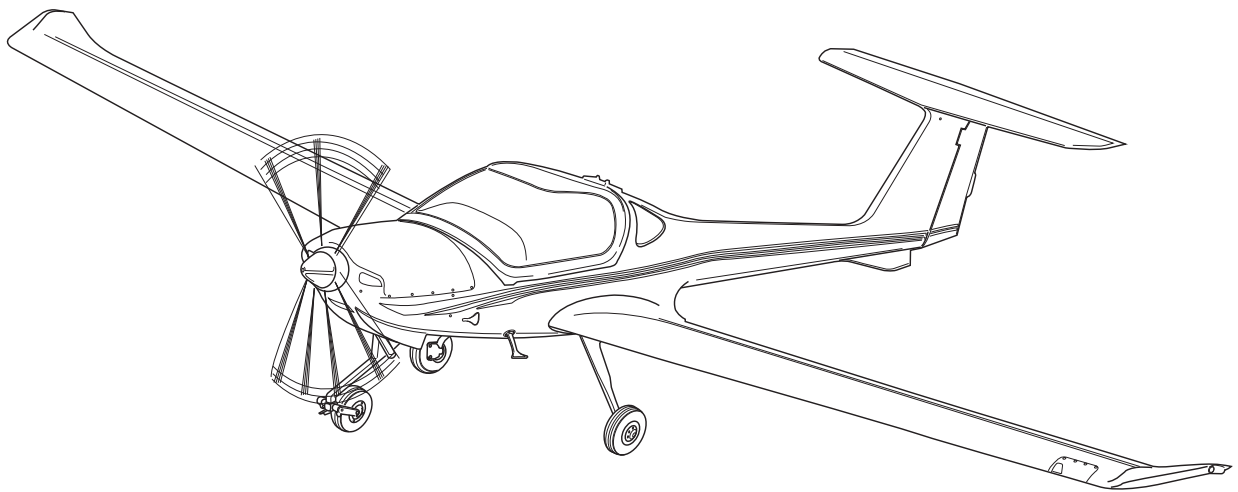


AIRPLANE FLIGHT MANUAL



DA20-C1

DOC # DA202-C1

DIAMOND AIRCRAFT INDUSTRIES INC.
1560 CRUMLIN SIDEROAD, LONDON, ONTARIO
CANADA N5V 1S2

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REV 28

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This manual contains the maintenance information required by JAR-VLA. Contents and revision status can be found in the TABLE OF CONTENTS and the RECORD OF REVISIONS.

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LIST OF EFFECTIVE PAGES

Pages that are DOT-approved (appr) pages are shown before the page number:

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Ch.		Page	Date
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RECORD OF REVISIONS

Revisions and Temporary Revisions to this manual, with the exception of actual weighing data, are recorded in the following table. Revisions and Temporary Revisions of approved sections must be endorsed by the responsible airworthiness authority.

In the Manual Revision, new or amended text will be indicated by a bold black vertical line in the left hand margin of a revised page. The Manual Revision number and Document number will be shown on the bottom right hand corner of the page on even pages and will be shown on the bottom left hand corner of the page on odd pages. Page numbers will show on the opposite corner of the pages.

Temporary Revisions are used to provide information on systems or equipment until the next permanent Revision of the Airplane Flight Manual.



The airplane may only be operated if the Flight Manual is up to date.

Rev. No.	Affected Pages	Approved	
		Date	Name
Rev 17	0-4, 0-5, 0-6, 0-9, 2-7, 2-17, 4-16, 7-12, 7-13, S2-1, S2-2, S2-3, S2-4, S4-4.	19 Mar 04	W. Jupp Chief, Flight Test for Director, Aircraft Certification Transport Canada
Rev 18	0-4, 0-5, 0-9 6-13, 6-14, 6-15, 6-16.	22 Mar 05	W. Jupp Chief, Flight Test for Director, Aircraft Certification Transport Canada
Rev 19	0-4, 0-5, 0-9, 2-5, 7-15, 7-16.	24 Jun 05	W. Jupp Chief, Flight Test for Director, Aircraft Certification Transport Canada
Rev 20	0-4, 0-6, 0-9, S4-1, S4-2, S4-3, S4-4, S4-5, S4-6, S4-7, S4-8, S4-9, S4-10, S4-11, S4-12, S4-13, S4-14, S4-15.	18 Aug 05	W. Jupp Chief, Flight Test for Director, Aircraft Certification Transport Canada

Rev. No.	Affected Pages	Approved	
		Date	Name
Rev 21	0-4, 0-5, 0-10 , 0-11, 0-12, 6-15, 6-16, 7-6.	05 Sep 06	W. Jupp Chief, Flight Test for Director, Aircraft Certification Transport Canada
TR-1	0-10, 2-5.	02 Oct 07	W. Jupp Chief, Flight Test for Director, Aircraft Certification Transport Canada
Rev 22	0-4, 0-5, 0-6, 0-10, 2-4, 2-7, 2-17, 4-14, 4-20, 5-20, S4-4, S4-12, S4-13.	02 Nov 07	W. Jupp Chief, Flight Test for Director, Aircraft Certification Transport Canada
Rev 23	0-4, 0-6, 0-10, 0-11, 2-1, 2-4, 2-7, 2-8, 2-9, 2-10, 2-11, 2-12, 2-13, 2-14, 2-15, 2-16, 2-17, 2-18, 2-19, 4-14, 4-20, S4-1, S4-4, S4-5, S4-6, S4-7, S4-8, S4-9, S4-10, S4-11, S4-12, S4-13, S4-14, S4-15, S4-16.	11 Dec 07	W. Jupp Chief, Flight Test for Director, Aircraft Certification Transport Canada
TR 08-01	0-10, 2-19, 4-5, 6-13, 6-14, 6-15, 6-16.	25 Aug 08	R. Walker A/Chief, Flight Test for Director, Aircraft Certification Transport Canada
Rev 24	All	30 Apr 09	R. Walker A/Chief, Flight Test for Director, Aircraft Certification Transport Canada

Rev. No.	Affected Pages	Approved	
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TR 09-02	4-10, 4-11, 4-12.	30 Jun 09	R. Walker A/Chief, Flight Test for Director, Aircraft Certification Transport Canada
TR 09-03	0-9, 0-10, 6-13 thru 6-20, 9-1, 9-2 and 9-S13-1 thru 9-S13-24.	12 Nov 09	D. Stephen A/Chief, Flight Test for Director, Aircraft Certification Transport Canada
TR 10-01	0-10, 6-3 and 6-5.	26 Feb 10	Jim Martin for Chief, Flight Test for Director, Aircraft Certification Transport Canada
TR 10-02	0-10, 4-9, 7-11.	28 Feb 10	Jim Martin for Chief, Flight Test for Director, Aircraft Certification Transport Canada
Rev 25	Cover Page, 0-1, 0-2, 0-5 thru 0-20, 1-1 thru 1-14, 2-1, 2-5, 2-10 thru 2-20, 4-9 thru 4-12, 4-14, 5-8, 5-10, 5-12, 6-3, 6-5, 6-16, 6-17, 7-1, 7-2, 7-9, 7-12 thru 7-24, 8-1 thru 8-10, 9-1, 9-2. S4-14, S4-16, S11-1 thru S11-6, S12-1 thru S12-8 S13-1 thru S13-22.	07 Apr 10	W. Istchenko Chief, Flight Test for Director, Aircraft Certification Transport Canada
TR 10-03	0-13, 2-19, 3-5, 4-10 thru 4-12A, 7-14, S1-8 thru S1-11.	20 Dec 10	W. Istchenko Chief, Flight Test for Director, Aircraft Certification Transport Canada

Rev. No.	Affected Pages	Approved	
		Date	Name
TR 11-01	0-13, 2-10, S4-13.	01 Aug 11	W. Istchenko Chief, Flight Test for Director, Aircraft Certification Transport Canada
TR 11-02	0-13, 2-9, 2-10.	15 Aug 11	W. Istchenko Chief, Flight Test for Director, Aircraft Certification Transport Canada
TR 11-03	0-13, S4-16.	20 Dec 11	W. Istchenko Chief, Flight Test for Director, Aircraft Certification Transport Canada
Rev 26	ALL	03 Jul 12	W. Istchenko Chief, Flight Test for Director, National Aircraft Certification Transport Canada
TR12-01	0-20, 2-5, 2-12, 6-15, and 6-19.	14 Aug 12	W. Istchenko Chief, Flight Test for Director, National Aircraft Certification Transport Canada
TR12-02	0-20, 2-7 and 4-25.	23 Nov 12	W. Istchenko Chief, Flight Test for Director, National Aircraft Certification Transport Canada

Rev. No.	Affected Pages	Approved	
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Rev 27	Cover Pages. 0-5 thru 0-22, and 0-24 thru 0-28. 2-1, 2-2, 2-5, 2-7, 2-8 2-10 and 2-12 thru 2-32. 3-15, 4-4, 4-9, 4-25. 5-1 and 5-6 thru 5-18. 6-10 and 6-15 thru 6-20. 7-1, 7-2, 7-3 and 7-10 thru 7-32. 9-4, 9-5, 9-6. S1-16, S3-3, S5-10, S6-6, S7-7, S8-3, S9-4, S10-3, S11-7, S12-9, S13-19, S14-7, S15-1 thru S15-14. S16-1 thru S16-6. S17-1 thru S17-6.	4 Apr 13	 W. Istchenko Chief, Flight Test for Director, National Aircraft Certification Transport Canada
Rev 28	Cover Pages 0-5 thru 0-10, 0-13, 0-15 thru 0-22 2-28 thru 2-34 5-9 6-15 thru 6-22 S13-4 and S13-10 thru s13-28	14 March 2014	 Chief, Flight Test for Director, National Aircraft Certification TRANSPORT CANADA

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REVISIONS LOG

This Revisions Log should be used to record all Permanent Revisions issued and inserted into this manual. The affected pages of any revision must be inserted into the manual as well as the Record of Revisions upon receipt. The pages superseded by the revision must be removed and destroyed. The Revisions Log should be updated by hand.

Changes are identified on those pages affected by a revision bar.

Rev. No.	Date Issued:	Inserted On:	Inserted By:
Issue 1	19 Dec 97	19 Dec 97	Diamond Aircraft
Rev 1	13 Aug 98	13 Aug 98	Diamond Aircraft
Rev 2	28 Aug 98	28 Aug 98	Diamond Aircraft
Rev 3	08 Dec 98	08 Dec 98	Diamond Aircraft
Rev 4	05 Jan 99	05 Jan 99	Diamond Aircraft
Rev 5	10 Mar 99	10 Mar 99	Diamond Aircraft
Rev 6	07 Apr 99	07 Apr 99	Diamond Aircraft
Rev 7	21 Jun 99	21 Jun 99	Diamond Aircraft
Rev 8	07 Dec 99	07 Dec 99	Diamond Aircraft
Rev 9	11 Apr 00	11 Apr 00	Diamond Aircraft
Rev 10	14 Aug 00	14 Aug 00	Diamond Aircraft
Rev 11	20 Mar 01	20 Mar 01	Diamond Aircraft
Rev 12	16 Apr 01	16 Apr 01	Diamond Aircraft
Rev 13	28 May 01	28 May 01	Diamond Aircraft
Rev 14	09 Aug 01	09 Aug 01	Diamond Aircraft
Rev 15	23 Apr 02	23 Apr 02	Diamond Aircraft
Rev 16	18 Oct 02	18 Oct 02	Diamond Aircraft
Rev 17	19 Mar 04	19 Mar 04	Diamond Aircraft
Rev 18	22 Mar 05	22 Mar 05	Diamond Aircraft

REVISION HIGHLIGHTS

GENERAL

The table below highlights the changes that have been incorporated into Revision 28.

CHAPTER	PAGES	HIGHLIGHTS
Cover Page	Cover page	Cover Page revised to show Revision 28, dated February 28, 2014.
0	0-5 thru 0-10 and 0-13 0-15-0-20 0-21 and 0-22 0-23 and 0-24 0-25 and 0-28	List of Effective Pages (LOEP) and Supplements LOEP revised. Rev bars inserted adjacent to the changed pages. Removed old revision information which reduced record of revision pages by 2 New Revision information added on page 0-19. Pagination and Revision Log entries. Pagination and Revision Highlights pages for Revision 28. Pagination
2	2-28 and 2-29 2-30 thru 2-34	Added new instrument panel graphics Pagination
5	5-9	Revised Take Off chart to correct wind component
6	6-15 thru 6-21	Revised equipment list
Supplement 13	S13-4	Added new equipment software version
	S13-10	Added new instrument panel graphic
	S13-11 thru S13-22	Pagination
	S13-23 and S13-24	Added New Instrument panel graphic
	S13-25 and S13-26	GTN 650 Details

CHAPTER	PAGES	HIGHLIGHTS
Supplement 13	S13-27 and S13-28	Pagination

TEMPORARY REVISIONS LOG

All Temporary Revisions (TRs) to this manual must be inserted and signed as being inserted into the manual in the following table.

