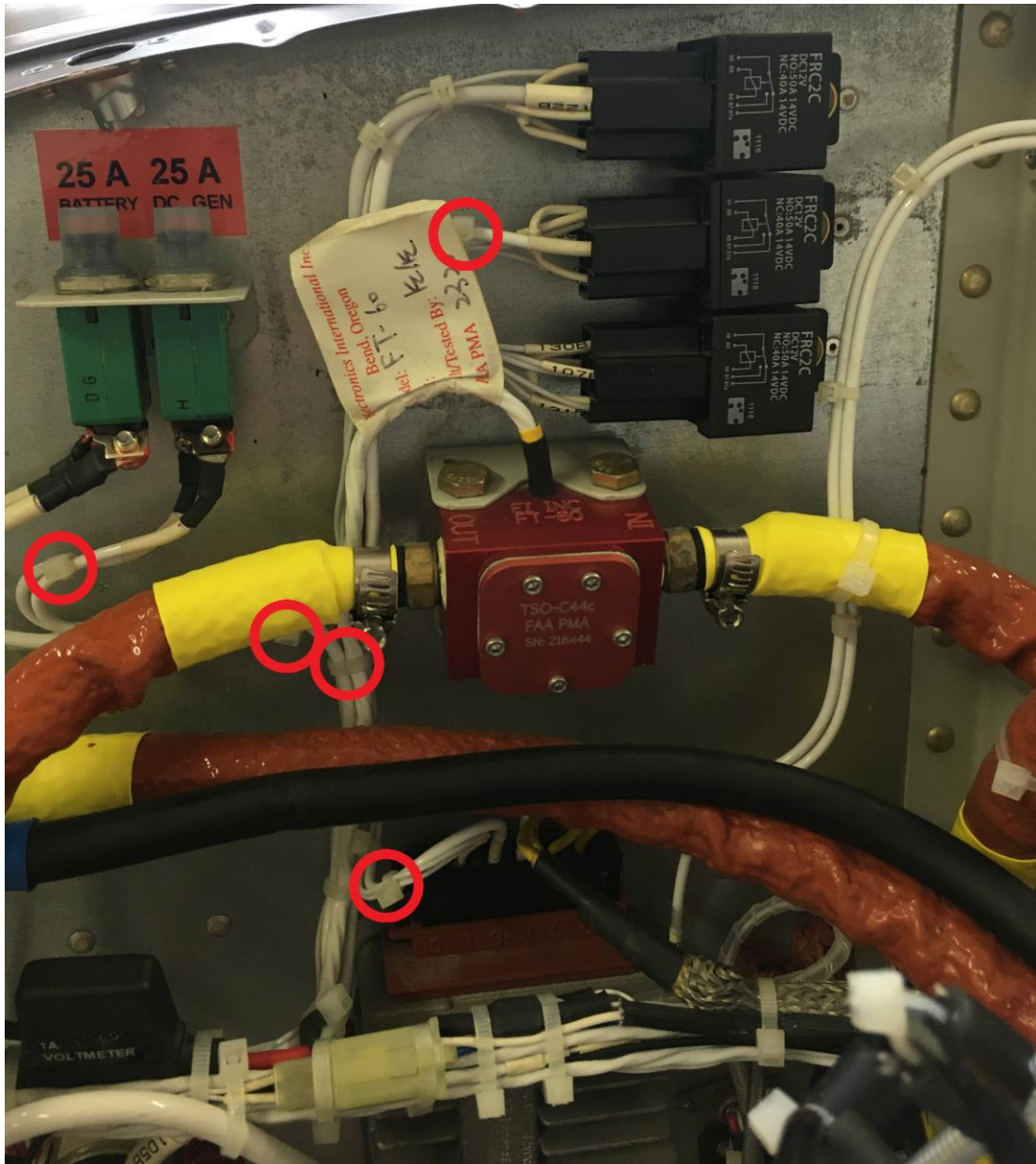


Fig. 4: Fasteners

- 4) Squeeze the locking paws on the sides of the terminal block and pull it out. (See Fig. 5)

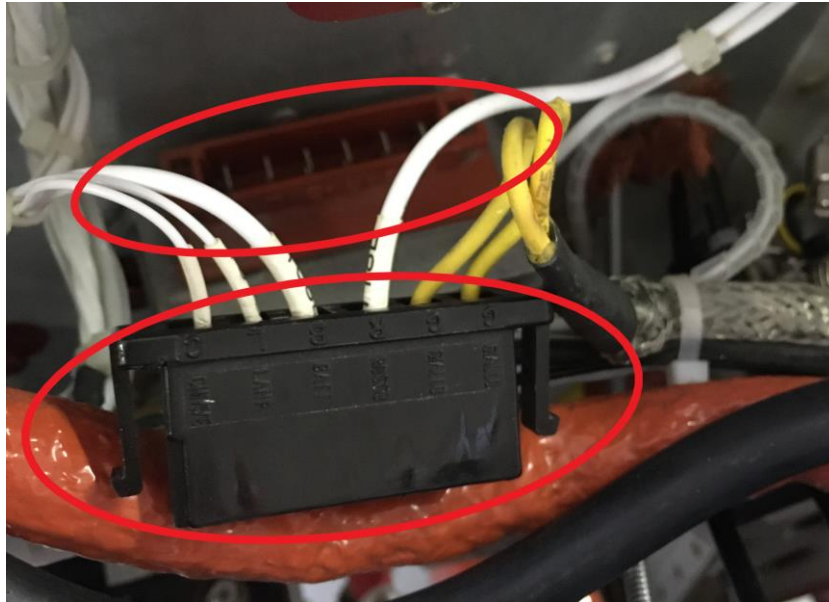


Fig. 5: Terminal block

- 5) Unscrew relay B12
- Middle position for digital avionics models (See Fig. 6)
 - Lower position for analogue avionics models
 - See also Fig. 1

