N629C

2003 Saratoga II TC

FAA Form 337s

MSN: 3257331

Prepared by the worldwide aviation specialists at RidgeAire, Inc.

US Department of Transportation
Federal Aviation Administration

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

Form Approved OMB No 2120-0020 2/28/2011 | 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: USA N629C	Serial No.: 3257331	
	Make: PIPER	Model: PA-32R	Series: 301T
2. Owner	Name *(As shown on registration certificate)*: M&W ASSOCIATES INC	Address *(As shown on registration certificate)*: Address PO BOX 258; City CENTERVILLE; State TN; Zip 37033-0258; Country USA	

3. For FAA Use Only

4. Type		5. Unit Identification			
Repair	Alteration	Unit	Make	Model	Serial No.
☐	☒	AIRFRAME	———	*(As described in Item 1 above)*	———
☐	☐	POWERPLANT			
☐	☐	PROPELLER			
☐	☐	APPLIANCE	Type / Manufacturer		

6. Conformity Statement

A. Agency's Name and Address	B. Kind of Agency		
Name: Mike Jones Avionics and Maintenance LLC	☐	U. S Certificated Mechanic	☐ Manufacturer
Address: 1930 Memorial Blvd	☐	Foreign Certificated Mechanic	C. Certificate No.
City: Murfreesboro State: TN	✔	Certificated Repair Station	
Zip: 37129-1502 Country: USA	☐	Certificated Maintenance Organization	9JNR717B

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	Signature/Date of Authorized Individual
☐	DAVID HALTERMAN [signature] 2/8/2018

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	☐	Inspection Authorization	Other *(Specify)*

Certificate or Designation No.	Signature/Date of Authorized Individual
9JNR717B	DAVID HALTERMAN [signature] 2/8/2018

FAA Form 337 (10-06)

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.)

USA N629C	2/8/2018
Nationality and Registration Mark	Date

1. Removed Garmin GTX330 transponder PN: 011-00455-00, SN: 84108690.
2. Installed GTX345 Transponder PN: 010-01216-01 in accordance with STC SA01714WI and Garmin installation manual 190-00734-10 Rev. 9 dated Dec. 20, 2017. Inserted flight manual supplement 190-00734-15 Rev. 3, dated Dec. 21, 2017 into aircraft flight manual. Inserted Instructions for Continued Airworthiness 190-00734-11 Rev. 6, dated Dec. 21, 2017 into aircraft records. Aircraft weight and balance and equipment list updated.

Post installation ground tests were performed in accordance with the installation manual. A log entry was made listing this installation. All inspection records and other documents pertaining to this installation are on file at Mike Jones Avionics and Maintenance LLC under W.O.#. 0994-02-2018----------END----------

☐ Additional Sheets Are Attached

US Department of Transportation Federal Aviation Administration

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

Form Approved	Electronic Tracking Number
OMB No. 2120-0020	
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: N629C	Serial No.: 3257331	
	Make: Piper	Model: PA-32R-301T	Series:
2. Owner	Name (As shown on registration certificate): Richard W. Griffin Inc.	Address (As shown on registration certificate): Address 121 S. Broadway Ave Suite 318	
		City Tyler	State TX
		Zip 75702-7258	Country USA

3. For FAA Use Only

4. Type		5. Unit Identification			
Repair	Alteration	Unit	Make	Model	Serial No.
☐	☒	AIRFRAME	----------	(As described in Item 1 above)	----------
☐	☐	POWERPLANT			
☐	☐	PROPELLER			
☐	☐	APPLIANCE	Type / Manufacturer		

6. Conformity Statement

A. Agency's Name and Address

Name NORTHWEST ARKANSAS AVIONICS, INC.
Address 5404 AIRPORT BLVD
City FORT SMITH State AR
Zip 72903 Country USA

B. Kind of Agency

- ☐ U.S. Certificated Mechanic
- ☐ Foreign Certificate Mechanic
- ☒ Certificated Repair Station
- ☐ Certificated Maintenance Organization
- ☐ Manufacturer

C. Certificate No. QNAR051K

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 ☐

Signature/Date of Authorized Individual

November 22, 2010, Alan Ike

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	☐ Inspection Authorization	☐ Other (Specify)

Certificate or Designation No. QNAR051K

Signature/Date of Authorized Individual

11/22/10 Alan Ike

FAA Form 337 (10/06)

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 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.)

N629C	November 22, 2010
Nationality and Registration Mark	Date

REMOVED THE FOLLOWING EQUIPMENT:

Description	Manufacturer	Model Number	Part Number	Location
Data Link	Garmin	GDL 49	010-00729-01	F.S. 233
Nav System	Garmin	GNS-430	011-00280-10	F.S. 64
Nav System	Garmin	GNS-530	011-00550-10	F.S. 64
Data Link Antenna	Rami	Av-14	010-10303-00	F.S. 233
WAAS GPS Antenna	Garmin	GA-56	011-00134-00	F.S. 101
WAAS GPS Antenna	Garmin	GA-56	011-00134-00	F.S. 101

INSTALLED THE FOLLOWING EQUIPMENT:

Description	Manufacturer	Model Number	Part Number	Location
XM Weather	Garmin	GDL-69	011--00986--00	F.S. 233
Nav System	Garmin	GNS-530W	011-01064-00	F.S. 64
Nav System	Garmin	GNS-430W	011-01060-00	F.S. 64
Engine Monitor	Garmin	EDM 830	N/A	F.S. 62
XM Antenna	Garmin	GA-55	011-01033-00	F.S. 255
WAAS GPS Antenna	Garmin	GA-35	013-00235-00	F.S. 101
WAAS GPS Antenna	Garmin	GA-35	013-00235-00	F.S. 101

DESCRIPTION OF ALTERATION:

Installation of JPI EDM 830 Engine Monitoring System and upgrade GNS-530/GNS-430 to GNS-530W/GNS-430W WAAS receivers. Removed obsolete weather system, installed XM satellite weather receiver.

APPROVED DATA:

STC# SA01933LA-D
STC # SA01487SE-D
STC# SA00432SE
STC# SA2586NM

The Flight Manual Supplement for the GNS 530W, GA 35, GNS-430, EDM 830, the ICA's, AML, and STC have been supplied to the Aircraft owner.

All work was performed in accordance with the data referenced above. Post installation ground test have been performed to assure proper operation of all affected systems. All affected systems were tested accordingly to show compliance with 14 CFR 23.1309.

An Electrical Load Determination was performed I.A.W. AC43.13-1B/Para 11-36. the changes in the electrical load were found to be within the limits established by the airframe manufacturer.

The Aircraft Equipment List and Weight and Balance have been updated to reflect the changes affected by this alteration.