Temporary Revision Number	Date Issued	Inserted	
		Date	Name
TR-1	02 Oct 07	02 Oct 07	Diamond Aircraft
TR 08-01	25 Aug 08	25 Aug 08	Diamond Aircraft
TR 09-02	30 Jun 09	30 Jun 09	Diamond Aircraft
TR 09-03	12 Nov 09	12 Nov 09	Diamond Aircraft
TR 10-01	26 Feb 10	26 Feb 10	Diamond Aircraft
TR 10-02	28 Feb 10	28 Feb 10	Diamond Aircraft
TR 10-03	20 Dec 10	20 Dec 10	Diamond Aircraft
TR 11-01	01 Aug 11	01 Aug 11	Diamond Aircraft
TR 11-02	15 Aug 11	15 Aug 11	Diamond Aircraft
TR 11-03	20 Dec 11	20 Dec 11	Diamond Aircraft
NOTE: All the Temporary Revisions above have been incorporated into the AFM at Rev 26.			
TR 12-01	01 Aug 12	14 Aug 12	Diamond Aircraft
TR 12-02	09 Oct 12	23 Nov 12	Diamond Aircraft
NOTE: The Temporary Revisions above have been incorporated into the AFM at Rev 27.			

SUBSCRIPTION SERVICE**Diamond Aircraft Publications Revision Subscription Contacts**

To ensure safe operation and maintenance of the DA20-C1 aircraft, it is recommended that operators verify that their documentation is at the correct revision levels. For revision and subscription service please contact the following:

1. DA20-C1 related manuals and publications.**North America, Australia and Africa:**

Diamond Aircraft Industries Inc.
Customer Support
1560 Crumlin Sideroad
London, Ontario
Canada.
N5V 1S2
Phone: 519-457-4041
Fax: 519-457-4060

Other:

Diamond Aircraft Industries GmbH
Customer Support
N.A. Otto-Strasse 5
A-2700 Wiener Neustadt
Austria
Phone: +43-(0) 2622-26700
Fax: +43-(0) 2622-26780

2. Teledyne Continental Motors IO 240B related manuals and publications.**North America:**

Teledyne Continental Motors
P.O. Box 90
Mobile, Alabama
36601
Phone: 334-438-3411

Other:

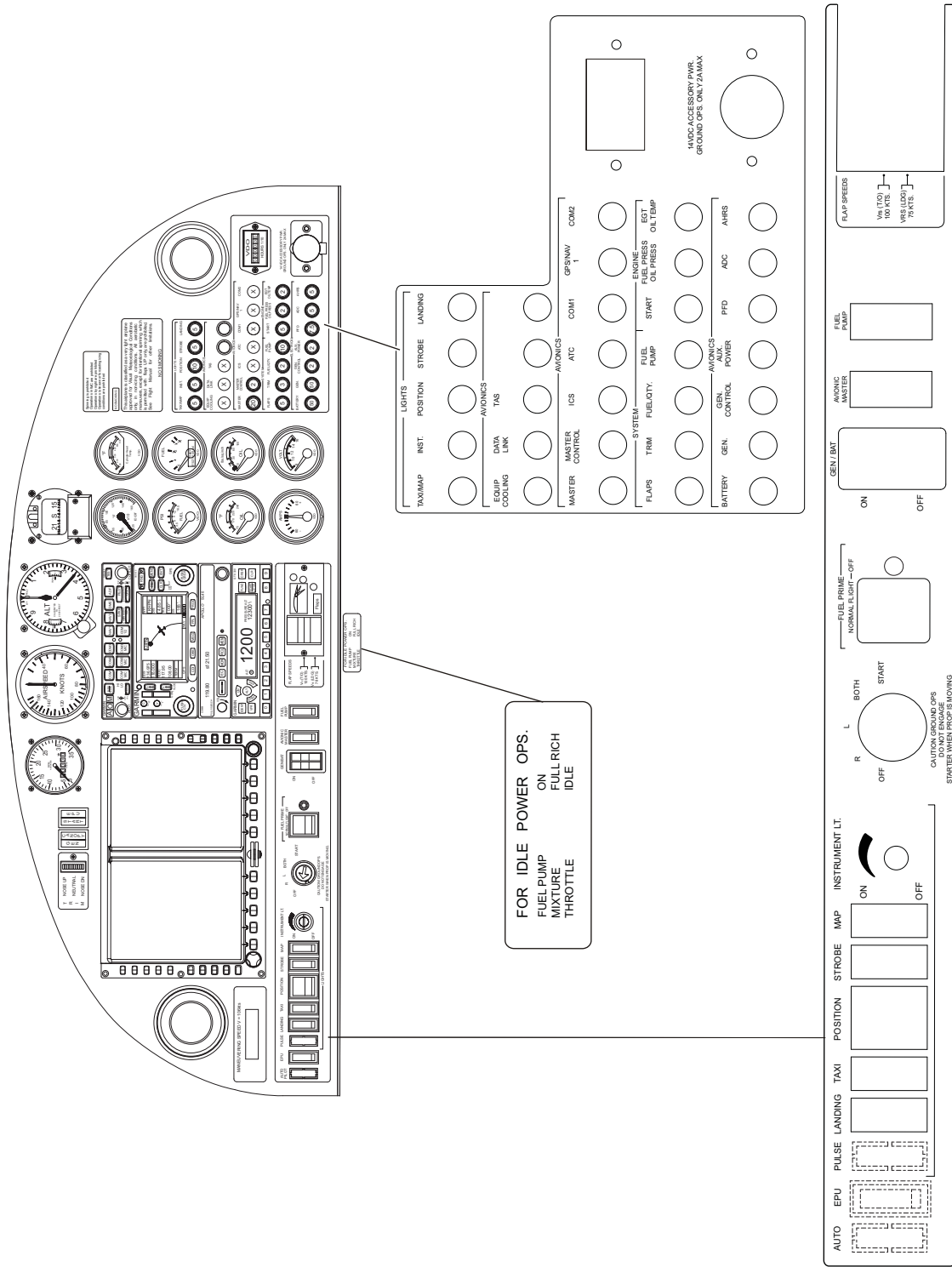
Contact a Teledyne Continental
Motors distributor.

3. Sensenich Propeller**Model W69EK7-63, W69EK7-63G, W69EK-63 related manuals and publications.****North America:**

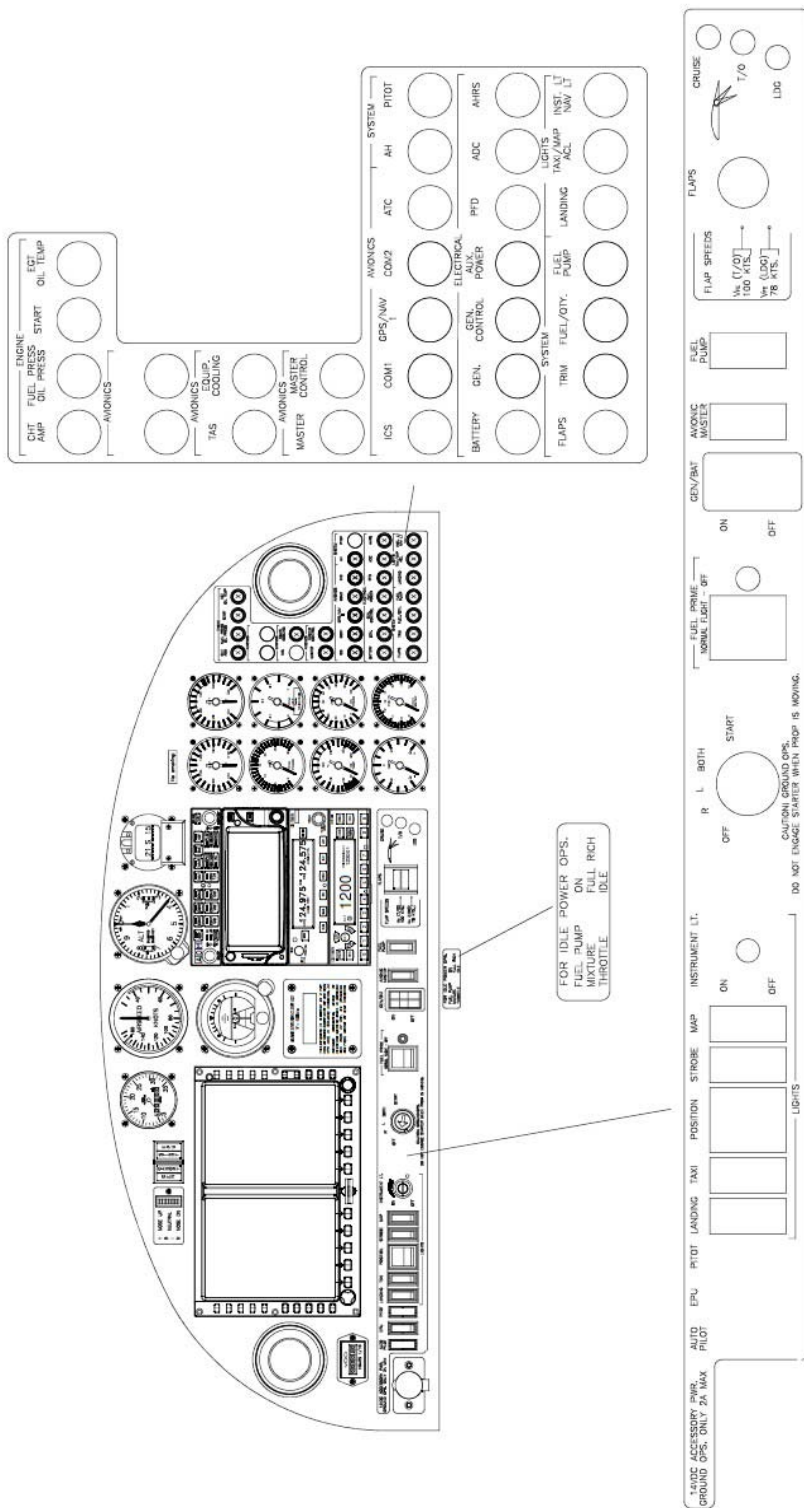
Sensenich Wood Propeller Company
2008 Wood Court
Plant City, Florida
USA
Phone: 813-752-3711
Fax: 813-752-2818

