



US Department
of Transportation
Federal Aviation
Administration

MAJOR REPAIR AND ALTERATION
(Airframe, Powerplant, Propeller, or Appliance)

OMB No. 2120-0020
Exp: 07/31/2026

Electronic Tracking Number

For FAA Use Only

INSTRUCTIONS: Print or type all entries. See Title 14 CFR §43.9, Part 43 Appendix B, and AC 43.9-1 (or subsequent revision thereof) for instructions and disposition of this form. This report is required by law (49 U.S.C. §44701). Failure to report can result in a civil penalty for each such violation. (49 U.S.C. §46301(a))

1. Aircraft	Nationality and Registration Mark N5413K	Serial No. NAV-4-2314B	
	Make Ryan Aeronautical	Model Navion	Series B
2. Owner	Name (As shown on registration certificate) William W. Putney III Gail C. Rodgers	Address (As shown on registration certificate) Address 1154 SE 40th Ave. City Hillsboro State OR Zip 97123 Country USA	

3. For FAA Use Only

The data identified herein complies with the applicable airworthiness requirements and is approved only for the above described aircraft, subject to conformity inspection by a person authorized in 14 CFR §43.7.

**WILLIAM K
RUCONICH**

Digitally signed by WILLIAM K
RUCONICH
Date: 2025.04.16 14:54:09
-07'00'

Aviation Safety Inspector, AFG-100/NM09

4. Type		5. Unit Identification			
Repair	Alteration	Unit	Make	Model	Serial No.
<input type="checkbox"/>	<input type="checkbox"/>	AIRFRAME	Ryan Aeronautical	(As described in Item 1 above)	NAV-4-2314B
<input type="checkbox"/>	<input type="checkbox"/>	POWERPLANT			
<input type="checkbox"/>	<input type="checkbox"/>	PROPELLER			
<input type="checkbox"/>	<input type="checkbox"/>	APPLIANCE	Type Manufacturer		

6. Conformity Statement

A. Agency's Name and Address		B. Kind of Agency	
Name William W. Putney III		<input checked="" type="checkbox"/> U. S. Certificated Mechanic	Manufacturer
Address 1154 SE 40th Ave.		<input type="checkbox"/> Foreign Certificated Mechanic	C. Certificate No.
City Hillsboro State OR		<input type="checkbox"/> Certificated Repair Station	2172454 A&P/IA
Zip 97123 Country USA		<input type="checkbox"/> Certificated Maintenance Organization	

D. I certify that the repair and/or alteration made to the unit(s) identified in item 5 above and described on the reverse or attachments hereto have been made in accordance with the requirements of Part 43 of the U.S. Federal Aviation Regulations and that the information furnished herein is true and correct to the best of my knowledge.

Extended range fuel per 14 CFR Part 43 App. B <input type="checkbox"/>	Signature/Date of Authorized Individual Wm. W. Putney III
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7. Approval for Return to Service

Pursuant to the authority given persons specified below, the unit identified in item 5 was inspected in the manner prescribed by the Administrator of the Federal Aviation Administration and is ☒ Approved ☐ Rejected

BY	FAA Flt. Standards Inspector	Manufacturer	Maintenance Organization	Persons Approved by Canadian Department of Transport
	FAA Designee	Repair Station	<input checked="" type="checkbox"/> Inspection Authorization	Other (Specify)

Certificate or Designation No. 2172454 A&P/IA	Signature/Date of Authorized Individual Wm. W. Putney III
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NOTICE

Weight and balance or operating limitation changes shall be entered in the appropriate aircraft record. An alteration must be compatible with all previous alterations to assure continued conformity with the applicable airworthiness requirements.

8. Description of Work Accomplished

(If more space is required, attach additional sheets. Identify with aircraft nationality and registration mark and date work completed.)