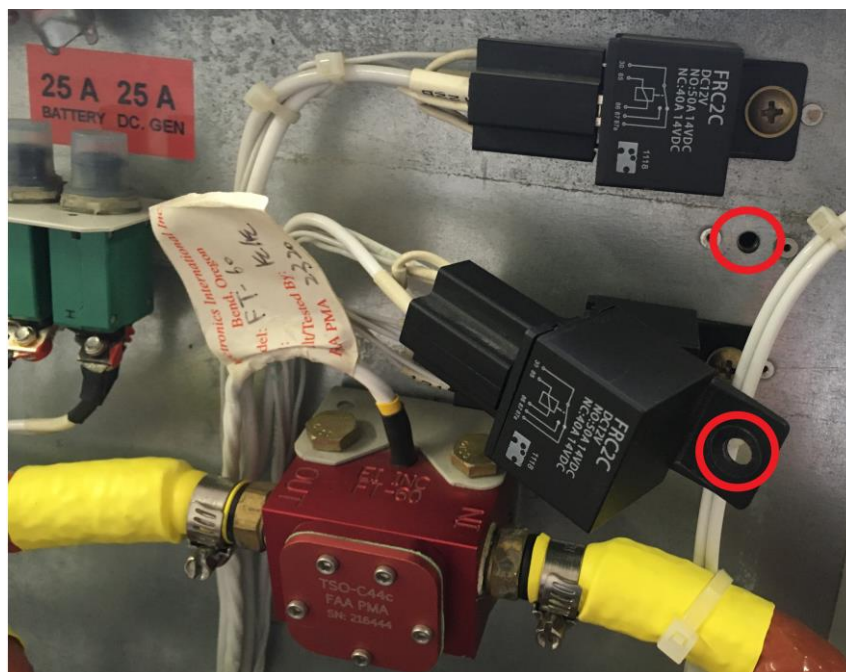


Fig. 6: Relay

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- 6) Pull out the relay and release the individual wires by loosening the locking pawl with a screwdriver (See Fig. 7, 8)

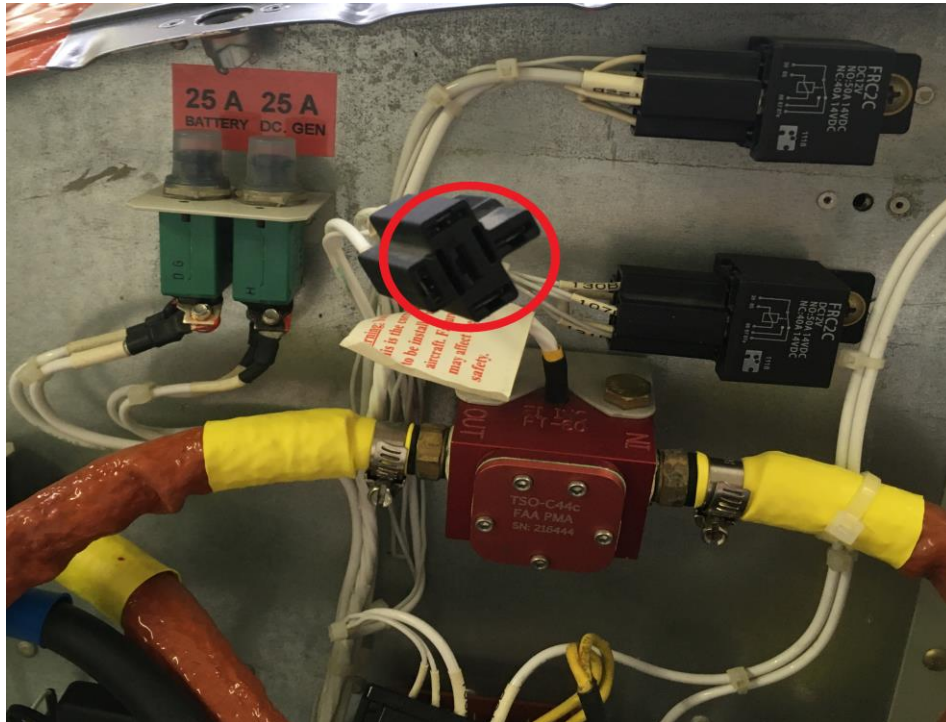


Fig. 7: Plug



Fig. 8: Wires

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- 7) Remove wire marked 132B (See Fig. 9)



Fig. 9: Marked wires

- 8) Unscrew the nut and release GEN circuit breaker (See Fig. 10)