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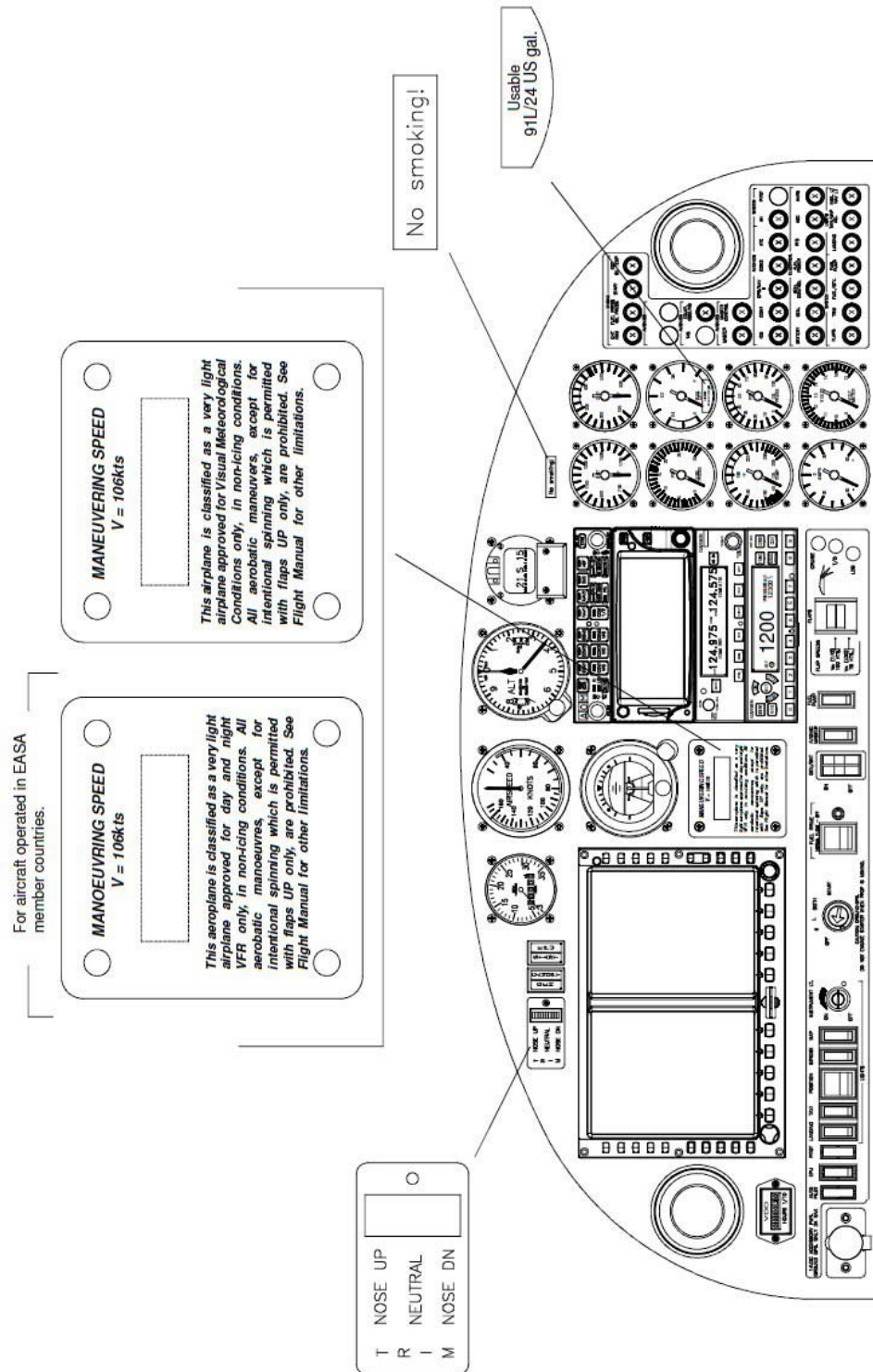
(n) Instrument panel with Garmin G500 installation. Refer to Supplement 13.



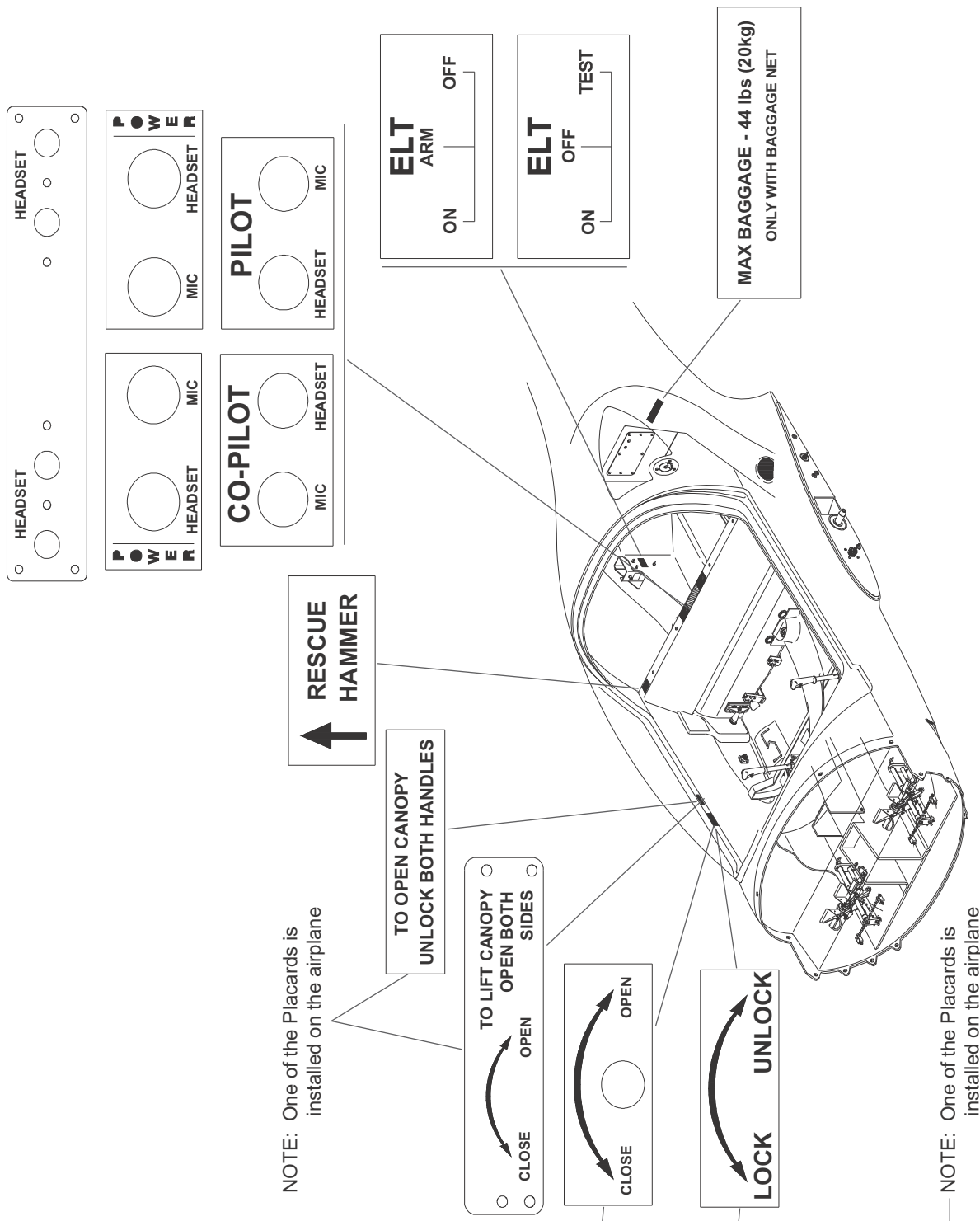
- (o) Instrument panel with Garmin G500, UMA engine instruments and Garmin GTN 650/GTR 225 installed



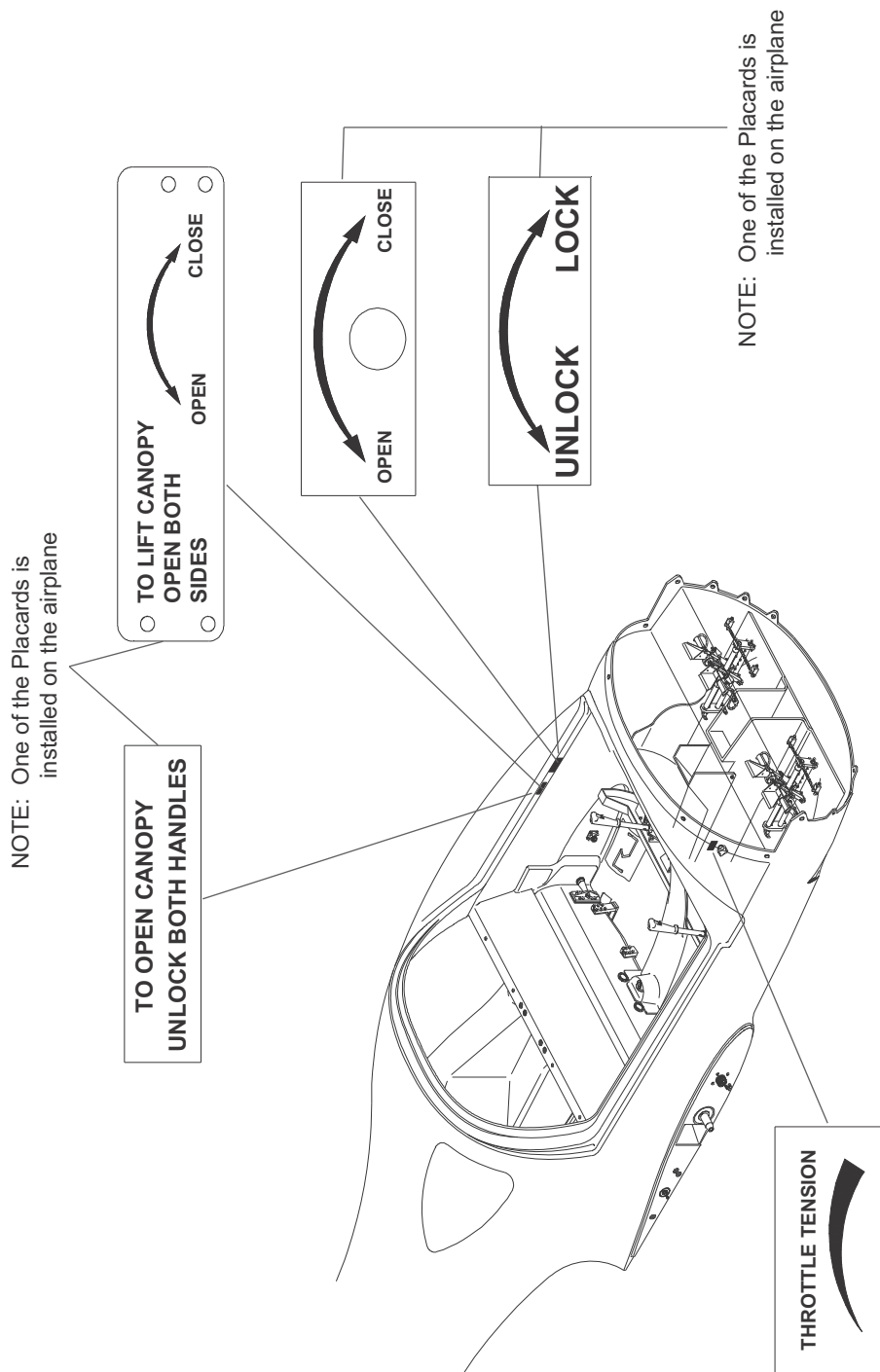
- (p) Instrument panel with Garmin G500, UMA engine instruments and Garmin GTN 650/GTR 225 installed



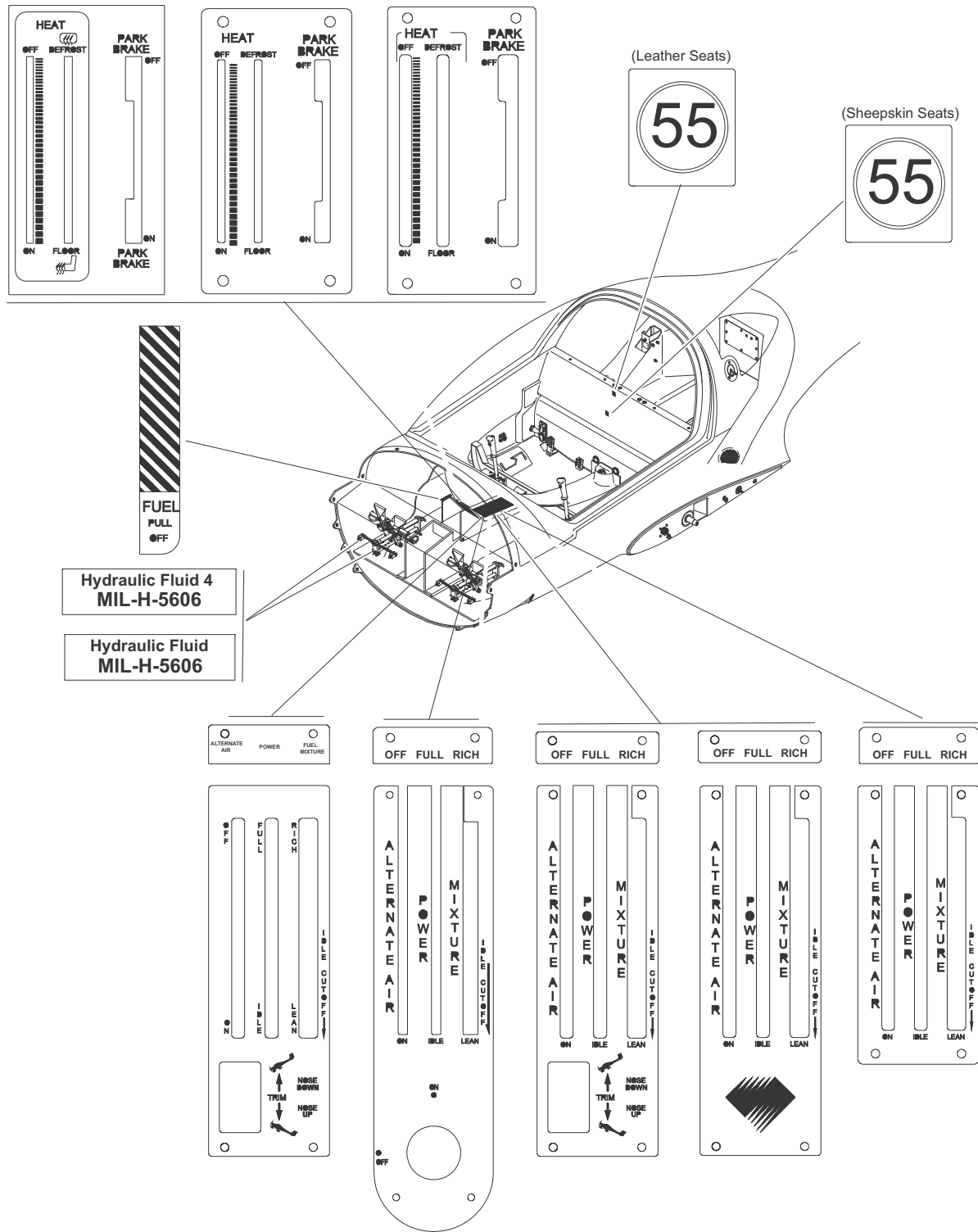
(q) Airplane interior - General placards and markings.