----------END----------

☐ Additional Sheets are Attached

RECEIVED
JAN 2 1 2004

U.S Department of Transportation
Federal Aviation Administration

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

Form Approved SWO5
OMB No. 2120-0020

For FAA Use Only

Office Identification
SW05 MH

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 such violation (Section 901 Federal Aviation Act 1958)

1. Aircraft	Make: PIPER	Model: PA-32R-301T
	Serial No.: 3257331	Nationality and Registration Mark: N629C
2. Owner	Name *(As shown on registration certificate)*: Richard W. Griffin, Inc	Address *(As shown on registration certificate)*: 121 S. Broadway, Suite 318, Tyler, TX 75702

3. For FAA Use Only

The TECHNICAL DATA / ALTERATION / REPAIR identified herein complies with the applicable airworthiness requirements and is approved for use ONLY on the above described aircraft, subject to conformity inspection by a person authorized in FAR 43.7

1-16-04 Michael D. Hamilton

Date — FAA Inspector DAL-FSDO

4. Unit Identification

Unit	Make	Model	Serial No.	5. Type: Repair	5. Type: Alteration
AIRFRAME	*(As described in item 1 above)*				X
POWERPLANT					
PROPELLER					
APPLIANCE	Type / Manufacturer				

6. Conformity Statement

A. Agency's Name and Address	B. Kind of Agency	C. Certificate No.
Cutter Aviation Dallas. Inc 5661 Mariner Drive Dallas. Texas 75237	☐ U.S. Certified Mechanic ☐ Foreign Certified Mechanic X Certified Repair Station ☐ Manufacturer	CRS # UXCR663X Limited Specialized services Airframe Class 3

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	Signature of Authorized Individual
1-16-04	Michael Smith

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 X APPROVED ☐ REJECTED

BY							
		FAA Flt Standards Inspector		Manufacturer		Inspection Authorization	Other *(Specify)*
		FAA Designee	X	Repair Station		Person Approved by Transport Canada Airworthiness Group	

Date of Approval or Rejection	Certificate or Designation No.	Signature of Authorized Individual
1-16-04	UXCR663X	

FAA Form 337 (12-88)

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.)

N629C DATE 1-16-04 MSH

1.) The alteration consists of the removal and installation of the Following:

2.) Removed equipment:

DESCRIPTION	MAKE	PART NUMBER	LOCATION
TRANSPONDER GTX-327	GARMIN	011-00490-00	F.S. 63.88
CIRCUIT BREAKER TRANSPONDER	KLIXON	7277-2-3	F.S. 66.0

3.) Installed equipment:

DESCRIPTION	MAKE	PART NUMBER	LOCATION
SATELLITE DATA LINK GDL-49	GARMIN	010-00248-01	F.S. 233.0
STORMSCOPE WX-500	BF Goodrich	850-11500-001	F.S. 233.0
STORMSCOPE ANTENNA NY163	BF Goodrich	805-10930-001	F.S. 108.5
TRANSPONDER GTX 330	GARMIN	010-00230-01	F.S. 63.50
VHF ANTENNA AV-14	GARMIN	010-10303-00	F.S. 255.0
CIRCUIT BREAKER "GDL-49"	KLIXON	7277-2-5	F.S. 66.0
CIRCUIT BREAKER "GDL-WARM-UP"	KLIXON	7277-2-3	F.S. 66.0
CIRCUIT BREAKER "XPONDER"	KLIXON	7277-2-5	F.S. 66.0
CIRCUIT BREAKER" WEATHER SYSTEM"	KLIXON	7277-2-3	F.S. 66.0

4.) This alteration conforms to the following data:

PURPOSE OF DATA	MFR/DOCUMENT (REV/DATE) CHAP/SEC	STATUS
GDL-49 MOUNTING	GARMIN 190-00231-00 (D/MAY 2003)	ACCEPTABLE
GDL-49 WIRE HARNESS	FAA/AC 43.13-1B/PARA 11-85, 86, 89	ACCEPTABLE
GDL-49 WIRE HARNESS ROUTING	FAA/AC 43.13-1B/PARA 11-115, 116, 117, 118, 119, 120, 125	ACCEPTABLE
GDL-49 WIRE HARNESS INSTALLATION	FAA/AC43.13-1B/PARA 11-135, 136, 137, 138, 139	ACCEPTABLE
GDL-49 WIRE HARNESS INSTALLATION	FAA/AC43.13-1B/PARA 11-146, 147	ACCEPTABLE
GDL-49 WIRE HARNESS INSTALLATION	FAA/AC43.13-2A/PARA 27	ACCEPTABLE
GTX 330 MOUNTING	GARMIN 190-00207-02 (E/OCT 2003)	ACCEPTABLE
GTX 330 WIRE HARNESS	FAA/AC 43.13-1B/PARA 11-85, 86, 89	ACCEPTABLE
GTX 330 WIRE HARNESS ROUTING	FAA/AC 43.13-1B/PARA 11-115, 116, 117, 118, 119, 120, 125	ACCEPTABLE
GTX 330 WIRE HARNESS INSTALLATION	FAA/AC43.13-1B/PARA 11-135, 136, 137, 138, 139	ACCEPTABLE
GTX 330 WIRE HARNESS INSTALLATION	FAA/AC43.13-1B/PARA 11-146, 147	ACCEPTABLE
GTX 330 WIRE HARNESS INSTALLATION	FAA/AC43.13-2A/PARA 27	ACCEPTABLE
AV-14 STRUCTURAL INSTALLATION	FAA/AC 43.13-2A CHAPTER 3	ACCEPTABLE
AV-14 MOUNTING	GARMIN 190-00231-00 (D/MAY 2003)	ACCEPTABLE
GDL-49 SYSTEM FUNCTIONAL TEST	GARMIN 190-00231-00 (D/MAY 2003)	ACCEPTABLE
GTX 330 SYSTEM FUNCTIONAL TEST	GARMIN 190-00207-02 (E/OCT 2003)	ACCEPTABLE
ELECTROMAGNETIC INTERFERENCE	FAA/AC 43.13-1B/PARA 11-106	ACCEPTABLE
(EMI) DESIGN INTERFERENCE TEST	FAA/AC 43.13-1B/PARA 11-107	ACCEPTABLE

X Additional Sheets Are Attached

U.S.GPO:1989-0-663-171

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.)