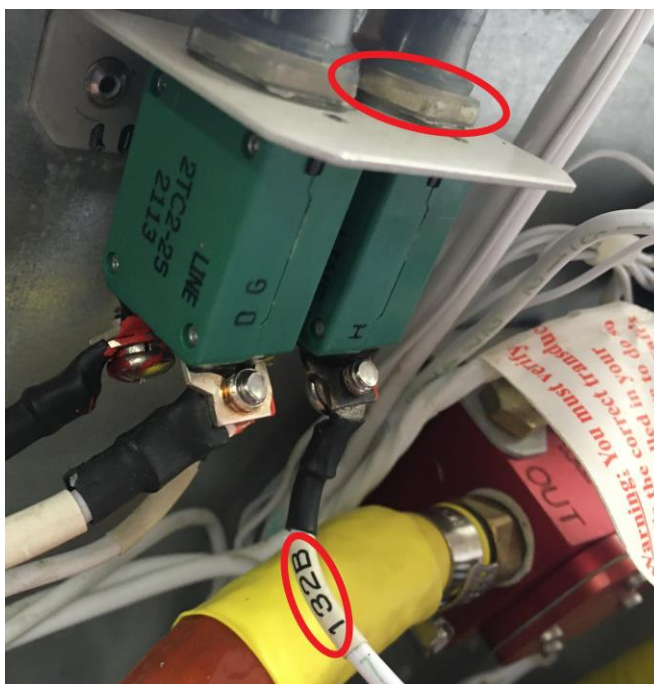


Fig. 10: Fuse

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- 9) Pull out circuit breaker and unscrew wire 132B screw, remove wire 132B (See Fig. 11)



Fig. 11: Fuse screw

- 10) On the wire marked 108B, cut off the end piece (See Fig. 12)



Fig. 12: Marked wire

11) Remove the end of the insulation on the wire marked 108B (See Fig. 13)

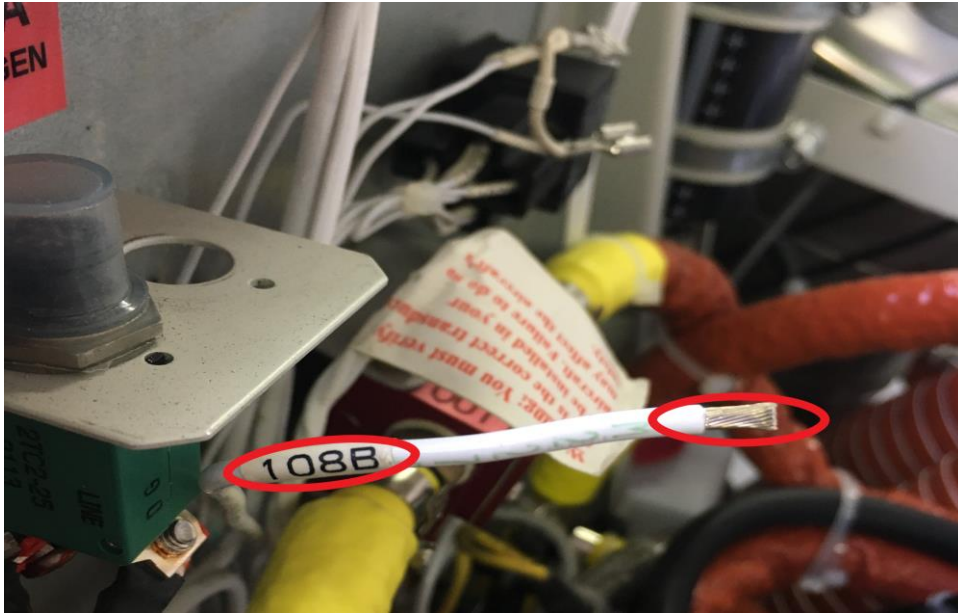


Fig. 13: Marked wire

12) Put the shrink insulation on the wire marked 108B, and attach the new lug with the eye (001) to the bare end and secure it with crimping pliers (See Fig. 14)