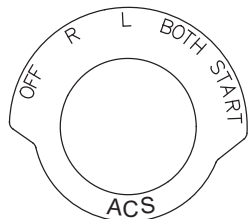
(r) Airplane interior - General placards and markings.



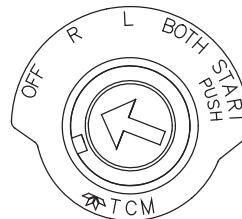
(s) Airplane interior - General placards and markings.



- (t) Around the ignition switch on the instrument panel.



- Optional Ignition Switch (Push-to-Start Feature)



- (u) On the instrument panel. If equipped with an altitude compensating fuel pump.

This aircraft is equipped with an altitude compensating fuel system. See AFM Chapter 2, 4, & 7 for limitation and operating instructions.

- (v) On the instrument panel. If equipped with an altitude compensating fuel pump.

GROUND IDLE SPEED:
975 RPM MINIMUM

IDLE MIXTURE RISE:
50 RPM MINIMUM

RECOMMENDED MINIMUM FLIGHT
IDLE SPEED: 1400 RPM

- (w) On the instrument panel. If equipped with an altitude compensating fuel pump.

This airplane is classified as a very light airplane approved for Visual Meteorological Conditions only, in non-icing conditions. All aerobatic maneuvers, including intentional spinning are prohibited. See Flight Manual for other limitations.

2.16 DEMONSTRATED CROSSWIND COMPONENT

The maximum demonstrated crosswind component is 20 kts. (37 km/h).

2.17 TEMPERATURE LIMITS

CAUTION

FOR AIRCRAFT WITH OTHER THAN WHITE UNDERSIDES. PARKING THE AIRCRAFT OVER A LIGHT COLOURED OR REFLECTIVE SURFACE IN CONDITIONS OF BRIGHT SUNLIGHT, PARTICULARLY AT HIGH OAT, IS NOT RECOMMENDED.

Temperature limit of the structure for the operation of the airplane:

Maximum T/O Temperature : 131°F (55°C)
Structural Temperature

5.3.6 Take-off Distance

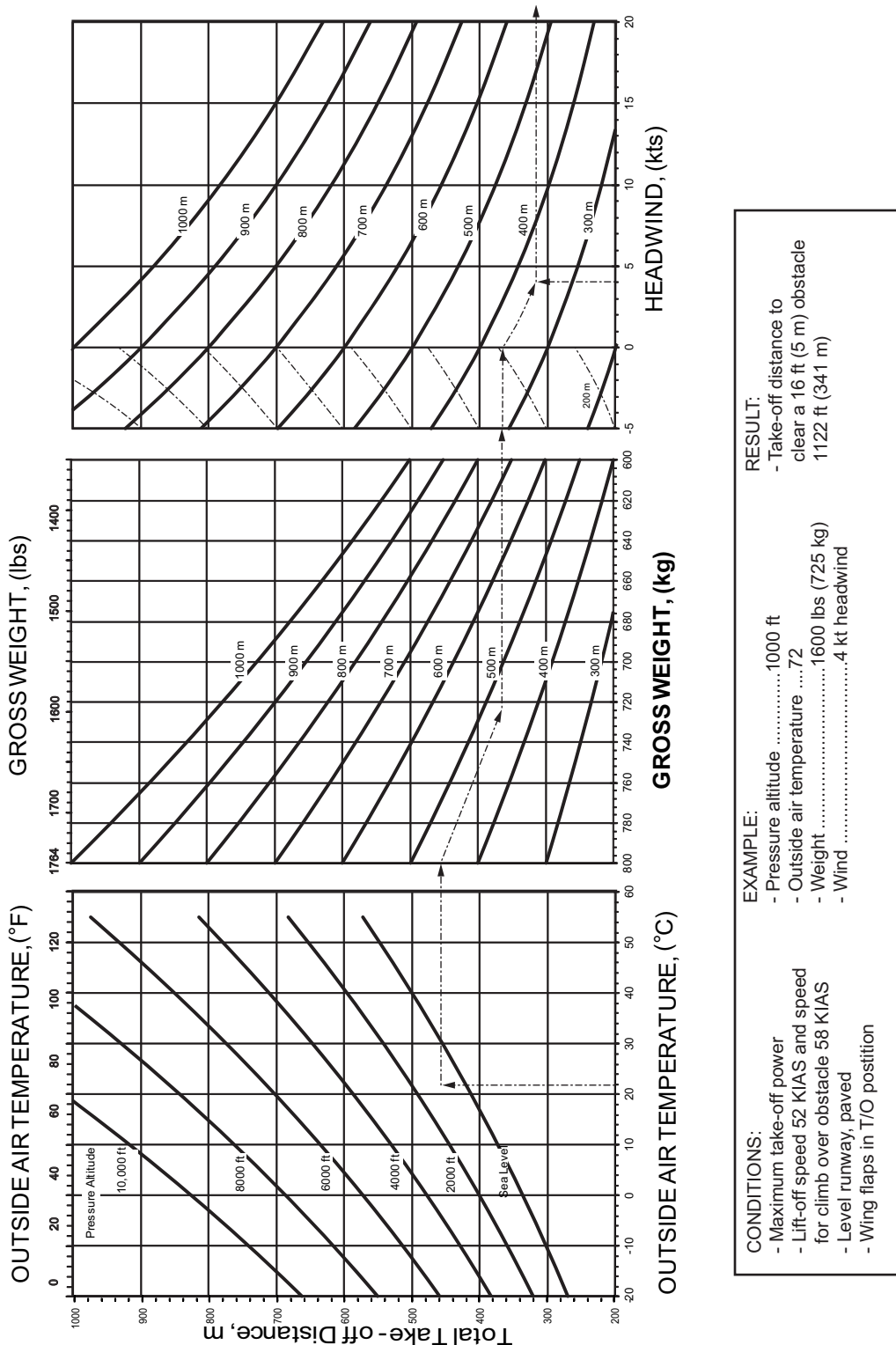
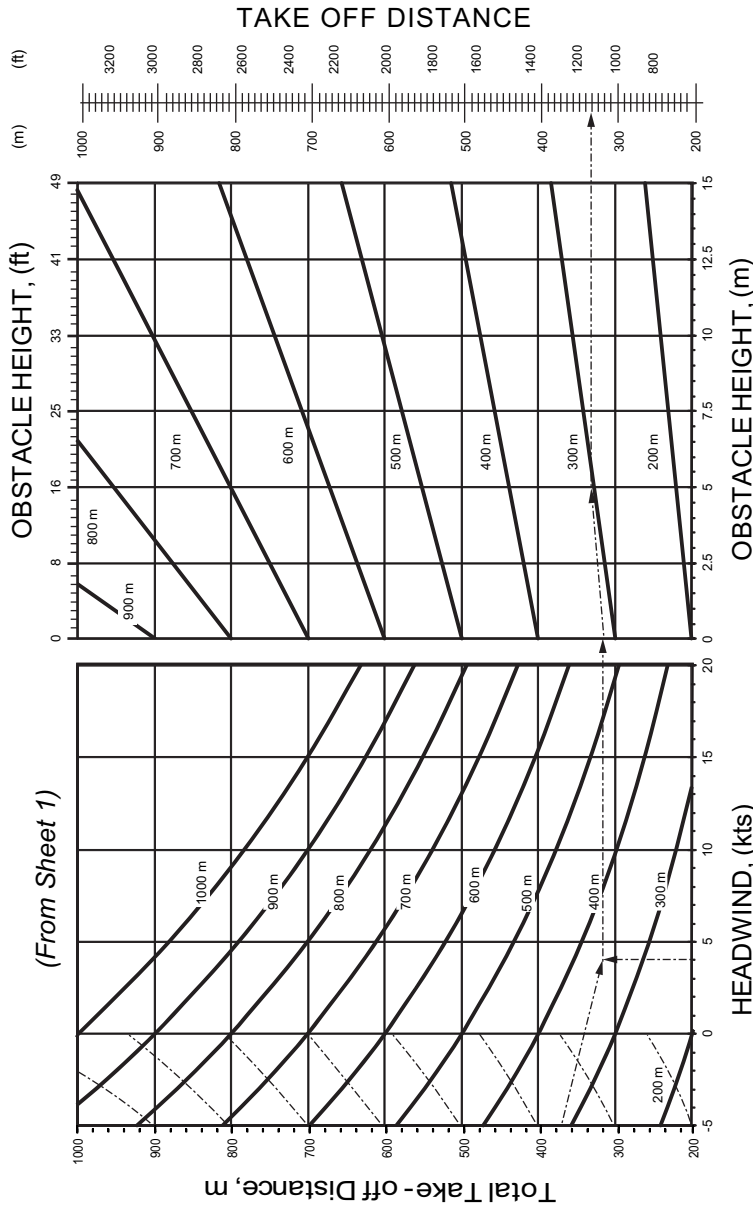


Figure 5.4 - Take-off Distance (Sheet 1 of 2)



CONDITIONS:

- Maximum take-off power
- Lift-off speed 52 KIAS and speed for climb over obstacle 58 KIAS
- Level runway, paved
- Wing flaps in T/O position

EXAMPLE:

- Pressure altitude 1000 ft
- Outside air temperature 72
- Weight 1600 lbs (725 kg)
- Wind 4 kt headwind

RESULT:

- Take-off distance to clear a 16 ft (5 m) obstacle 1122 ft (341 m)

NOTE

Poor maintenance condition of the airplane, deviation from the given procedures as well as unfavorable conditions (i.e. high temperature, rain, unfavorable wind conditions, including cross wind) can increase the take-off distance considerably.