N629C DATE 1-16-04 MBH

PURPOSE OF DATA	MFR/DOCUMENT (REV/DATE) CHAP/SEC	STATUS
WX-500 MOUNTING	BFGoodrich 009-11500-001(E/SEP 2003)	ACCEPTABLE
WX-500 WIRE HARNESS	FAA/AC 43.13-1B/PARA 11-85, 86, 89	ACCEPTABLE
WX-500 WIRE HARNESS ROUTING	FAA/AC 43.13-1B/PARA 11-115, 116, 117, 118, 119, 120, 125	ACCEPTABLE
WX-500 WIRE HARNESS INSTALLATION	FAA/AC43.13-1B/PARA 11-135, 136, 137, 138, 139	ACCEPTABLE
WX-500 WIRE HARNESS INSTALLATION	FAA/AC43.13-1B/PARA 11-146, 147	ACCEPTABLE
WX-500 WIRE HARNESS INSTALLATION	FAA/AC43.13-2A/PARA 27	ACCEPTABLE
NY163 ANTENNA MOUNTING	BFGoodrich 009-11500-001(E/SEP 2003)	ACCEPTABLE
WX-500 SYSTEM FUNCTIONAL TEST	BFGoodrich 009-11500-001(E/SEP 2003)	ACCEPTABLE
ELECTROMAGNETIC INTERFERENCE	FAA/AC 43.13-1B/PARA 11-106	ACCEPTABLE
(EMI) DESIGN INTERFERENCE TEST	FAA/AC 43.13-1B/PARA 11-107	ACCEPTABLE

5.) All work was performed in accordance with the data referenced above and FAR's 21.50, 23.301, 23.305, 23.603, 23.607, 23.609, 23.1301, 23.1321, 23.1327, 23.1351, 23.1357, 23.1359, 23.1365, 23.1367, 23.1431, 23.1541, 23.1559, 23.1581 also Cutter Drawings dated 1-7-04 A0218 1, 2 & 3. Post installation ground test have been perfomed to assure proper operation of all affected systems.

6.) The Garmin 400/500 series display interfaces Pilot's Guide addendum P/N 190-00140-13 rev A. Dated November, 2002 or later is required to be onboard and immediately avialable to the crew when the GTX 330, GDL-49 and WX-500 system is in use.

7.) The Instructions for Countinued Airworthiness for the Garmin GTX 330, GDL 49, WX 500 system are contained in document numbers A0218, A0218a & A0218b respectivley. A copy has been provided to the aircraft owner/operator for inclusion into the aircrafts maintenance program.

8.) All affected systems were tested accordingly to show compliance with 14 CFR 23.1309.

9.) Aircraft Flight Manual Supplements for the GNS-530 and GNS-430 that address the (TIS) and Weather Data link dated 1-16-04 MBH are attached to the Aircraft Flight Manual.

10.) An electrical load analysis was performed in accordance with AC 43.13-1B/PARA 11-37.The change in electrical loads were found to be within limits established by the airframe manufacturer.

11.) The GTX 330 was tested and inspected and found to comply with FAR 91.413

12.) The aircraft weight/balance and equipment list has been updated to reflect this alteration.

13.) Operational ground check was performed on the GTX 330 system with no discrepancies noted.

END

Additional Sheets Are Attached

U.S.GPO:1989-0-663-171

Cutter Aviation Dallas, Inc.
5661 Mariner Dr.
Dallas, Texas 75237

GARMIN GNS 530 VHF Communications
Transceiver / VOR/ILS Receiver / GPS Receiver

FAA APPROVED FLIGHT MANUAL SUPPLEMENT
GARMIN GNS 530 VHF COMMUNICATIONS TRANSCEIVER / VOR/ILS RECEIVER / GPS RECEIVER
WITH
TRAFFIC INFORMATION SERVICE (TIS) AND WEATHER DATA LINK INTERFACES

AIRCRAFT MAKE: PIPER

AIRCRAFT MODEL: PA-32R-301T

AIRCRAFT SERIAL NO.: 3257331

AIRCRAFT REGISTRATION NO: N629C

For aircraft with an FAA Approved Airplane Flight Manual, this document serves as the FAA Approved Flight Manual Supplement for the GARMIN GNS 530. For aircraft that do not have an approved flight manual, this document serves as the FAA Approved Supplemental Flight Manual for the GARMIN GNS 530.

The Information contained herein supplements or supersedes the basic Airplane Flight Manual only in those areas listed herein. For limitations, procedures, and performance information not contained in this document, consult the basic Airplane Flight Manual.

FAA APPROVED

Michael D. Hamilton Date: 1-16-04

Michael D. Hamilton
Aviation Safety Inspector
Dallas Flight Standards District Office

Dallas, Texas

Aircraft Make: Piper
Aircraft Model: PA-32R-301T
Aircraft Serial Number: 3257331

GARMIN GNS 530 VHF Communications
Transceiver / VOR/ILS Receiver / GPS Receiver

LOG OF REVISIONS			
Revision Number	Revision Date	Description	FAA Approve
IR		Add Traffic information service and Weather data link interfaces	MSH 1-16-04

FAA APPROVED MSH DATE: 1-16-04

Aircraft Make: Piper
Aircraft Model: PA-32R-301T
Aircraft Serial Number: 3257331

GARMIN GNS 530 VHF Communications
Transceiver / VOR/ILS Receiver / GPS Receiver

Table of Contents

Aircraft Make: Piper
Aircraft Model: PA-32R-301T
Aircraft Serial Number: 3257331

GARMIN GNS 530 VHF Communications
Transceiver / VOR/ILS Receiver / GPS Receiver

SECTION I
GENERAL

1. The GNS 530 System is a fully integrated, panel mounted instrument, which contains a VHF Communications Transceiver, a VOR/ILS receiver, and a Global Positioning System (GPS) Navigation computer. The system consists of a GPS antenna, GPS Receiver, VHF VOR/LOC/GS antenna, VOR/ILS receiver, VHF COMM antenna and a VHF Communications Transceiver. The primary function of the VHF Communication portion of the equipment is to facilitate communication with Air Traffic Control. The primary function of the VOR/ILS Receiver portion of the equipment is to receive and demodulate VOR, Localizer, and Glide Slope signals. The primary function of the GPS portion of the system is to acquire signals from the GPS system satellites, recover orbital data, make range and Doppler measurements, and process this information in real-time to obtain the user's position, velocity, and time.

2. Provided the GARMIN GNS 530's GPS receiver is receiving adequate usable signals, it has been demonstrated capable of and has been shown to meet the accuracy specifications for:

   - VFR/IFR enroute, terminal, and non-precision instrument approach (GPS, Loran-C, VOR, VOR-DME, TACAN, NDB, NDB-DME, RNAV) operation within the U.S. National Airspace System in accordance with AC 20-138.

   - One of the approved sensors, for a single or dual GNS 530 installation, for North Atlantic Minimum Navigation Performance Specification (MNPS) Airspace in accordance with AC 91-49 and AC 120-33.

   - The system meets RNP5 airspace (BRNAV) requirements of AC 90-96 and in accordance with AC 20-138, and JAA AMJ 20X2 Leaflet 2 Revision 1, provided it is receiving usable navigation information from the GPS receiver.

