



US Department of Transportation

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

Form Approved

OMB No. 2120-0020

**For FAA Use Only**

Office Identification

**Federal Aviation Administration**

INSTRUCTIONS: Print or type all entries. See FAR 43.9, FAR 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. 1421). Failure to report can result in a civil penalty not to exceed \$1,000 for each violation (Section 901 of Federal Aviation Act of 1958).

<b>1. Aircraft</b>	Make <p style="text-align: center;">Ryan</p>	Model <p style="text-align: center;">Navion B</p>
	Serial No. <p style="text-align: center;">NAV-4-2313B</p>	Nationality and Registration Mark <p style="text-align: center;">N5413K</p>
<b>2. Owner</b>	Name (As shown on registration certificate) <p style="text-align: center;">Putney, William W III Rodgers, Gail C</p>	Address (As shown on registration certificate) <p style="text-align: center;">5780 Balmoral Drive Oakland, CA 94619</p>

**3. For FAA Use Only**

The data identified herein complies with the applicable airworthiness requirements and is approved for the above described aircraft, subject to conformity inspection by a person authorized in FAR 43, Section 43.7

05-29-03     *[Signature]*  
 DATE                                  SIGNATURE                                  OAK-FSDO

**4. Unit Identification**

**5. Type**

Unit	Make	Model	Serial No.	Repair	Alteration
AIRFRAME	~~~~~ (As described in Item 1 above) ~~~~~				<b>X</b>
POWERPLANT					
PROPELLER					
APPLIANCE	Type				
	Manufacturer				

**6. Conformity Statement**

<b>A. Agency's Name and Address</b> <p style="text-align: center;">Pierre Borduas 875A Island Dr. #253 Alameda, CA. 94502</p>	<b>B. Kind of Agency</b> <input checked="" type="checkbox"/> U.S. Certificated Mechanic <input type="checkbox"/> Foreign Certificated Mechanic <input type="checkbox"/> Certified Repair Station <input type="checkbox"/> Manufacturer	<b>C. Certificate No.</b> <p style="text-align: center;">A.P. 2020552 I.A.</p>
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D. I certify that the repair and/or alteration made to the unit(s) identified in item 4 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.

Date <p style="text-align: center; font-size: 1.2em;">6-2-03</p>	Signature of Authorized Individual <p style="text-align: center;"><i>[Signature: P. Borduas]</i></p>
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**7. Approval for Return To Service**

Pursuant to the authority given persons specified below, the unit identified in item 4 was inspected in the manner prescribed by the Administrator of the Federal Aviation Administration and is  APPROVED  REJECTED

BY	FAA Fit. Standards Inspector	Manufacturer	<input checked="" type="checkbox"/>	Inspection Authorization	Other (Specify)
	FAA Designee	Repair Station		Person Approved by Transport Canada Airworthiness Group	

Date of Approval or Rejection <p style="text-align: center; font-size: 1.2em;">6-2-03</p>	Certificate or Designation No. <p style="text-align: center;">A.P. 2020552 I.A.</p>	Signature of Authorized Individual <p style="text-align: center;"><i>[Signature: P. Borduas]</i></p>
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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.)

**Description of alteration:** A previously installed remote magnetic compass and indicator (337 dated 8/26/1957) was removed for this alteration. This alteration installs a Rocky Mountain Instrument model "μ-Encoder" in the instrument panel and an associated a remote flux gate compass unit. This unit supplies supplemental air-data information only. The unit is not a required item and does not replace any required primary instrument.

**Description of work:** Installed μ-Encoder instrument at location 5a (see attached N5413K Panel drawing), outside air temperature probe located in the left engine cooling air inlet and remote flux gate compass located at 237.25 from datum point between frames 224 and 349.5. The installation was done in accordance with Rocky Mountain Instrument "μ-Encoder Operation, Programming & Installation Manual". An adapter plate was fabricated to mount the new flux gate compass unit in the location formerly occupied by the old syncro remote compass. No alteration to the aircraft structure was made to accomplish this installation.

This unit is connected to aircraft power by a dedicated 3A fuse (Buss PN: GMA-3) labeled "uEncoder". The fuse is located in a fuse block on the lower left side of the control panel. The total aircraft system electrical load does not exceed 80% of the generating capacity after this alteration. Connections to aircraft power comply with 23.1365 "Electrical cables and equipment" (a, d, e) and 23.1357 "Circuit protective devices".