Figure 5.4 - Take-off Distance (Sheet 2 of 2)

Equipment List			
Item Number	Part Description, Manufacturer Part/Model No.	Weight lbs (kg)	Arm in (m)
23-011	Audio Panel w/Marker Receiver	0.8	-17.2
	PMA 6000	(0.4)	(-0.44)
23-012	Audio Panel	1.0	-20.5
	Garmin GMA 340	(0.4)	(-0.52)
23-013	Com	2.8	-20.5
	Bendix/King KY97A	(1.3)	(-0.52)
23-014	Com	2.4	-20.5
	Icom IC A200 TSO	(1.1)	(-0.52)
23-015	Com	2.1	-20.5
	GARMIN AT SL 40	(0.95)	(-0.52)
24-001	Ammeter	0.2	-16.4
	VDO 190-031SB2	(0.1)	(-0.42)
24-002	EPU Kit (S/N C0001-C0148, C0150)	4.5	45.6
	Diamond Service Bulletin # DAC1-24-02	(2.0)	(1.16)
24-003	Battery, GIL G-35M	26.3	57.5
	Diamond Service Bulletin # DAC1-24-03	(11.9)	(1.46)
24-004	Battery, standard C0001-C0148, C0150	15.3	57.5
	Yuasa Y50N18L-A-CX	(6.9)	(1.46)
24-005	Battery, standard (S/N C0149, C0151 onwards)	15.3	-35
	Yuasa Y50N18L-A-CX	(6.9)	(-0.89)
24-006	EPU Installation (S/N C0149, C0151 onwards) Diamond	2.6	-23.6
	Service Bulletin # DAC1-24-06"	(1.2)	(-0.6)
24-007	Battery, B&C Specialty Products	22.5	56
	BC100-1 (S/N C0001 to C0148, C0150)	(10.2)	(1.42)
24-008	Voltmeter	0.3	-16.4
	VDO 332-041-SB2	(0.1)	(-0.42)
24-009	Ammeter	0.3	-17.4
	22-2430-02-00	(0.14)	(-0.44)
24-010	Voltemeter	0.3	-17.4
	22-2430-01-00	(0.14)	(-0.44)

Equipment List			
Item Number	Part Description, Manufacturer Part/Model No.	Weight lbs (kg)	Arm in (m)
25-001	Emergency Locator Transmitter EBC 502	2.8 (1.3)	44.8 (1.14)
25-002	Seat Cushion, standard RH 22-2510-20-00 , LH 22-2510-19-00	4.5 (2.1)	12 (0.30)
25-003	Seat Cushion, leather RH 22-2510-10-00 , LH 22-2510-09-00	5.6 (2.6)	12 (0.30)
25-004	Fire Extinguisher AMEREX A620	2.3 (1.0)	28 (0.71)
25-005	ELT Installation Artex ELT-200 (Includes ELT, Antenna, Remote Switch and Harness)	3.2 (1.5)	158.0 (4.0)
25-006	ELT Installation Artex ME406 (Includes ELT, Antenna, Remote Switch and Harness)	3.7 (1.68)	40.3 (1.02)
27-001	Flap Control Module 22-2753-00-00	0.12 (0.05)	-19.4 (-0.49)
28-001	Fuel Quantity Indicator 22-2840-00-00	0.2 (0.1)	-16.4 (-0.42)
28-002	Auxiliary Fuel Quantity Indicator VDO 301-035	0.2 (0.1)	-16.4 (-0.42)
28-003	Fuel Quantity Indicator 22-2840-01-00	0.25 (0.11)	-17.4 (-0.44)
31-001	Hour Meter Hobbs 85000	0.5 (0.2)	-15.5 (-0.39)
31-002	Chronometer Davtron M800	0.2 (0.1)	-15.5 (-0.39)
31-003	Chronometer Davtron M803	0.3 (0.1)	-15.5 (-0.39)
32-001	Wheel Fairing, Main Gear RH 22-3210-06-00 , LH 22-3210-05-00	2.7 (1.2)	27.6 (0.70)
32-002	Wheel Fairing, Nose Gear 20-3220-13-00	2.7 (1.2)	-44.8 (-1.14)

Equipment List			
Item Number	Part Description, Manufacturer Part/Model No.	Weight lbs (kg)	Arm in (m)
33-001	Recognition Light Kit	2.5	0
	Diamond Service Bulletin # DAC1-33-01	(1.1)	0
33-002	Light Dimmer Module	0.6	16.4
	White Wire WW-LCM 001	(0.3)	(-0.42)
33-003	Flood Light	0.6	-16.4
	Aero Enhancements	(0.3)	(-0.42)
33-004	Light Dimmer Assembly	0.15	-21.4
	22-3313-00-00	(0.7)	(-0.54)
34-001	Encoder	0.8	-22.5
	SSD 120-20	(0.4)	(-0.57)
34-002	Encoder	0.6	-22.5
	SSD 120-30	(0.3)	(-0.57)
34-002a	Encoder	0.4	-20.0
	SSD 120-30N	(0.2)	(-0.51)
34-003	Nav Indicator	1.1	-16.4
	King KI 208	(0.5)	(-0.42)
34-004	Outside Air Temperature Indicator (F)	0.5	-15.5
	Davtron 301F	(0.2)	(-0.39)
34-005	Outside Air Temperature Indicator (C)	0.5	-15.5
	Davtron 301C	(0.2)	(-0.39)
34-006	Transponder	3.0	-20.5
	Bendix/King KT 76A	(1.4)	(-0.52)
34-007	GPS	2.1	-20.5
	Garmin GPS150	(1.0)	(-0.52)
34-008	GPS	2.1	-20.5
	Bendix/King KLN 35A	(1.0)	(-0.52)
34-009	Nav Indicator	1.2	-17.4
	King KI 209	(0.5)	(-0.44)
34-010	Transponder Antenna	0.2	54.1
	KA 60	(0.1)	(1.37)

Equipment List			
Item Number	Part Description, Manufacturer Part/Model No.	Weight lbs (kg)	Arm in (m)
34-011	Altimeter United 5934PD3	0.9 (0.4)	-16.4 (-0.42)
34-012	Compass Airpath C2300L4	0.8 (0.3)	-15 (-0.38)
34-013	Turn Coordinator EGC 1394T100-7Z	1.2 (0.5)	-16.4 (-0.42)
34-013a	Turn Coordinator MCI 1394T100-7B	1.4 (0.6)	-16.4 (-0.42)
34-014	Airspeed Indicator United 8000B800	0.7 (0.3)	-16.4 (-0.42)
34-015	Vertical Speed Indicator United 7000	0.8 (0.4)	-16.4 (-0.42)
34-016	Artificial Horizon Sigma Tek 23-501-06-16	2.0 (0.9)	-16.4 (-0.42)
34-017	Artificial Horizon Sigma Tek 23-501-035-5	2.3 (1.0)	-16.4 (-0.42)
34-018	Directional Gyro Sigma Tek 1U262-001-39	2.6 (1.2)	-16.4 (-0.42)
34-019	Directional Gyro Sigma Tek 1U262-007-40	2.7 (1.2)	-16.4 (-0.42)
34-020	Vacuum Gauge Varga 5001	0.3 (0.1)	-16.4 (-0.42)
34-021	Chronometer Marker Beacon Antenna Davtron M800KA 26	0.25 (0.1)	-153.6 (-3.90)
34-022	Transponder Antenna Bendix/King KA60	0.2 (0.1)	-38.5 (-0.98)
34-023	Transponder Garmin GTX320	1.6 (0.7)	-18.0 (-0.46)
34-024	Transponder Bendix/King KT76C	3.0 (1.3)	-20.5 (-0.52)

Equipment List			
Item Number	Part Description, Manufacturer Part/Model No.	Weight lbs (kg)	Arm in (m)
34-025	Digital Transponder	2.2	-20.5
	Garmin GTX 327	(1.0)	(-0.52)
34-026	GPS/Nav/Com	6.5	-20.5
	Garmin GNS 430	(3.0)	(-0.42)
34-027	GPS/Com	5.8	-20.5
	Garmin GNC 420	(2.6)	(-0.42)
34-028	GPS/Com	3.4	-20.5
	Garmin GNC 300XL	(1.5)	(-0.42)
34-029	TCAD (Traffic Collision Alerting Device)	3.6	-20.5
	Ryan 8800 Gold	(1.6)	(-0.42)
34-030	CDI	1.4	-17.4
	Garmin GI106A	(0.6)	(-0.44)
34-031	GPS/Nav/Com	8.5	20.5
	Garmin GNS 530	(3.8)	(0.42)
34-032	Traffic Advisory System Processor	6.8	55.5
	Avidyne 70-2420-7 TAS600	(3.1)	(1.41)
34-033	Traffic Advisory System Antenna, Top	0.66	64.6
	Sensor Systems S72-1750-31L	(0.3)	(1.64)
34-034	Traffic Advisory System Antenna, Bottom	0.75	7.9
	Sensor Systems S72-1750-32L	(0.3)	(0.20)
34-035	Traffic Advisory System Transponder Coupler	0.5	56.7
	Avidyne 70-2040	(0.2)	(1.44)
34-036	Digital Transponder	4.2	-20.5
	Garmin GTX 328	(1.9)	(-0.52)
34-037	Intercom System	0.75	-15.5
	PS Engineering Incorporated PM 1000	(0.3)	(-0.39)
34-038	Artificial Horizon Indicator	1.6	-20.5
	Mid Continent	(0.7)	(-0.52)
34-039	Garmin Display Unit (GDU) 620 (PFD/MFD)	6.4	-20.5
	Garmin G500	(2.9)	(-0.52)

Equipment List			
Item Number	Part Description, Manufacturer Part/Model No.	Weight lbs (kg)	Arm in (m)
34-040	Garmin Data Computer (GDC) 74A (Air Data Computer) Garmin G500	1.6 (0.7)	-15.0 (-0.38)
34-041	Garmin Reference System (GRS) 77 [(Attitude and Heading Reference System (AHRS))] Garmin G500	2.8 (1.27)	63.0 (1.6)
34-042	Garmin Magnetometer Unit (GMU) 44 Garmin G500	0.35 (0.2)	110.2 (2.8)
34-043	Outside Air Temperature (OAT) Probe Garmin GTP 59	0.05 (0.02)	-23.5 (-0.60)
34-044	GPS/Nav/Comm Garmin GTN 650	4.2 (1.9)	-21.5 (-0.54)
34-045	Comm Garmin GTR 225	2.36 (1.07)	-21.5 (-0.54)
34-046	Artificial Horizon Mid Continent 4300-206	2.5 (1.13)	-17.4 (-0.44)
61-002	Propeller and Spinner Sensenich W69EK-63	11.9 (5.4)	-60.8 (-1.54)
61-003	Propeller and Spinner Sensenich W69EK7-63 and W69EK7-63G	12.7 (5.7)	60.8 (-1.54)
71-001	Heater Tanis TAS100-29	1.1 (0.5)	45.5 (1.16)
71-002	Winter Kit Diamond Service Bulletin # DAC1-71-01	0.4 (0.2)	-33.5 (-0.85)
73-001	Fuel Pressure Indicator 22-7330-00-01	0.3 (0.1)	-15.5 (-0.39)
73-002	Fuel Pressure Indicator 22-7330-03-00	0.3 (0.14)	-17.4 (-0.44)
77-001	Cylinder Head Temp. Indicator 22-7720-00-00	0.3 (0.1)	-16.4 (-0.42)
77-002	RPM Indicator 22-7710-20-00 or Mitchell CD-122-4020	0.8 (0.4)	-16.4 (-0.42)

Equipment List			
Item Number	Part Description, Manufacturer Part/Model No.	Weight lbs (kg)	Arm in (m)
77-003	RPM Indicator – Recording Superior Labs SL1010-55000-13-N00	0.8 (0.4)	-16.4 (-0.42)
77-004	Vision Microsystems VM-1000 4010050 Main Display	0.8 (0.4)	-16.4 (-0.42)
77-005	Vision Microsystems VM-1000 4010320 Fuel Display	0.2 (0.1)	-16.4 (-0.42)
77-006	Vision Microsystems VM-1000 4010055 EC 100	0.7 (0.3)	-16.4 (-0.42)
77-007	Vision Microsystems VM-1000 4010066 Data Processing Unit	1.3 (0.6)	-20 (-0.51)
77-008	Lighted RPM Indicator – Recording Superior Labs SL1010-5503-13-H03	0.7 (0.3)	-16.4 (-0.42)
78-001	EGT Indicator 22-7720-00-02	0.3 (0.1)	-15.5 (-0.39)
78-002	EGT Indicator 22-7720-04-00	0.25 (0.11)	-17.4 (-0.44)
78-003	CHT Indicator 22-7720-03-00	0.25 (0.11)	-17.4 (-0.44)
79-001	Oil Pressure Kit (Indicator only) 22-7930-10-00	0.3 (0.1)	-16.4 (-0.42)
79-002	Oil Temperature Indicator 22-7930-00-01	0.3 (0.1)	-16.4 (-0.42)
79-003	Oil Temperature Indicator 22-7931-02-00	0.25 (0.11)	-17.4 (-0.44)
79-004	Oil Pressure Indicator 22-7930-04-00	0.25 (0.11)	-17.4 (-0.44)

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1. GENERAL

This supplement supplies the information necessary for the efficient operation of the DA20-C1 airplane when the Garmin G500, Integrated Display System, is installed as an optional system. The information contained within this supplement is to be used in conjunction with the complete manual.

This Supplement to the AFM is provided to acquaint the pilot with the limitations as well as normal, abnormal and emergency operating procedures of the Garmin G500. The limitations presented are pertinent to the operation of the G500 System as installed in the DA20-C1 airplane. Garmin provides a detailed Pilot's Guide. Document Number 190-01102-02 (Current Revision). This reference material is not required to be on board the aircraft but does contain a more in depth description of all the G500 functions.

This supplement is a permanent part of this Manual and must remain in this Manual as long as the Garmin G500 is installed.