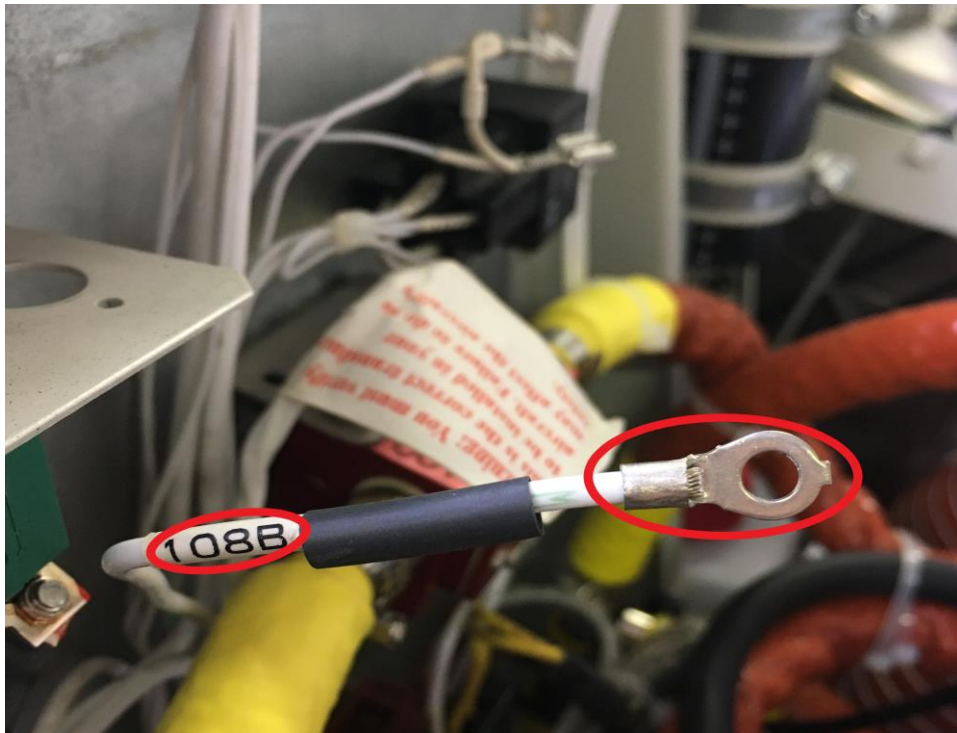


Fig. 14: Wire lug

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13) Use prepared heatshrink insulation for the lug. (See Fig. 15)

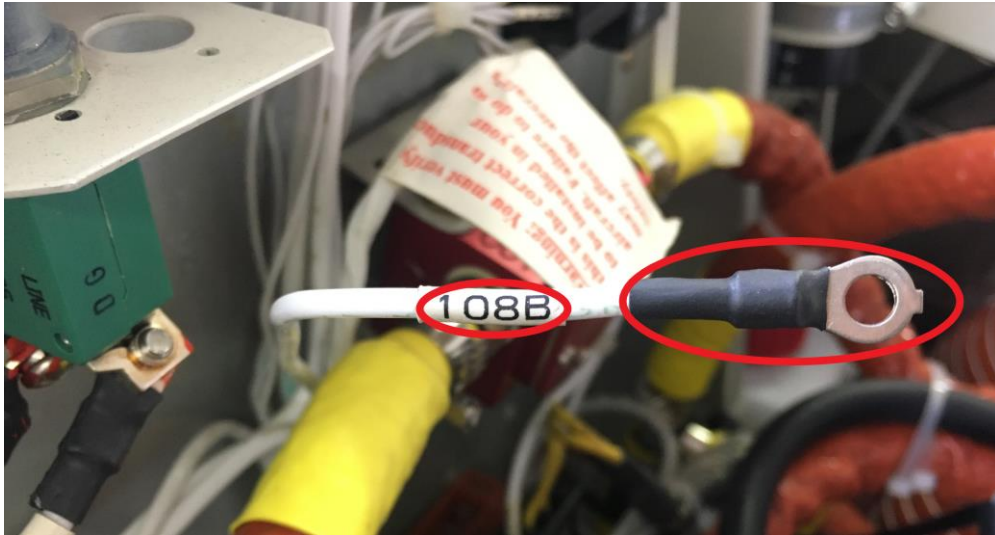


Fig. 15: Wire insulation

14) Screw the wire marked 108B onto the GEN circuit breaker and screw joint secure by thread lock paint (See Fig. 16)



Fig. 16: Fuse secure point

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15) Restore GEN circuit breaker to the original position on firewall. (See Fig. 17)



Fig. 17: Fuse position

16) Cut the end of wire 133B. (See Fig. 18)

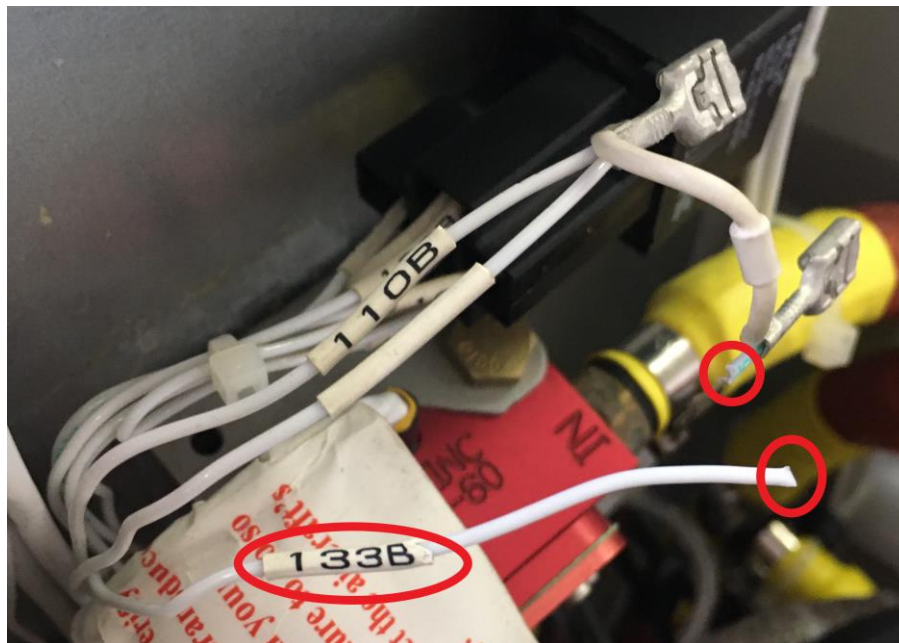


Fig. 18: Marked wire

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- 17) Blind wire 133B. Bend bare wires backwards along the insulation and secure with heat shrink insulation. (See Fig. 19)