   - The equipment as installed has been found to comply with the requirements for GPS primary means of navigation in oceanic and remote airspace, when used in conjunction with the 500 Series Trainer Program incorporating the FDE Prediction Program. This does not constitute an operational approval.

   Navigation is accomplished using the WGS-84 (NAD-83) coordinate reference datum. Navigation data is based upon use of only the Global Positioning System (GPS) operated by the United States of America.

Aircraft Make: Piper
Aircraft Model: PA-32R-301T
Aircraft Serial Number: 3257331

GARMIN GNS 530 VHF Communications
Transceiver / VOR/ILS Receiver / GPS Receiver

SECTION II
LIMITATIONS

1. The GARMIN GNS 530 Pilot's Guide, P/N 190-00181-00, Rev. B, dated May 2001 or later appropriate revision must be immediately available to the flight crew whenever navigation is predicated on the use of the system. In addition to the Pilot's Guide, the appropriate Pilot's Guide Addendum also must be immediately available to the flight crew if lightning detection or traffic advisory equipment is interfaced to the system or if primary means oceanic/remote navigation is conducted.

The Garmin 400/500 Series Display Interfaces Pilot's Guide Addendum P/N 190-00140-13, Rev. A, dated November 2002 for Weather Data Link Interface, must be immediately available to the flight crew if the Garmin GDL-49 Weather Data Link is in use.

2. The GNS 530 must utilize the following or later FAA approved software versions:

SUB-SYSTEM	SOFTWARE VERSION
MAIN	4.00
GPS	3.00
COMM	1.22
VOR/LOC	1.25
G/S	2.00

The Main software version is displayed on the GNS 530 self test page immediately after turn-on for 5 seconds. The remaining system software versions can be verified on the AUX group sub-page 2, "Software / Database Versions".

3. IFR enroute and terminal navigation predicated upon the GNS 530's GPS Receiver is prohibited unless the pilot verifies the currency of the data base or verifies each selected waypoint for accuracy by reference to current approved data.

4. Instrument approach navigation predicated upon the GNS 530's GPS Receiver must be accomplished in accordance with approved instrument approach procedures that are retrieved from the GPS equipment data base. The GPS equipment database must incorporate the current update cycle.

   (a) Instrument approaches utilizing the GPS receiver must be conducted in the approach mode and Receiver Autonomous Integrity Monitoring (RAIM) must be available at the Final Approach Fix.

   (b) Accomplishment of ILS, LOC, LOC-BC, LDA, SDF, MLS or any other type of approach not approved for GPS overlay with the GNS 530's GPS receiver is not authorized.

(c) Use of the GNS 530 VOR/ILS receiver to fly approaches not approved for GPS requires VOR/ILS navigation data to be present on the external indicator.

(d) When an alternate airport is required by the applicable operating rules, it must be served by an approach based on other than GPS or Loran-C navigation, the aircraft must have the operational equipment capable of using that navigation aid, and the required navigation aid must be operational.

(e) VNAV information may be utilized for advisory information only. Use of VNAV information for Instrument Approach Procedures does not guarantee Step-Down Fix altitude protection, or arrival at approach minimums in normal position to land.

5. If not previously defined, the following default settings must be made in the "SETUP" menu of the GNS 530 prior to operation (refer to Pilot's Guide for procedure if necessary):

(a) **dis, spd** ..... $^{n}_{m}$ $^{k}_{t}$ (sets navigation units to "nautical miles" and "knots")
(b) **alt, vs** ..... $^{f}_{t}$ fpm (sets altitude units to "feet" and "feet per minute")
(c) **map datum** ..WGS 84 (sets map datum to WGS-84, see note below)
(d) **posn** .....deg-min (sets navigation grid units to decimal minutes)

NOTE: In some areas outside the United States, datums other than WGS-84 or NAD-83 may be used. If the GNS 530 is authorized for use by the appropriate Airworthiness authority, the required geodetic datum must be set in the GNS 530 prior to its use for navigation.

SECTION III
EMERGENCY PROCEDURES

ABNORMAL PROCEDURES

1. If GARMIN GNS 530 navigation information is not available or invalid, utilize remaining operational navigation equipment as required.

2. If "RAIM POSITION WARNING" message is displayed the system will flag and no longer provide GPS based navigational guidance. The crew should revert to the GNS 530 VOR/ILS receiver or an alternate means of navigation other than the GNS 530's GPS Receiver.

3. If "RAIM IS NOT AVAILABLE" message is displayed in the enroute, terminal, or initial approach phase of flight, continue to navigate using the GPS equipment or revert to an alternate means of navigation other than the GNS 530's GPS receiver appropriate to the route

and phase of flight. When continuing to use GPS navigation, position must be verified every 15 minutes using the GNS 530's VOR/ILS receiver or another IFR-approved navigation system.

4. If "RAIM IS NOT AVAILABLE" message is displayed while on the final approach segment, GPS based navigation will continue for up to 5 minutes with approach CDI sensitivity (0.3 nautical mile). After 5 minutes the system will flag and no longer provide course guidance with approach sensitivity. Missed approach course guidance may still be available with 1 nautical mile CDI sensitivity by executing the missed approach.

5. In an in-flight emergency, depressing and holding the Comm transfer button for 2 seconds will select the emergency frequency of 121.500 Mhz into the "Active" frequency window.

SECTION IV
NORMAL PROCEDURES

1. DETAILED OPERATING PROCEDURES

Normal operating procedures are described in the GARMIN GNS 530 Pilot's Guide, P/N 190-00181-00, Rev. B, dated May 2001 or later appropriate revision.

2. PILOT'S DISPLAY

The GNS 530 System data will appear on the Pilot's CDI/HSI. The source of data is either GPS or VLOC as annunciated on the display above the CDI key.

NOTE: It is the pilot's responsibility to assure that published or assigned procedures are correctly complied with. Course guidance is not provided for all possible ARINC 424 leg types. See the GNS 530 Pilot's Guide for detailed operating procedures regarding navigation capabilities for specific ARINC 424 leg types.

3. AUTOPILOT / FLIGHT DIRECTOR OPERATION

Coupling of the GNS 530 System steering information to the autopilot/flight director can be accomplished by engaging the autopilot/flight director in the NAV or APR mode.

When the autopilot/flight director system is using course information supplied by the GNS 530 System and the course pointer is not automatically driven to the desired track, the course pointer on the HSI must be manually set to the desired track (DTK) indicated by the GNS 530. For detailed autopilot/flight director operational instructions, refer to the FAA Approved Flight Manual Supplement for the autopilot/flight director.

4. CROSSFILL OPERATIONS

For dual GNC 500 Product Series or GNC 500/GNC 400 Product Series installations, crossfill capabilities exist between the number one and number two Systems. Refer to the GARMIN GNS 530 Pilot's Guide for detailed crossfill operating instructions.