2. OPERATING LIMITATIONS

2.1 Cockpit Reference Guide

The Garmin G500 Cockpit Reference Guide, Document Number 190-01102-03, (Current Revision) must be immediately available to the flight crew.

2.2 System Software Requirements

The G500 must utilize the following or later TCCA/FAA approved software versions for safe operation:

Component	Identification	Software Version
GDU 620	PFD/MFD	5.02
GRS 77	AHRS	3.02
GDC 74	Air Data Computer	3.08
GMU 44	Magnetometer	2.01

In addition to the main components of the G500, Garmin GNS430W GPS navigator is interfaced to the G500. The GPS system connected to the G500 must utilize the following applicable software versions:

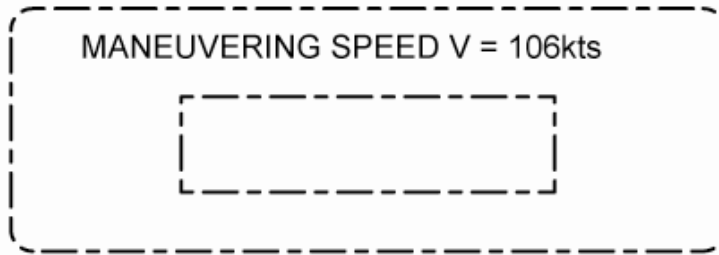
Component	Identification	Software Version
GNS 430W	GPS/WAAS NAV	3.20
GTN 650	GPS/WAAS	5.0
	Nav	6.02

2.3 AHRS Operational Area

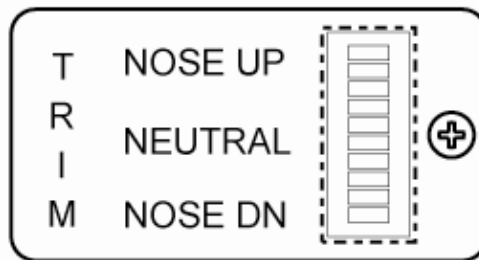
The AHRS used in the G500 is limited in its operational area. Operations are prohibited north of 72 degrees North and south of 70 degrees South latitudes and in the following four regions:

- (a) North of 65 degrees North latitude between longitude 75 degrees West and 120 degrees West
- (b) North of 70 degrees North latitude between longitude 70 degrees West and 128 degrees West
- (c) North of 70 degrees North latitude between longitude 85 degrees East and 114 degrees East

(h) Maneuvering speed on the left side of the instrument panel

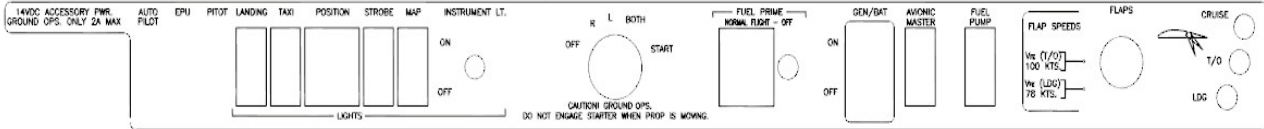


(i) Trim placard on the upper left corner of the instrument panel

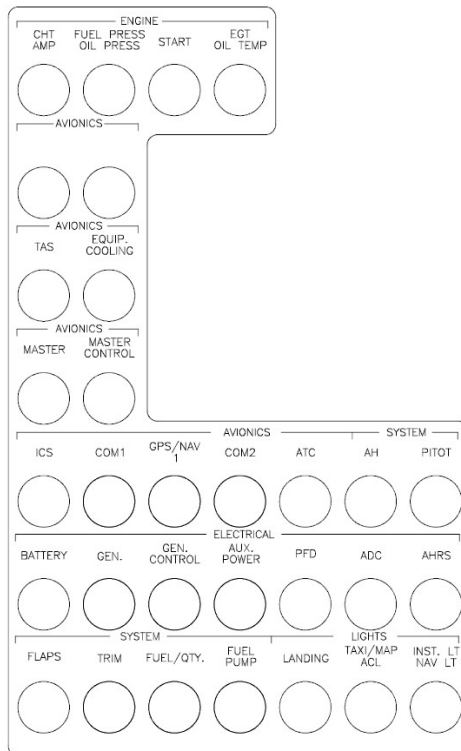


(j) The placards that follow pertain only when the UMA engine instruments and Garmin GTN 650/GTR 225 are installed with the G500

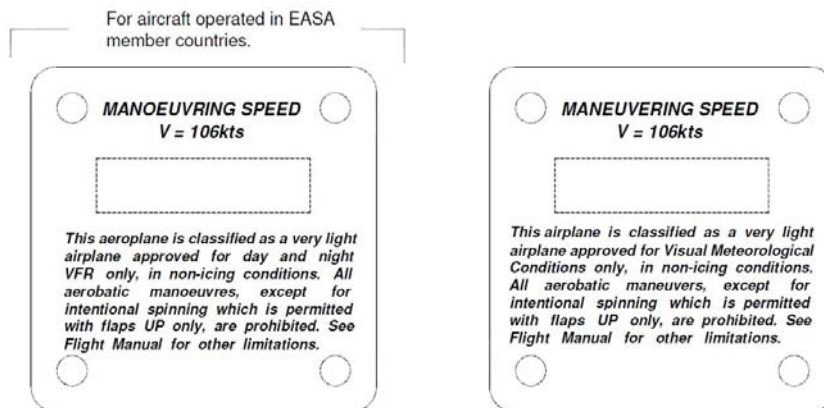
(1) Switches on the instrument panel below the GDU 620 display



(2) Circuit breaker designations on the right side of the instrument panel



(3) Maneuvering speed and limitations placard center panel



3. EMERGENCY PROCEDURES

3.1 Emergency Procedures

There is no change in the emergency procedures.

3.2 Abnormal Procedures

These procedures supersede those presented as markings or placards, or documented in the aircraft's TCCA/FAA approved AFM as a result of the installation of the G500 PFD/MFD system. All other emergency procedures remain in effect.

- (a) If primary flight information (Heading, Altitude or Airspeed) on the PFD is not available or appears invalid, utilize the standby instruments installed around and adjacent to the G500, as required.
- (b) The AHRS requires at least one GPS or air data input to function properly. In the unlikely event that GPS data or air data is not received by the AHRS, the system will subsequently lose attitude and heading and the pilot will be required to use the standby instrumentation. In this instance, the PFD will not provide Attitude, Heading, Altitude, or Airspeed information; however, if the PFD is receiving valid GPS information, the reversionary data on the PFD provides GPS track and GPS Altitude data along with course information and deviations which are still valid and may be used to navigate.
- (c) If navigation information on the PFD/MFD (HSI, RMI, WPT bearing and distance information, or Moving Map Data) is not available or appears invalid, select an alternate source (via CDI key or 1-2 key) or utilize the data directly from the navigation equipment as required.
- (d) If any of the data sources from SVT become unreliable or unavailable, the display of synthetic terrain will automatically revert to the non-SVT PFD display of blue over brown. Additionally, if during the course of normal operations there is any discrepancy between actual terrain around the aircraft and terrain shown on the SVT display, the display of synthetic vision should be manually turned off using the procedure in paragraph 4.3 of this supplement.
- (e) If GPS position information from the GNS430W is not valid due to an inability to track GPS, the own-ship icon on the MFD is removed and "NO GPS POSITION" text is overlaid on the MFD moving map. The system will annunciate a loss of integrity, "LOI" on the HSI. The LOI annunciation will be colored yellow and the HSI needle will flag. The pilot should select an alternate navigation source (via CDI key or 1-2 key). Pressing the CDI soft key will change the HSI navigation source. If GPS navigation is subsequently restored, the MFD moving map will display the own-ship icon, and the HIS navigation source may be selected to GPS; at that time the LOI annunciation will be removed.

3.3 Abnormal Indications

3.3.1 Heading Failure

A magnetometer failure is indicated by a HDG with a red X over it just to the left of the heading display. If the GDU620 is still receiving valid GPS ground track from the GNS navigator, the heading will be replaced with GPS ground track in magenta. The aircraft can be flown by reference to GPS ground track instead of heading. In this case, the autopilot will continue to fly in HDG mode, but the course being sent to the autopilot will be based on ground track instead of magnetic heading.

A complete Heading Failure (magnetometer and GPS ground track failure) is indicated by the digital heading presentation being replaced with a red X and the compass rose digits being removed. The course pointer will indicate straight up and operate much like a traditional CDI with the Omni-Bearing Selector being adjusted by the PFD knob set to CRS.

Under this condition, the pilot must use an alternate source of heading such as the standby compass. If the installation includes an autopilot, the pilot workload may be reduced by operating that system in NAV mode.

3.3.2 AHRS Failure

A failure of the AHRS is indicated by a removal of the sky/ground presentation, a red X, and a yellow "AHRS FAILURE" shown on the PFD. A heading failure will also occur as described above in 3.3.1.

- (a) Set course datum using CRS selection of the PFD knob
- (b) Seek VFR conditions or land as soon as practical.

3.3.3 Air Data Computer (ADC) Failure

Complete loss of the Air Data Computer is indicated by a red X and yellow text over the airspeed, altimeter, vertical speed, TAS and OAT displays. Some derived functions, such as true airspeed and wind calculations, will also be lost.

- (a) Use Standby Airspeed Indicator and Altimeter
- (b) Seek VFR conditions or land as soon as practical.

3.4 Loss of Electrical Power

In the event of a total loss of electrical power, the G500 system will cease to operate and the pilot must utilize the standby instruments to fly the aircraft.

3.5 WARNINGS, CAUTIONS and Advisories

The following tables show the color and significance of the Warning, Caution, and Advisory messages which can appear on the G500 displays.

NOTE

The G500 cockpit reference guide and the G500 pilot's guide contain detailed descriptions of the annunciator system and all Warnings, Cautions and Advisories.

WARNING annunciations - Red		
Annunciation	Pilot Action	Cause
AIRSPEED FAIL	Use Standby Airspeed	Display system is not receiving airspeed input from the air data computer; accompanied by a red X through the airspeed display.
ALTITUDE FAIL	Use Standby Altitude.	Display system is not receiving altitude input from the air data computer; accompanied by a red X through the altimeter display.
VERT SPD FAIL	Cross check instruments.	Display system is not receiving vertical speed input from the air data computer; accompanied by a red X through the vertical speed display.
HDG	Use standby Magnetic Compass or GPS track information.	Display system is not receiving valid heading input from the AHRS; accompanied by a red X through the digital heading display.
Red X	Reference the data source or alternate equipment.	A red X through any display field, indicates that display field is not receiving data or is corrupted.

CAUTION annunciations - Yellow		
Annunciation	Pilot Action	Cause
AHRS Aligning – Keep wings level	Limit aircraft banking as AHRS aligns – OK to taxi.	AHRS is aligning. Keep wings level using reference or standby attitude indicator (if installed). AHRS will align even if you must bank, but the alignment time may be slightly longer if maneuvering.
NO GPS POSITION	If the system is configured with dual GPS, press the 1-2 button.	GPS data on the system is no longer valid. The Moving Map and associated data are not updating.
TRAFFIC	Visually acquire the traffic to see and avoid.	The configured traffic system has determined that nearby traffic may be a threat to the aircraft.
No Traffic Data	Use vigilance, as the traffic sensor is not able to detect traffic.	The configured traffic system is not able to detect traffic and/or provide the pilot with any traffic awareness.

Advisories - White	
Annunciation	Pilot Action
Various Alert Messages may appear under the MFD – ALERTS soft key.	View and understand all advisory messages. Typically, they indicate communication issues within the G500 system. Refer to the G500 Cockpit Reference for appropriate pilot or service action.

4. NORMAL PROCEDURES

Detailed operating procedures are described in the Garmin G500 Cockpit Reference Guide, Document No. 190-01102-03, Rev D or a later appropriate revision and in the Garmin G500 Pilot's Guide, Document No. 190-01102-02, Rev C, or a later appropriate revision.

4.1 Database Cards

WARNING

DO NOT OPERATE THE GARMIN G500 SYSTEM USING AN OUT-OF-DATE DATABASE. OUT-OF-DATE DATABASE INFORMATION CAN CAUSE A FLIGHT SAFETY HAZARD.

NOTE

The G500 utilizes several databases. Database titles display in yellow if expired or in question. The G500 receives the calendar data from the GPS, but only after acquiring a position fix. Database cycle information is displayed at power up on the MFD display, but more detailed information is available on the AUX pages. Internal database prevents incorrect data being displayed.