Fig. 19: Wire insulation

- 18) Using a screwdriver, loosen the locking tab from the terminal block and slide out the wire marked 109B (See Fig. 20)

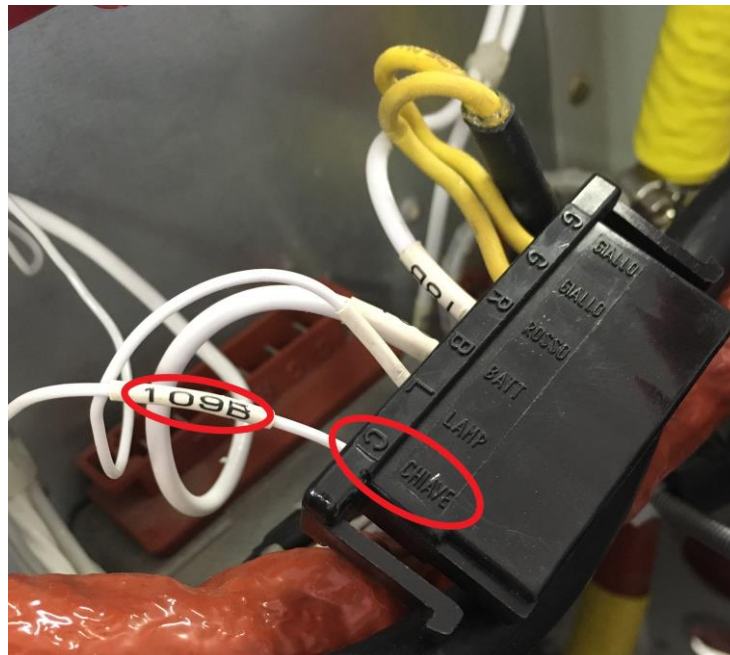


Fig. 20: Marked wire

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19) Pull the plug out of the relay (See Fig. 21)

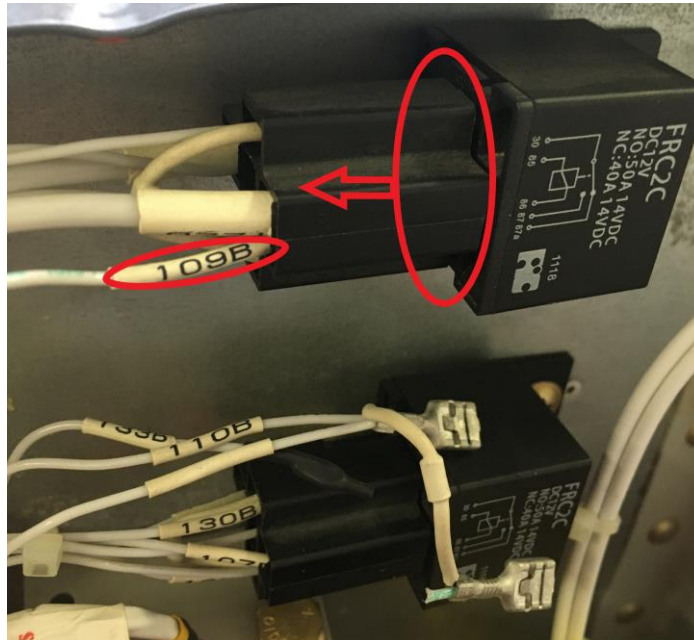


Fig. 21: Plug

20) Using a screwdriver, loosen the locking tab and slide out the wire marked 109B (See Fig. 22)

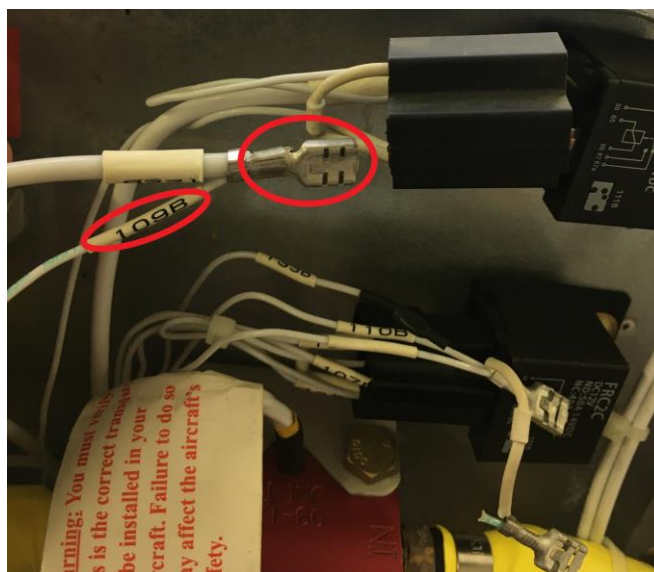


Fig. 22: Wire 109B

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21) Cut and remove the wire marked 109B (See Fig. 23)