Reg: N5413K, SN: NAV-4-23148

Nationality and Registration Mark

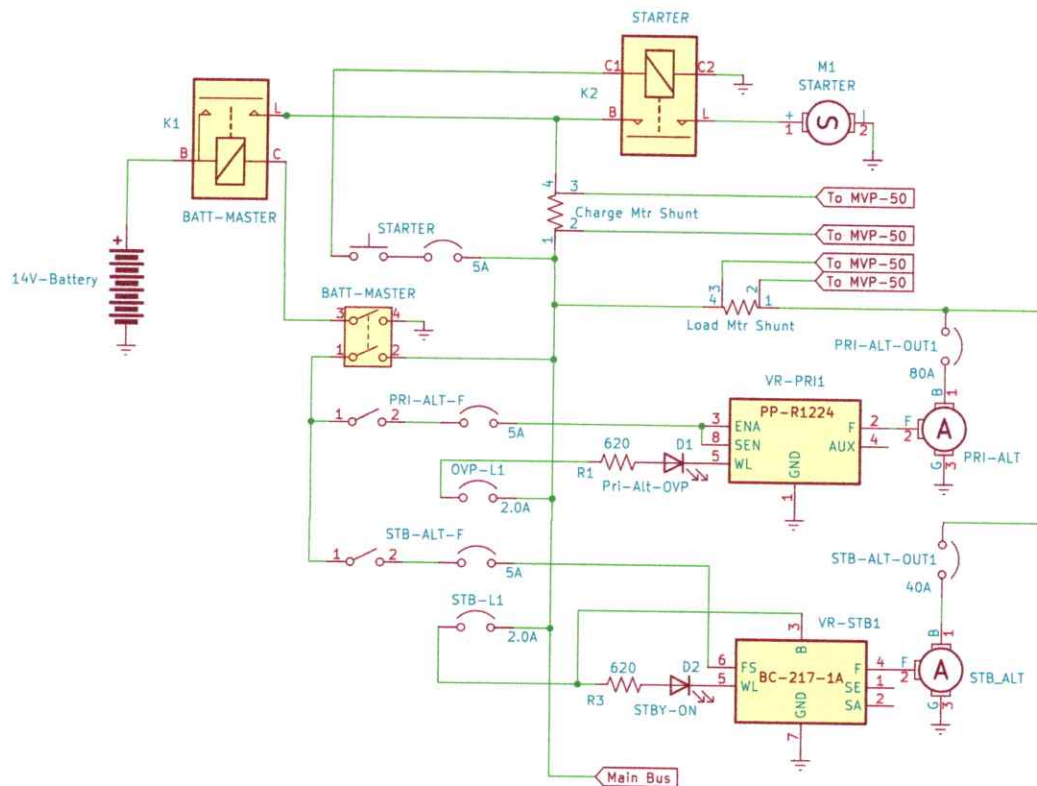
Date

- 1) Purpose: This alteration enhances safety of flight by adding a standby alternator system, (B&C PN: BC410-1 & reg. PN: BC217-1A) which provides electrical power should the primary alternator fail while in flight.
- 2) Necessity: If the Primary Alternator fails, the ship's battery provides limited power for navigation, communications, transponder/ADS-B, pitot heat and lighting for a safe return and landing.
- 3) Necessity for a Field Approval: This system may be installed by STC SA01066WI for similar aircraft, however the Navion B is not listed in the STC's AML.
- 4) Description of Work Performed: The installation was accomplished IAW B&C Specialty Products Install Instructions-BC410 Rev C doc (8/21/07).
- 5) Safety Considerations:
 - Aircraft performance is not impacted. The standby alternator does add additional load to the engine. With the primary INOP the Standby uses 40% less HP than the primary.
 - The standby alternator can be isolated from the electrical system by opening the "STB-ALT-OUT" 40A output CB & "STB-ALT-F" field 5A CB.
 - A placard in clear view of the pilot states "Takeoff/Continued flight with primary alternator INOP is prohibited."
- 6) The following documents were inserted in the aircraft's maintenance records:
 - ICA for BC410 Standby Alternator. B&C Specialty Products, Inc. ICA-BC410 Rev. A 11-03
 - ICA for BC217-1A Standby Alternator Controller. B&C Specialty Products, Inc. ICA_BC217-1A.spd, 2/01.
- 7) The following documents were inserted in the aircraft's Pilot's Operating Handbook;
 - Amended Weight and Balance Report.
 - Amended Equipment List.
- 8) Simplified electrical diagram.
 - This drawing depicts parts of the existing electrical system for context.
 - The following elements are added by this alteration; BC410 Standby Alternator "STB_ALT", BC217-1A Standby Alternator Controller "BC-217-1A", Output CB "STB-ALT-OUT", Field CB and control switch "STB-ALT-F", Indicator circuit components (LED "STBY-ON", 1 A CB "STB-L1", 620 Ohm Resistor "R3").
 - No other changes/additions to the electrical system were made to accomplish this alteration.

Attached Documents; Simplified electrical diagram (1 Page)

=====Nothing Follows=====

☒ Additional Sheets Are Attached



Sheet: /
File: N5413K_Charging_Only.kicad_sch
Title: N5413K Charging Circuits
Size: A Date:
KiCad E.D.A. 8.0.5

Rev:
Id: 1/1