5. AUTOMATIC LOCALIZER COURSE CAPTURE

By default, the GNS 530 automatic localizer course capture feature is enabled. This feature provides a method for system navigation data present on the external indicators to be switched automatically from GPS guidance to localizer / glide slope guidance as the aircraft approaches the localizer course inbound to the final approach fix. If an offset from the final approach course is being flown, it is possible that the automatic switch from GPS course guidance to localizer / glide slope course guidance will not occur. It is the pilot's responsibility to ensure correct system navigation data is present on the external indicator before continuing a localizer based approach beyond the final approach fix. Refer to the GNS 530 Pilot's Guide for detailed operating instructions.

6. DISPLAY OF WEATHER DATA LINK INTERFACE

For installations that interface a GDL-49 and the GNS 530, Weather information will appear on the GNS 530. For detailed operating instructions regarding the interface of the GNS 530 with the GDL-49, refer to the 400/500 Series Garmin Display Interfaces Pilot's Guide Addendum for the Weather Data link interface.

7. DISPLAY OF TRAFFIC INFORMATION SERVICE DATA

TIS surveillance data uplinked by Air Traffic Control (ATC) radar through the GTX 330 Mode S Transponder will appear on the moving map and traffic display pages of the GNS 530. For detailed operating instructions regarding the interface of the GNS 530 with the GTX 330, refer to the 400/500 Series Garmin Display Interfaces Pilot's Guide Addendum for the TIS System interface.

SECTION V
PERFORMANCE

No change.

SECTION VI
WEIGHT AND BALANCE

See current weight and balance data.

SECTION VII
AIRPLANE & SYSTEM DESCRIPTIONS

See GNS 530 Pilot's Guide for a complete description of the GNS 530 system.

Cutter Aviation
5661 Mariner LB# 18
Dallas, Texas 75237

Document NO. A0218
REGISTRATION NO. N629C

INSTRUCTIONS FOR CONTINUED AIRWORTHINESS
PIPER SARATOGA 32R-301T S/N 3257331
With A GARMIN GTX 330 Mode S Transponder

1. Introduction: This major alteration to this aircraft obligates the aircraft operator to include the following maintenance information provided by this document in the owner/operator's Aircraft Maintenance Manual and the owner/operator's Aircraft Scheduled Maintenance Program.

2. Description: Installation of the Garmin GTX 330, with interface to the AK350 Blind Encoder. Refer to section 4 and figures 4-1 and 4-2 of the installation manual for interconnect information. Antenna installation, removal and replacement should be in accordance with applicable provisions of the AC 43.13-1B and AC 43.13-2A.

3. Control and Operation Information: Reference the Garmin GTX 330 Pilot's Guide P/N 190-00207-00 rev. A dated September 2002.

4. Servicing Information: The Garmin GTX 330 system is located at 63.88

5. Maintenance Instructions: The scheduled maintenance task required by this modification to be added to the aircraft owner/operator appropriate airplane maintenance program as follows:

   Perform on at least an annual basis: Inspection of the (a. GTX 330, equipment rack, equipment mounting, associated wiring, cables, connectors, and hardware.) (b. Antenna, Coaxial, Coaxial connectors and related aircraft structure for integrity, security, wear, chaffing etc...) Special attention should be given to the aircraft primary structure with regards to fatigue and stress cracking, corrosion etc...

6. Troubleshooting Information: Reference the Garmin GTX 330 Maintenance Manual P/N 190-00207-05 rev. B September 2003.

7. Removal and Replacement Information: Reference the Garmin Installation Manual P/N 190-00207-02 Rev. E dated Oct 2003, or later revision, Sections 2. Should it become necessary to remove the system, secure the associated cables and wiring, collar the applicable circuit breakers, placard the aircraft that the unit has been removed, revise the weight and balance and the equipment list. Make a logbook entry that the units have been removed for service (refer to 91.213 of Title 14 of the Code of Federal Regulations and/or the aircrafts MEL.) Upon reinstallation, perform functional check IAW Section 5 of the GTX 330 installation manual.

8. Diagrams: Refer to Sections 3 and 4 of the GTX 330 installation manual.

9. Special Inspection Requirements: N/A.

10. Application of Protective Treatment: N/A.

1-16-04 MXH

11. Data: Installation requirement may be found within the accepted industry practiced contained within AC43.13-1B, AC43.13-2A and Section 2 of the GTX 330 Installation Manual.

12. List of Special Tools: N/A.

13. For Commuter Category Aircraft: N/A.

14. Recommended Overhaul Periods: N/A.

15. Airworthiness Limitation Section: N/A.

16. Revision: The Instructions for Continued Airworthiness Checklist (ICA) may be revised by submitting a letter to the local FSDO with a copy of the revised FAA form 377 and revised ICA. The FAA inspector accepts the change by signing Block 3 and including the following statement: "The attached revised/new instructions for Continued Airworthiness (date---) for the above aircraft, or component major alteration, have been accepted by the FAA superseding the Instructions for Continued Airworthiness (dated---)." Once the revision has been accepted, a maintenance record entry will be made identifying the revision, its location, and the date of the Form 337.

17. Assistance: N/A

18. Implementation and Record Keeping:

For major alterations performed in accordance with FAA field approval policy, the owner/operator operating under part 91 is responsible for ensuring that the ICA is made part of the applicable sections 91.409 inspection program for their aircraft. This is accomplished when a maintenance entry is made in the aircraft's maintenance record in accordance with Section 43.9. This entry records the major alteration and identifies the original ICA location (e.g., Block 8 of FAA Form 337, dated---) along with a statement that the ICA is now part of the aircraft's inspection/maintenance requirement.

1-16-04 MSH

Cutter Aviation
5661 Mariner LB# 18
Dallas, Texas 75237

Document NO. A0218a
REGISTRATION NO. N629C

INSTRUCTIONS FOR CONTINUED AIRWORTHINESS
PIPER SARATOGA PA-32R-301T S/N 3257331
With A GARMIN GDL-49 DATA LINK STSTEM

1. Introduction: This major alteration to this aircraft obligates the aircraft operator to include the following maintenance information provided by this document in the owner/operator's Aircraft Maintenance Manual and the owner/operator's Aircraft Scheduled Maintenance Program.

2. Description: The GDL-49 system is a remote mounted very high frequency (VHF) transmitter capable of communications with the ORBCOMM low-earth orbit satellite constellation for displaying weather information on the GNS-530/430 displays. The system consists of a VHF antenna and RS 232 interface to an existing GNS -530/430 system.

3. Control and Operation Information: Reference the Garmin 400/500 Weather Data Link Pilot's Guide P/N 190-00231-05 Rev. A dated May, 2002, or later approved revision.