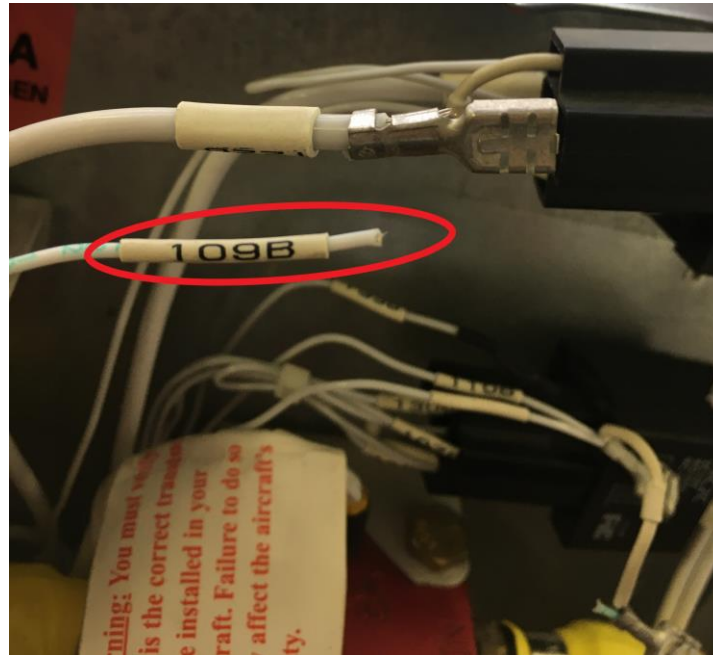


Fig. 23: Wire 109B

22) Return the wire to which the 109B was connected to the original socket, but first return the locking pawl to the correct position (See Fig. 24)

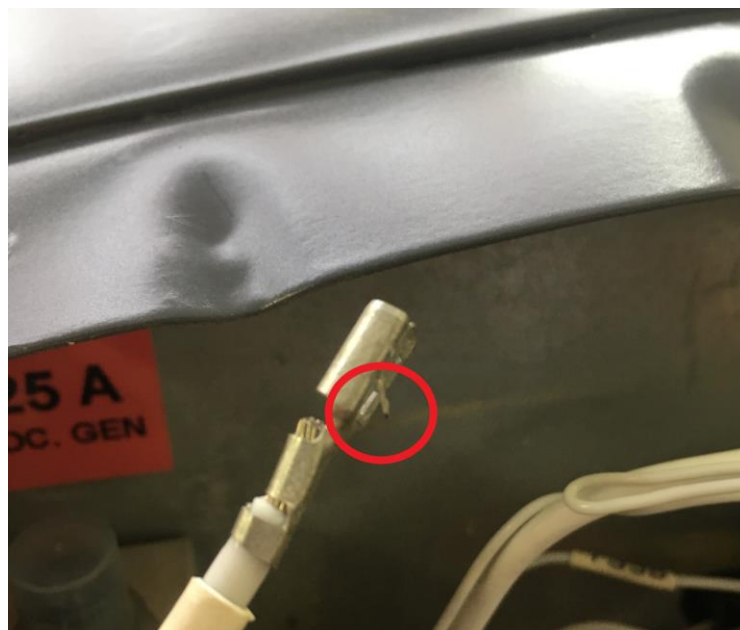


Fig. 24: locking pawl

23) Cut the terminals from the 110B and 130B wires (See Fig. 25)

NOTE: Wire 130B is not used for the analog avionics.

NOTE: For airplanes S/N till C0637 (exclusive C0630) wire 118B leads to relay B12. Rewire 118b to R on the rectifier (See diagram in the attachment)

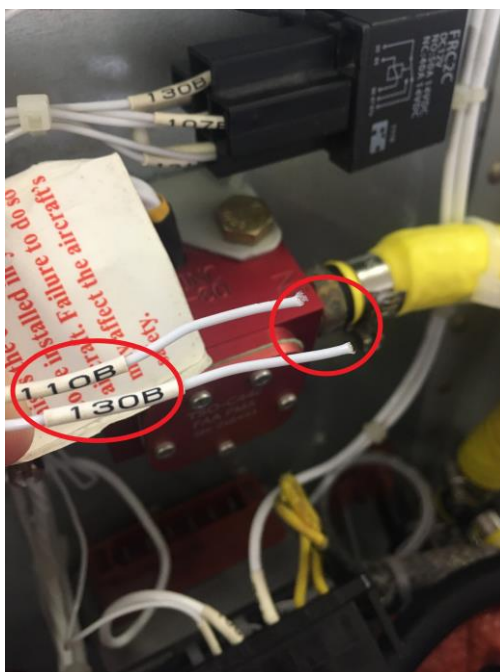


Fig. 25: Wires 110B and 130B

24) Remove the insulation ends from the wires and splice the wires (See Fig. 26)

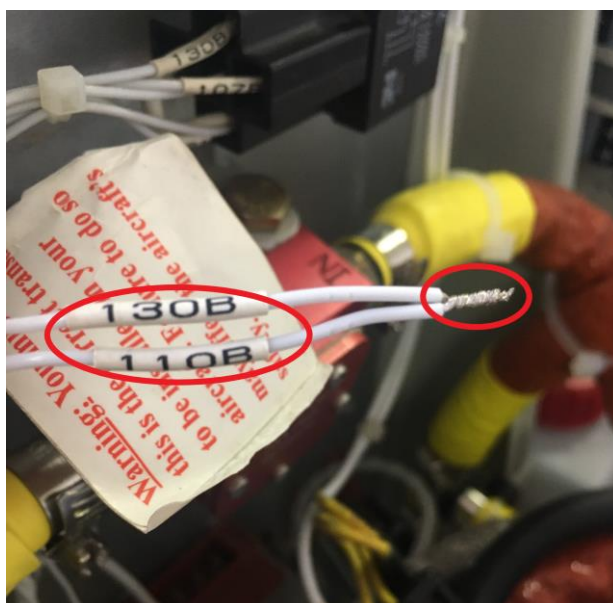


Fig. 26: Connected wires

NOTE: Wire 130B is not used for the analog avionics.