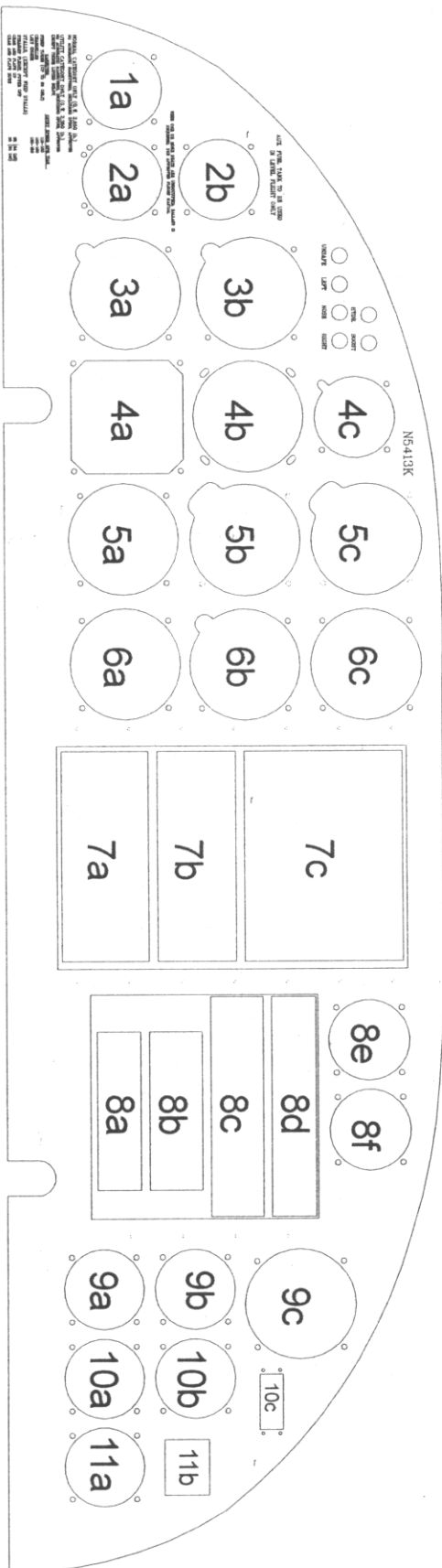
A check for interactions with other systems was made to comply with 23.1309 (a)(1). A placard reading "Not Primary" was placed adjacent to the instrument in compliance with 23.1301 "Function and installation" (b). Testing in compliance with 23.1325 "Static pressure system" and 91.411 "Altimeter and altitude reporting equipment tests and inspections" was performed.

A new weight and balance measurement in accordance with 43.13 chapter 10 has been done which includes this alteration.

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### INSTRUCTIONS FOR CONTINUED AIRWORTHINESS

- 1) **Introduction:** See above (Form 337 section 8).
- 2) **Description:** See above (Form 337 section 8).
- 3) **Control:** Operation of the μ-Encoder is covered in the "μ-Encoder Operation, Programming & Installation Manual".
- 4) **Servicing information:** Not applicable.
- 5) **Maintenance Instructions:** This unit should be calibrated to correspond to the primary flight instruments in compliance with 23.1325 "Static pressure system" and 91.411 "Altimeter and altitude reporting equipment tests and inspections".
- 6) **Trouble shooting information:** Not applicable.
- 7) **Removal and replacement information:** Unit is attached with 4-#6-32 flat head screws. Disconnect the D connector on the rear of the uEncoder. The remote flux gate compass is attached by 3-#8-32 pan head screws. Disconnect the modular connector. If the aircraft is to be returned to service without these units installed, insure that cables and connectors are secured out of the way of flight controls.
- 8) **Diagrams:** Not applicable.
- 9) **Special inspection requirements:** Not applicable.
- 10) **Application of protective treatments:** Not applicable.
- 11) **Data:** No structural fasteners were used in the installation of this unit.
- 12) **List of special tools:** No special tools are required to install or maintain any components associated with this alteration.
- 13) **For commuter category aircraft:** Not applicable.
- 14) **Recommended overhaul periods:** The unit should be returned to the factory every 60 months for recalibration.
- 15) **Airworthiness Limitation Section:** Placarded "Not Primary".
- 16) **Revision:** A letter will be submitted to the local FSDO with a copy of the revised FAA Form 337 and revised JCA. The FAA inspector accepts the change by signing Block 3 of the 337.



Material: 6061-T6  
 Thickness: 0.100"  
 Finish: Low reflectivity powder coating

Reg: N5413K  
 SN: NAV-4-2313B

# N5413K Panel

SIZE	FSCM NO.	DWG NO.	REV
A		NAV-2452781-13888	1.0
SCALE	DATE	SHEET	
1:5	22 May, 2003	1 of 1	