The upper Secure Digital (SD) data card slot is typically vacant as it is used for software maintenance and navigational database updates. The lower data card slot should contain a data card with the system's terrain/obstacle information and optional data including Safe Taxi, FliteCharts and ChartView electronic charts.

The terrain databases are updated periodically and have no expiration date. Coverage of the terrain database is between North 75° latitude and South 60° latitude in all longitudes. Coverage of the airport terrain database is worldwide.

The obstacle database contains data for obstacles, such as towers, that pose a potential hazard to aircraft. Obstacles, 200 feet and higher, are included in the obstacle database. It is very important to note that not all obstacles are necessarily charted and therefore may not be contained in the obstacle database. Coverage of the obstacle database includes the United States and Europe. This database is updated on a 56-day cycle.

The Garmin SafeTaxi database contains detailed airport diagrams for selected airports. These diagrams aid in following ground control instructions by accurately displaying the aircraft position on the map in relation to taxiways, ramps, runways, terminals, and services. This database is updated on a 56-day cycle.

The Garmin FliteCharts database contains procedure charts for the coverage area purchased. This database is updated on a 28-day cycle. If not updated within 180 days of the expiration date, FliteCharts will no longer function.

The Jeppesen ChartView electronic charts database contains procedure charts for the coverage area purchased. An own-ship position icon will be displayed on these charts. This database is updated on a 14-day cycle. If not updated within 70 days of the expiration date, ChartView will no longer function.

4.2 PFD Knob and Soft Keys

The basic PFD controls are on the left side of the GDU 620 unit, next to and beneath the PFD display. The rotary knob performs the function annunciated on the display just to the upper left of the HSI: HDG, CRS, ALT, V/S, or BARO. If no function is annunciated then the knob is providing a HDG function. Assigning the function of the knob is done by pressing/releasing one of the dedicated function buttons to the left of the display.

NOTE

After 10 seconds of inactivity in another mode, the PFD knob selected mode will revert to HEADING mode.

- Press the desired PFD mode selection key (HDG, CRS, ALT, V/S, or BARO). A window will be displayed near the upper right corner of the HSI showing the current value for that mode.
- Turn the PFD knob to select the desired value.

(a) PFD Bezel Keys

Heading (HDG)	Selects Heading Select mode. Pressing the PFD knob in Heading mode will center the Heading Bug on the current Heading. This is the default mode for the PFD knob. If the Heading is invalid, the PFD knob will revert to Course mode. Set the heading on the HSI by turning the PFD knob after pressing the HDG key.
Course (CRS)	Selects Course Select mode. Pressing the PFD knob in Course mode will center the CDI for a VOR or OBS mode course.
Altimeter (ALT)	Selects Altitude Select mode. Pressing the PFD knob in Altimeter mode will enter the current altitude in the Altitude Select window. Set the Altitude Bug by turning the PFD knob after pressing the ALT key.
Vertical Speed (V/S)	Selects Vertical Speed (V/S) mode. Pressing the PFD knob in V/S mode will synchronize the bug to the current vertical speed.
Barometer (BARO)	Selects Barometric Setting Select mode. Pressing the PFD knob in Baro mode will enter the standard pressure (29.92 in) value.

(b) PFD Soft Keys

The soft keys are located along the bottoms of the displays below the soft key labels. The soft key labels shown depend on the soft key level or page being displayed. The soft keys can be used to select the appropriate soft key function.

When a soft key is selected, its color changes to black text on gray background and remains this way until it is turned off, at which time it reverts to white text on black background. When a soft key function is disabled, the soft key label is subdued (dimmed). Soft keys revert to the previous level after 45 seconds of inactivity.

CDI	The CDI soft key toggles between the selection of GPS or VOR/LOC as the active navigation source.
PFD	Pressing the PFD soft key displays the BRG and BACK soft keys.
BRG	The BRG soft key cycles through the available bearing indicator modes (NAV, GPS, ADF, or None).
SYN VIS	The SYN VIS soft key is available if Synthetic Vision Technology™ is installed. It enables Synthetic Vision and displays the associated soft keys.
SYN TERR	The SYN TERR soft key is available if Synthetic Vision Technology™ is installed and enables synthetic terrain depiction.
HRZN HDG	The HRZN HDG soft key is available if Synthetic Vision Technology™ is installed. Pressing this key enables horizon heading marks and digits.
APTSIGNS	The APTSIGNS soft key is available if Synthetic Vision Technology™ is installed and enables airport sign posts.
BACK	The BACK soft key returns to the pages default soft key options.

4.3 MFD Knobs and MFD Soft Keys

The MFD controls are on the right side of the GDU 620 unit, next to and beneath the MFD display. The rotary knobs scroll through various page groups and pages of the MFD and manipulate data and settings by pressing the knob to activate a cursor.

Soft keys at the bottom of the display allow for some quick functions to be performed on each page. The soft keys operate by press and release. More detailed configuration is typically available by pressing the MENU button, which is on the right side of the display.

Pressing and holding down the CLR key is a good way to get back to the main map page on the MFD. This can be used as a quick way back, or when the pilot has selected a submenu within the system.

(a) MFD Knobs

The MFD knobs are for navigating and selecting information on the MFD pages.

Small (Inner) Knob	Selects a specific page within a page group. Pressing the small MFD knob turns the selection cursor ON and OFF. When the cursor is ON, data may be entered in the applicable window by turning the small and large MFD knobs. In this case, the large MFD knob moves the cursor on the page and the small MFD knob selects individual characters or values for the highlighted cursor location.
Large (Outer) Knob	Selects the MFD page group. When the cursor is ON, the large MFD knob moves the cursor to highlight available fields.

(b) MFD Bezel Keys

Range (RNG)	Pressing the Range arrow keys changes the range on the Map pages. The Up arrow zooms out. The Down arrow zooms in. The keys also aid in scrolling up and down text pages.
Menu	Displays a context-sensitive list of options. This list allows the crew to access additional features or make setting changes that relate to particular pages.
Enter (ENT)	Validates or confirms a menu selection or data entry.
Clear (CLR)	Erases information, cancels entries, or removes page menus. Pressing and holding the CLR key displays the Navigation Map 1 page.

(c) MFD Soft Keys

MFD functions indicated by the soft key labels vary depending on the page selected and are located at the bottom of the MFD display. Press the soft key located directly below the soft key label. To select the function indicated on the soft key label, press the soft key directly below the label.

4.4 AHRS Normal Operating Mode

The AHRS integrity monitoring features require the availability of GPS and Air Data. The G500 monitors these integrity systems automatically and will alert the pilot when the AHRS is not receiving GPS or Air Data.

4.5 Course Pointer Auto Slewing

The G500 HSI will auto slew, i.e. automatically rotate the GPS course pointer to the desired course defined by each GPS leg. The system will also auto slew the VHFNAV course pointer when the CDI transitions to a LOC setting if an ILS, LOC, LOC BC, LDA, or SDF approach is activated in the GPS/WAAS navigator.

The VHFNAV (green) course pointer will only auto slew if the approach is active in the navigator, the LOC frequency is loaded in the active NAV frequency, and then the HSI source is changed to the corresponding VHFNAV for the approach. Back Course approaches will auto slew to the reciprocal course.

The system is not capable of automatically setting the inbound VHFNAV course pointer if an approach is not active in the GNS Navigation System.

4.6 Terrain Display

The G500 terrain and obstacle information appears on the MFD display as red and yellow tiles or towers, and is depicted for advisory only. Aircraft maneuvers and navigation must not be predicated upon the use of the terrain display. Terrain unit alerts are advisory only and are not equivalent to warnings provided by TAWS.

4.7 Synthetic Vision Technology (SVT)

The SVT system may be turned on or off, as desired. To access the synthetic vision system soft key menu, press the PFD soft key on the GDU 620, followed by the SYN VIS soft key. Synthetic vision terrain, horizon headings, and airport signs can be toggled on and off from this menu. Press the BACK soft key to return to the root PFD menu.

4.8 Autopilot Operations

The G500 PFD/MFD System offers various integration capabilities dependent mainly upon the type of autopilot installed in a particular aircraft.

5. PERFORMANCE

There is no change in the performance of the airplane.

6. WEIGHT AND BALANCE / EQUIPMENT LIST

Upon removal and installation of the Garmin G500, the change of empty mass and corresponding center of gravity of the airplane must be recorded according to Chapter 6 of the AFM.

7. DESCRIPTION OF THE AIRPLANE AND ITS SYSTEMS

7.1 Instrument Panel

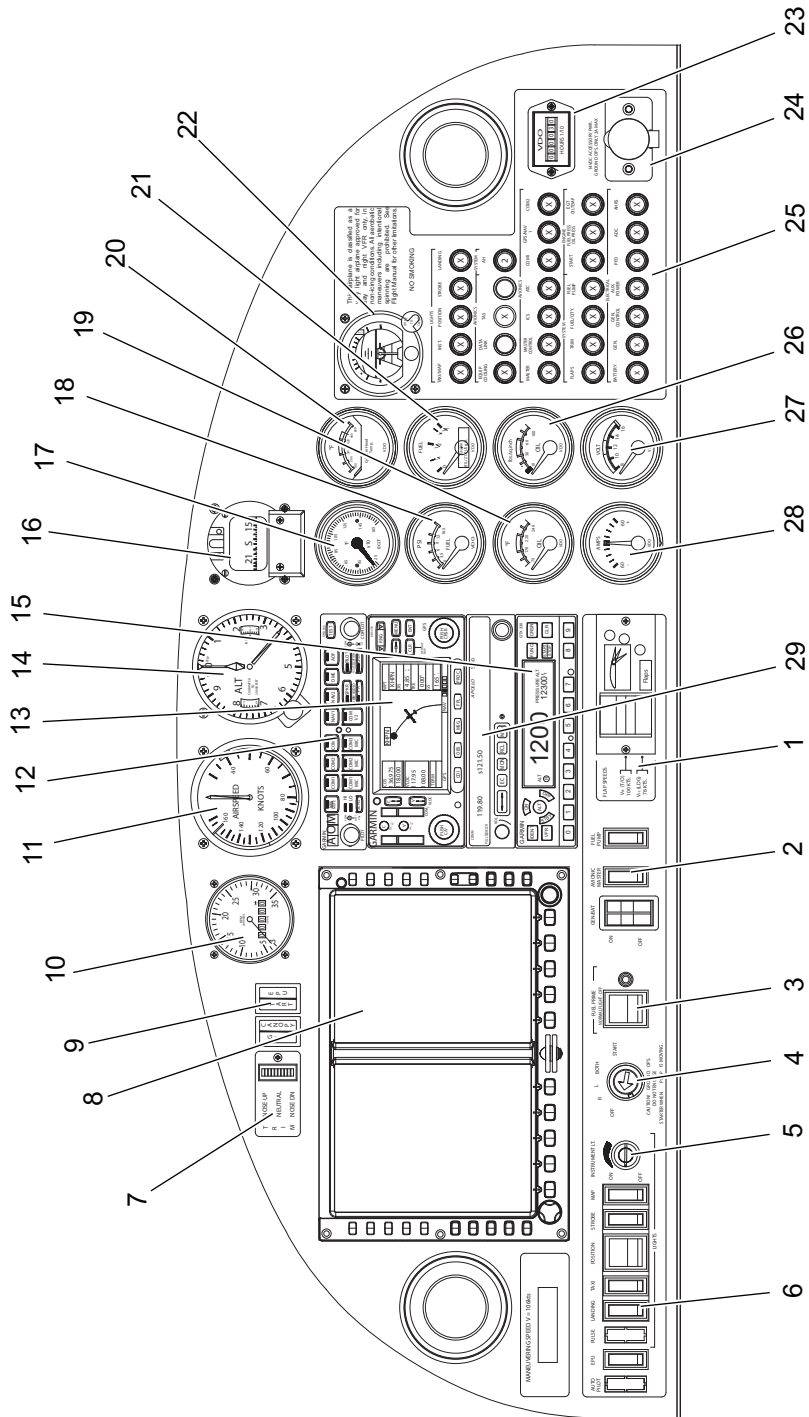


Figure S13-1 - Instrument Panel with Garmin G500 System Installed

Refer to Figure S13-1.