- 25) Attach the connector cavity (002) to the end of the spliced wires and secure with crimping pliers (See Fig. 27)



Fig. 27: Connected wires

- 26) Insert the connected wires 130B and 110B into the terminal block at position C (See Fig. 28)

NOTE: Wire 130B is not used for the analog avionics.



Fig. 28: Terminal block

NOTE: Wire 130B is not used for the analog avionics.

27) Put the terminal block back in its place (See Fig. 29)

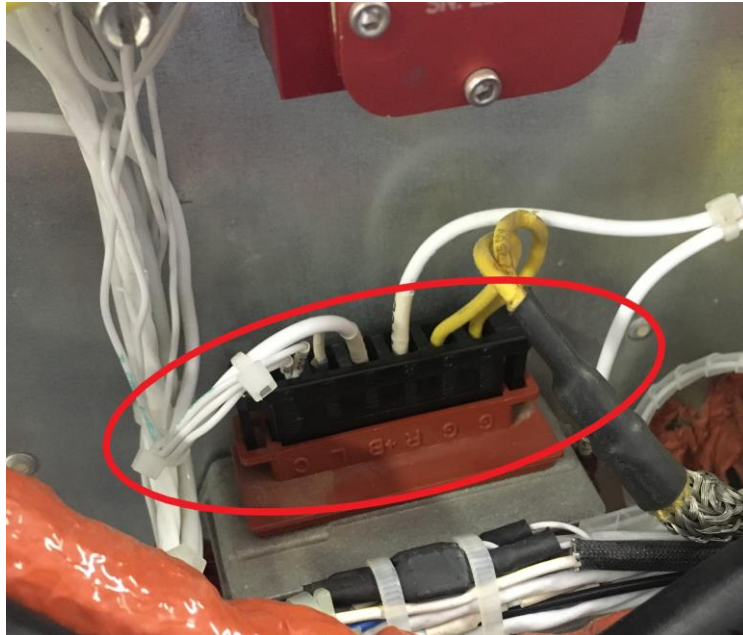


Fig. 29: Terminal block

28) Bind the wire with zip ties and return the screw from the relay (See Fig. 30)

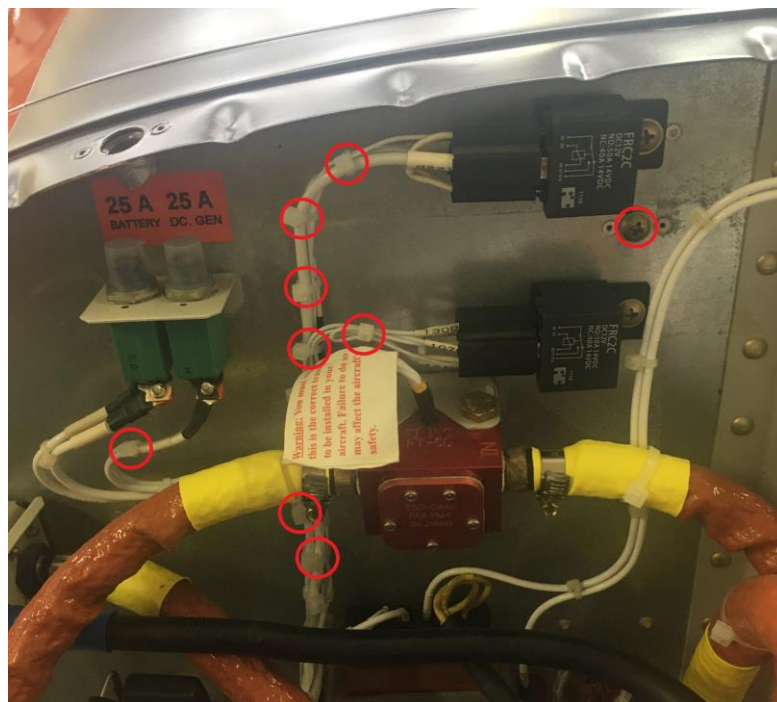


Fig. 30: Zip ties position

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29) Reconnect the battery, see beginning of SB on battery disconnection. (See Fig. 31)