4. Servicing Information: The Garmin GDL-49 receiver located at F.S. 233.0. The AV-14 antenna is located at F.S. 255.0.

5. Maintenance Instructions: The scheduled maintenance task required by this modification to be added to the aircraft owner/operator appropriate airplane maintenance program as follows:

   Perform on at least an annual basis: Inspection of the (a. Receiver, Receiver mounting, associated wiring, cables, connectors, hardware), (b. antenna, Coaxial connectors, Coaxial Cable and related aircraft structure for integrity, security, wear, chaffing.) Special attention should be given to the aircraft primary structure with regards to fatigue and stress cracking, corrosion. If it becomes necessary to replace the Garmin GNS 430/530, the replacement must have Main Software Version 4.0 or later and GPS Software Version 3.0 or later.

6. Troubleshooting Information: Reference the Garmin GDL-49 Installation Manual P/N 190-0231-00 Rev. D dated May 2003 or later revision.

7. Removal and Replacement Information: Reference the Garmin Installation Manual P/N 190-0231-00 Rev. D dated May 2003, or later revision.

8. Diagrams: Refer to Sections 3 and 4 of the GDL-49 installation manual.

9. Special Inspection Requirements: N/A.

10. Application of Protective Treatment: Should it becomes necessary to remove or replace the AV-14 antenna (for the GDL-49 system), it must be installed and sealed in accordance with accepted industry practices contained within AC43.13-2A Chapter 3.

1-1604 MH

11. Data: Installation requirement may be found within the accepted industry practiced contained within AC43.13-1B Chapters 11 and 12 and AC43.13-2A Chapters 1 and 13.

12. List of Special Tools: N/A.

13. For Commuter Category Aircraft: N/A.

14. Recommended Overhaul Periods: N/A.

15. Airworthiness Limitation Section: N/A.

16. Revision: The Instructions for Continued Airworthiness Checklist (ICA) may be revised by submitting a letter to the local FSDO with a copy of the revised FAA form 377 and revised ICA. The FAA inspector accepts the change by signing Block 3 and including the following statement: "The attached revised/new instructions for Continued Airworthiness (date---) for the above aircraft, or component major alteration, have been accepted by the FAA superseding the Instructions for Continued Airworthiness (dated---)." Once the revision has been accepted, a maintenance record entry will be made identifying the revision, its location, and the date of the Form 337.

17. Assistance: N/A

18. Implementation and Record Keeping:

For major alterations performed in accordance with FAA field approval policy, the owner/operator operating under part 91 is responsible for ensuring that the ICA is made part of the applicable sections 91.409 inspection program for their aircraft. This is accomplished when a maintenance entry is made in the aircraft's maintenance record in accordance with Section 43.9. This entry records the major alteration and identifies the original ICA location (e.g., Block 8 of FAA Form 337, dated---) along with a statement that the ICA is now part of the aircraft's inspection/maintenance requirement.

1-16-04 MSH

Cutter Aviation
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Document NO. A0218b
REGISTRATION NO. N629C

INSTRUCTIONS FOR CONTINUED AIRWORTHINESS
PIPER SARATOGA PA-32R-301T S/N 3257331
With A WX-500 STORMSCOPE SYSTEM

1. Introduction: This major alteration to this aircraft obligates the aircraft operator to include the following maintenance information provided by this document in the owner/operator's Aircraft Maintenance Manual and the owner/operator's Aircraft Scheduled Maintenance Program.

2. Description: The WX-500 is a airborne passive thunderstorm detection sensor. The sensor maps electrical discharge activity 360 degrees around the aircraft to a distance of 200 nautical miles.

3. Control and Operation Information: Reference the Garmin 400/500 Weather Data Link Pilot's Guide P/N 190-00231-05 Rev. A dated May, 2002, or later approved revision.

4. Servicing Information: The WX-500 processor is located at F.S. 233.0. The NY163 antenna is located at F.S. 108.5.

5. Maintenance Instructions: The scheduled maintenance task required by this modification to be added to the aircraft owner/operator appropriate airplane maintenance program as follows:

   Perform on at least an annual basis: Inspection of the (a. Receiver, Receiver mounting, associated wiring, cables, connectors, hardware), (b. antenna, Coaxial connectors, Coaxial Cable and related aircraft structure for integrity, security, wear, chaffing.) Special attention should be given to the aircraft primary structure with regards to fatigue and stress cracking, corrosion. If it becomes necessary to replace the Garmin GNS 430/530, the replacement must have Main Software Version 4.0 or later and GPS Software Version 3.0 or later.

6. Troubleshooting Information: Reference the WX-500 Installation Manual P/N 009-11500-001 Rev. E dated September 2003 or later revision.

7. Removal and Replacement Information: Reference the WX-500 Installation Manual P/N 009-11500-001 Rev. E dated September 2003 or later revision.

8. Diagrams: Refer to WX-500 installation manual.

9. Special Inspection Requirements: N/A.

10. Application of Protective Treatment: Should it becomes necessary to remove or replace the NY163 antenna (for the WX-500 system), it must be installed and sealed in accordance with accepted industry practices contained within AC43.13-2A Chapter 3.

1-16-04 ZMH

11. Data: Installation requirement may be found within the accepted industry practiced contained within AC43.13-1B Chapters 11 and 12 and AC43.13-2A Chapters 1 and 13.