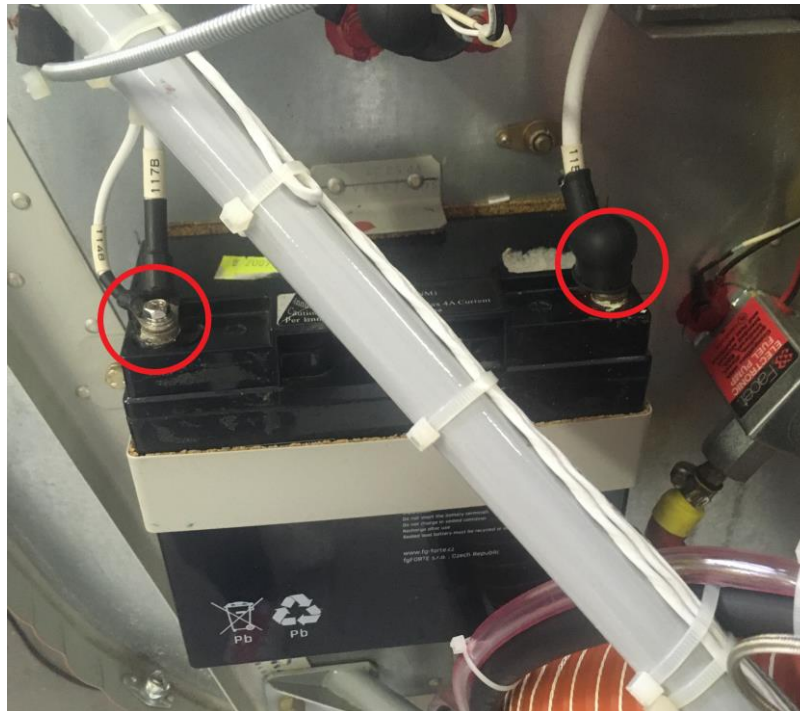


Fig. 31: Battery connection

- 30) Instal engine cowling.
- 31) Restore to airworthy condition.
- 32) Perform engine test run.



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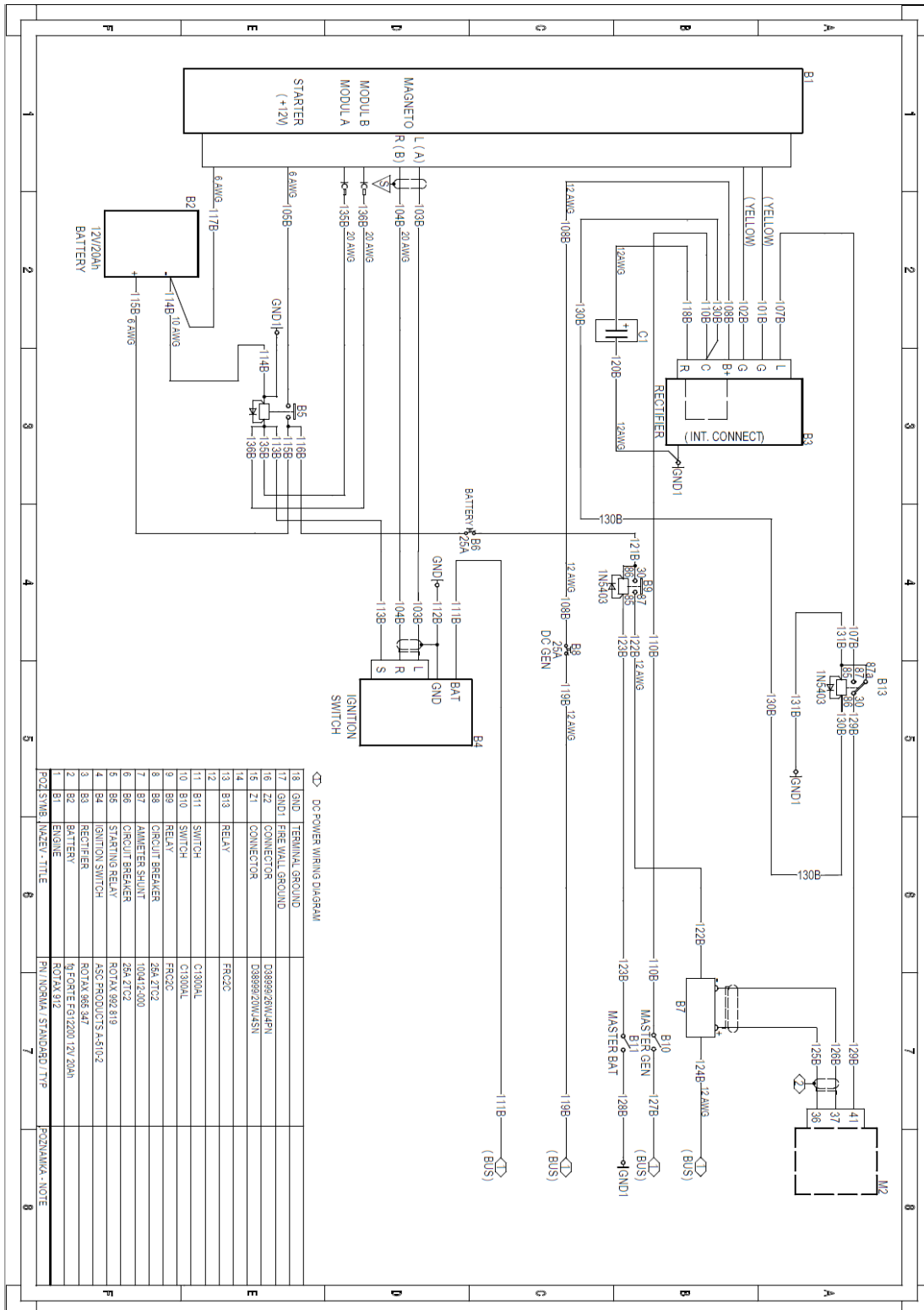
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Digital avionics wiring diagram





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Approval:

This Service Bulletin has been approved by:

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