12. List of Special Tools: N/A.

13. For Commuter Category Aircraft: N/A.

14. Recommended Overhaul Periods: N/A.

15. Airworthiness Limitation Section: N/A.

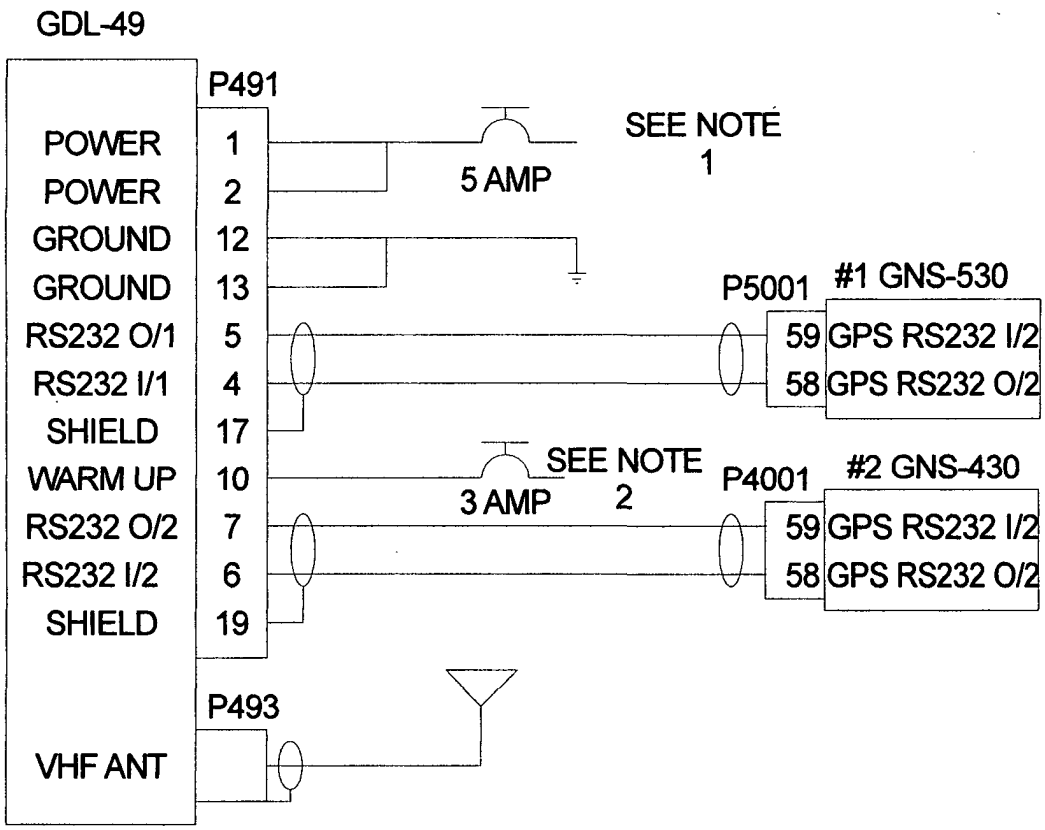
16. Revision: The Instructions for Continued Airworthiness Checklist (ICA) may be revised by submitting a letter to the local FSDO with a copy of the revised FAA form 377 and revised ICA. The FAA inspector accepts the change by signing Block 3 and including the following statement: "The attached revised/new instructions for Continued Airworthiness (date---) for the above aircraft, or component major alteration, have been accepted by the FAA superseding the Instructions for Continued Airworthiness (dated---)." Once the revision has been accepted, a maintenance record entry will be made identifying the revision, its location, and the date of the Form 337.

17. Assistance: N/A

18. Implementation and Record Keeping:

For major alterations performed in accordance with FAA field approval policy, the owner/operator operating under part 91 is responsible for ensuring that the ICA is made part of the applicable sections 91.409 inspection program for their aircraft. This is accomplished when a maintenance entry is made in the aircraft's maintenance record in accordance with Section 43.9. This entry records the major alteration and identifies the original ICA location (e.g., Block 8 of FAA Form 337, dated---) along with a statement that the ICA is now part of the aircraft's inspection/maintenance requirement.

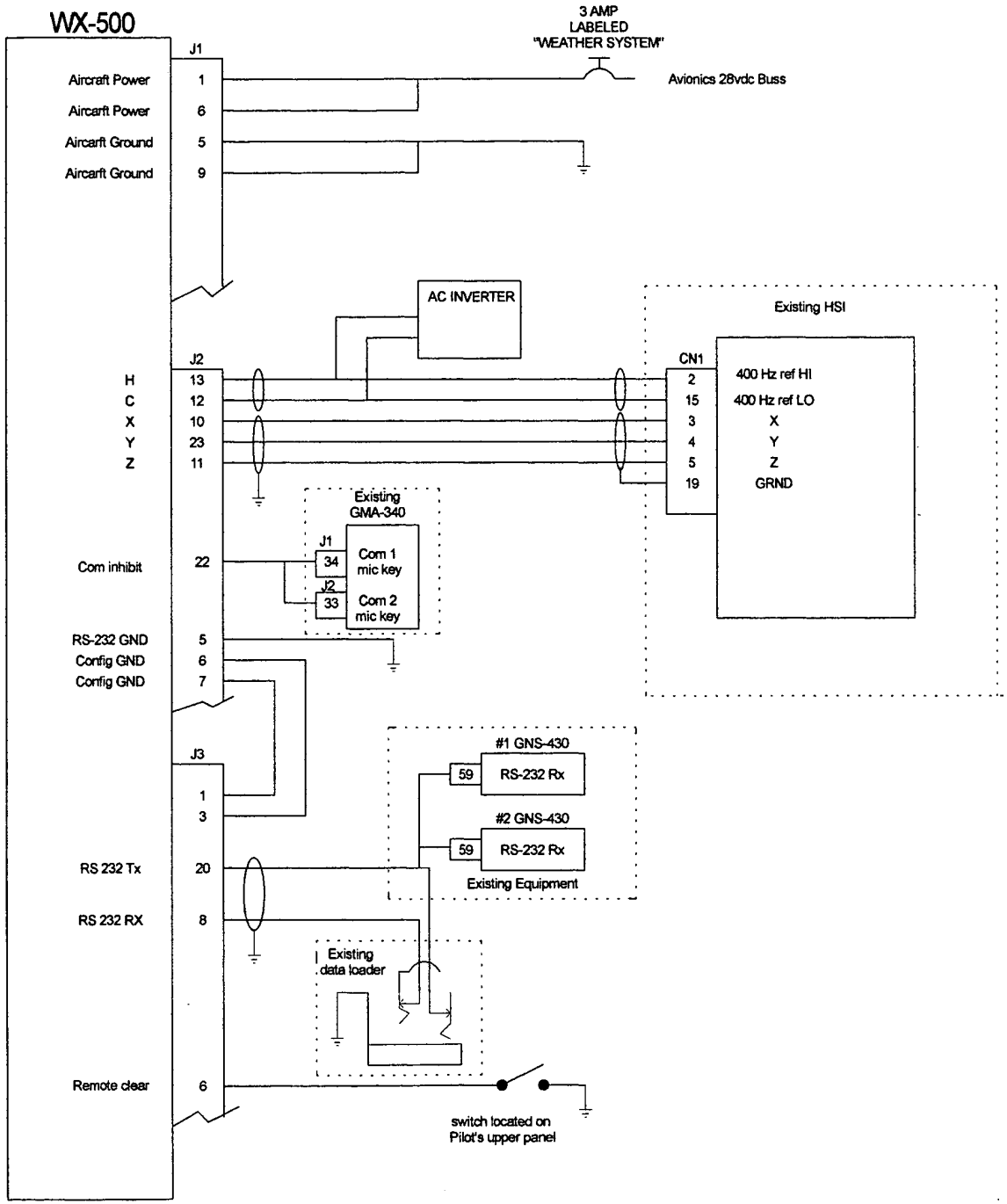
1-16-04 MSH

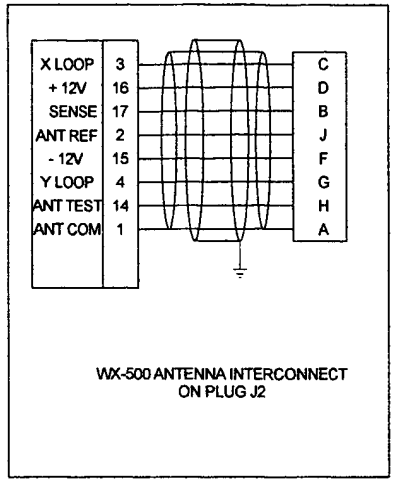


NOTES

1) 5 AMPcircuit breaker labeled GDL-49 powered by avionics buss
2) 3 AMP circuit breaker labeled GDL WARM-UP powered by avionics buss
3) Do not connect any terminals other than those indicated.
4) Refer to installation manual for additional information on wiring requirement
5) Stranded wire shall meet or exceed MIL-W-22759. Shielded wire shall meet or exceed MIL-W- 27500. All wires 22AWG minimum unless other wise noted.

GARMIN GDL-49 SATELLITE DATA LINK, N629C	Cutter Aviation Dallas 5661 MARINER DRIVE LB#18 DALLAS, TEXAS 751237 PHONE 214-339-2713			
DRAWN BY MGS	SIZE A	DWG # A0218		REV 1
APPROVED BY	SCALE N/A	DATE 01-07-04	SHEET 1	

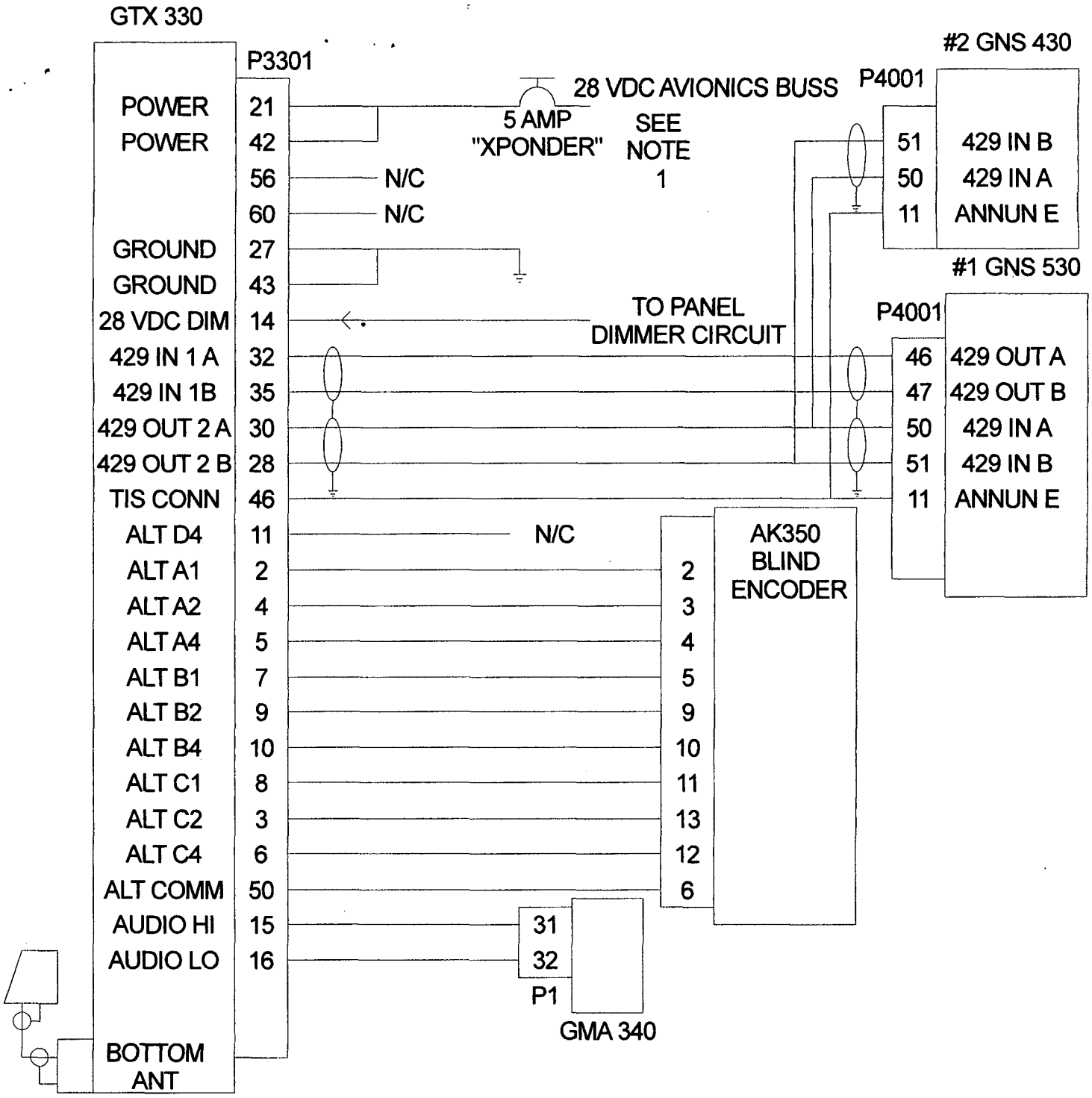




WX-500 ANTENNA INTERCONNECT
ON PLUG J2

1. Do not connect any terminals other than those indicated.
2. Refer to installation manual for additional information on wiring requirements.
3. Use shielded, twisted pair for data loader connection.
4. Stranded wire shall meet or exceed MIL-W-22759. Shielded wire shall meet or exceed MIL-W- 27500. All wires 22AWG minimum unless other wise noted.
5. Circuit breaker 3 AMP Klixon 7277-2-3 located on Instrument Panel lower right hand Circuit Breaker Panel and labeled "WEATHER SYSTEM".

WX-500 INSTALL N629C	Cutter Aviation Dallas 5661 MARINER DRIVE LB#18 DALLAS, TEXAS 751237 PHONE 214-339-2713			
DRAWN BY MGS	SIZE A	DWG # A0218		REV 1
APPROVED BY	SCALE N/A	DATE 01-07-04	SHEET 2	



NOTES

1) 5 AMPcircuit breaker labeled" XPONDER" powered by avionics buss
2) Do not connect any terminals other than those indicated.
3) Refer to installation manual for additional information on wiring requirement
4) Stranded wire shall meet or exceed MIL-W-22759. Shielded wire shall meet or exceed MIL-W- 27500. All wires 22AWG minimum unless other wise noted.

GARMIN GTX 330 TRANSPONDER N629C	Cutter Aviation Dallas	
	5661 MARINER DRIVE LB#18 DALLAS, TEXAS 751237 PHONE 214-339-2713	
DRAWN BY MGS	SIZE A	DWG # A0218 REV 1
APPROVED BY	SCALE N/A	DATE 01-07-04 SHEET 3