Instrument Panel - Major Instruments and Controls			
1.	Flap Speeds	11.	Air Speed Indicator
2.	Master Switch Panel	12.	Auto Selector
	- AVIONICS MASTER	13.	NAV/COM GPS
	- FUEL PUMP Switch	14.	Altimeter
	- GEN/BAT Switch	15.	VHF COM
3.	Fuel Prime	16.	Magnetic Compass
4.	Ignition Switch	17.	Exhaust Gas Temperature (EGT)
5.	Instrument Light Switch	18.	Fuel Pressure Indicator
6.	Light Switch Panel - MAP - STROBE Light Switch - POSITION - TAXI Light Switch - LANDING Light Switch - Optional Switch - EPU* - PITOT* - Auto Pilot*	19.	Cylinder Head Temperature (CHT)
		20.	Oil Temperature Indicator
		21.	Fuel Quantity Indicator
		22.	Artificial Horizon Indicator (for EASA member countries and optional for Non-EASA member countries)
		23.	Hobbs Hourmeter
		24.	14 VDC Aux Power Outlet
		25.	Circuit Breaker Panel
		26.	Oil Pressure Indicator
7.	Trim Indicator	27.	Voltmeter
8.	GDU 620 Display	28.	Ammeter
9.	Warning Lights	29.	SL40 (COM 2)
10.	Engine RPM		
Note: Items marked * are optional			
	- EPU		
	- Auto Pilot		

7.2 Instrument Panel with UMA Engine Instruments and Garmin GTN 650/GTR 225 installed.

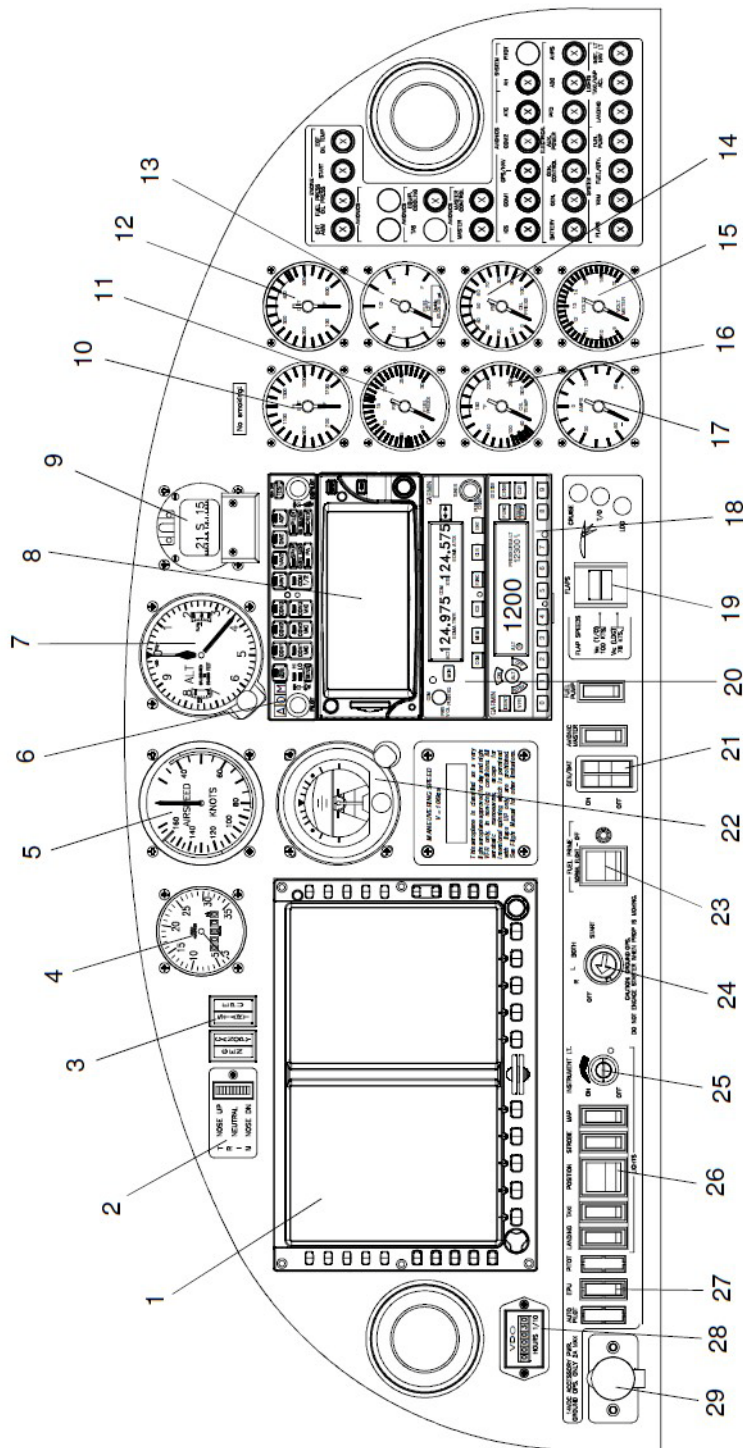


Figure S13-2 - Instrument Panel with UMA Engine Instruments and Garmin GTN 650/GTR 225 Installed

Refer to Figure S13-2.

Instrument Panel - Major Instruments and Controls			
1.	GDU 620 Display	21.	Gen/Bat Master Switch
2.	Trim Indicator	22.	Artificial Horizon Indicator (for EASA member countries and optional for Non-EASA member countries)
3.	Warning Lights		
4.	Engine RPM		
5.	Airspeed Indicator		
6.	Audio Panel	23.	Fuel Prime Switch
7.	Altimeter	24.	Ignition Switch
8.	GPS/Nav/Com	25.	Instrument Light Switch
9.	Magnetic Compass		
10.	Exhaust Gas Temperature (EGT)		
11.	Fuel Pressure Indicator		
12.	Cylinder Head Temperature (CHT)		
13.	Fuel Quantity Indicator		
14.	Oil Pressure Indicator		
15.	Voltmeter	26.	Light Switch Panel -Map Switch -Strobe Switch -Position Switch -Taxi Switch -Landing Switch
16.	Oil Temperature Indicator		
17.	Ammeter		
18.	Transponder		
19.	Flap Controller	27.	Operational Switches -Pitot Switch -EPU Switch -Autopilot Switch
20.	Comm (#2)	28.	Hourmeter
		29.	14 Vdc Aux Power Outlet
		28.	

7.2 Avionics - General

The G500 system consists of:

- Garmin Display Unit (GDU) 620 (PFD/MFD)
- Garmin data Computer (GDC) 74A [Air Data Computer (ADC)]
- Garmin Reference System (GRS) 77 [Attitude and Heading Reference System (AHRS)]
- Garmin Magnetometer Unit (GMU) 44
- Garmin Navigation System GNS 400 Series Radio's or GTN 600 Series Radio's
- Garmin Temperature Probe (GTP) 59.

The system presents primary flight instrumentation and navigation. It also provides a moving map to the pilot through large format displays.

(a) GDU 620 Display

This displays the real time True Airspeed calculations and selectable winds aloft data, as well as airplane ground speed, GPS active waypoint, distance-to-waypoint, desired/actual track, and more.

In normal operating mode, the Primary Flight Display (PFD) presents graphical flight instrumentation (attitude, heading, airspeed, vertical speed).

The Multi-Function Flight Display (MFD) normally displays a full color moving map with navigation and flight plan information, traffic, weather and terrain.

(b) GRS 77 AHRS

The GRS 77 is an attitude and heading reference unit that provides aircraft attitude and flight characteristics information to the GDU 620. The unit contains advanced tilt sensors, accelerometers, and rate sensors. In addition, the GRS 77 interfaces with both the GDC 74A air data computer and the GMU 44 magnetometer. The GRS 77 also utilizes GPS signals sent from the GPS/WAAS navigator. Actual attitude and heading information is sent using ARINC 429 digital interface to the GDU 620.

(c) GDC 74A ADC

The GDC 74A air data computer receives information from the pitot/static system and the GTP 59 outside air temperature (OAT) sensor. The GDC 74A is responsible for providing pressure altitude, airspeed, vertical speed, and OAT information to the G500 system. The GDC 74A provides data to the GDU 620 and GRS 77 using ARINC 429 digital interfaces. The GDC 74A also communicates maintenance and configuration information to the GDU 620 using an RS-232 interface.

(d) GMU 44 Magnetometer

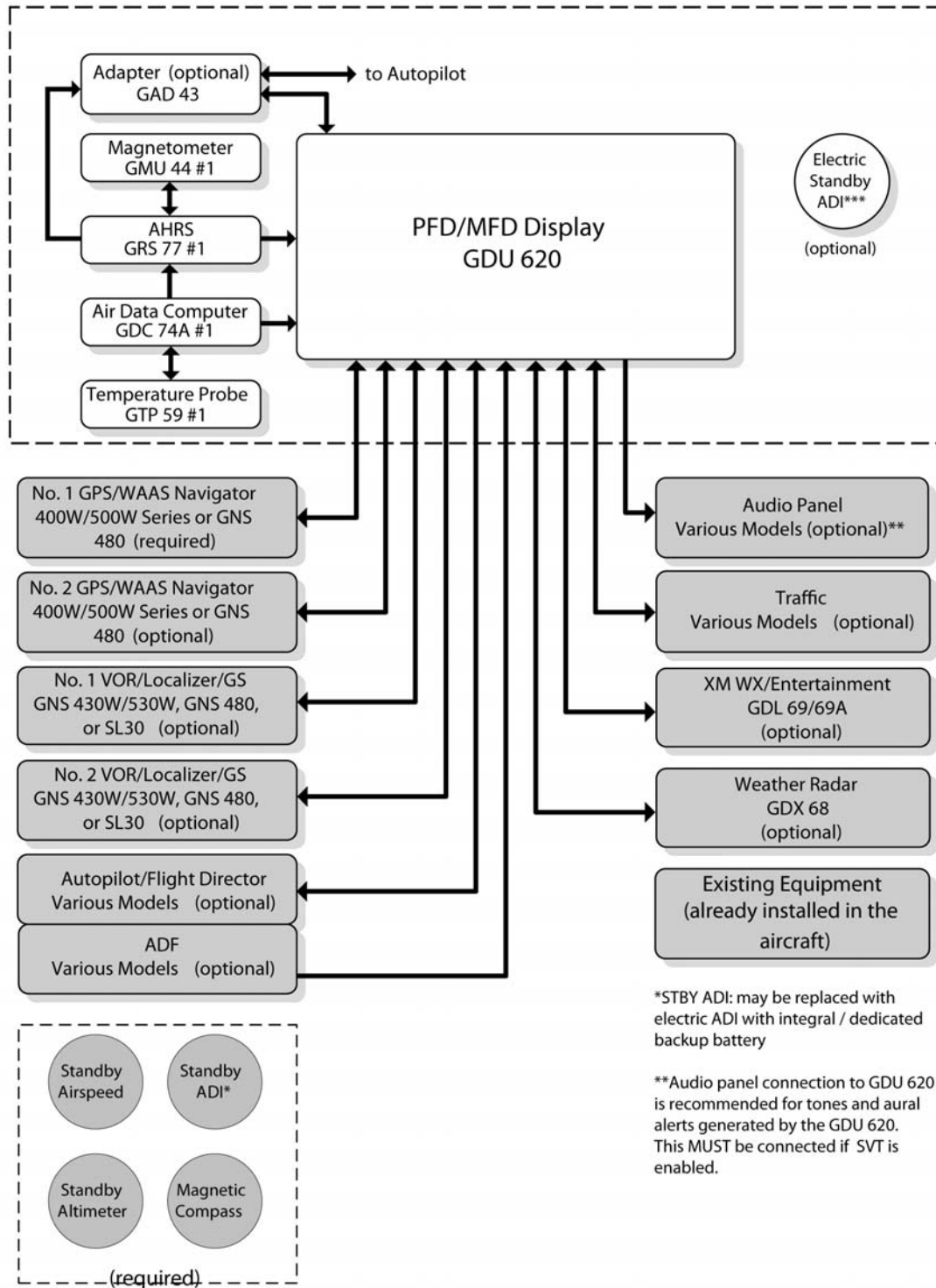
The GMU 44 magnetometer senses magnetic field information. Data is sent to the GRS 77 AHRS for processing to determine aircraft magnetic heading. This unit receives power directly from the GRS 77 and communicates with the GRS 77 using an RS-485 digital interface.

(e) GNS 430W GPS (Optional)

The GNS 430W unit is a panel-mount GPS navigator with a color moving map. Position and flight plan data are displayed on the GDU 620 MFD via RS-232 and ARINC 429 interfaces. GPS position information is also forwarded to the GRS 77 AHRS in order to ensure normal AHRS operation. The GNS 430W also provides LOC/GS information for display on the GDU 620 HSI via an ARINC 429 interface.

(f) GTN 650 GPS (Optional)

The GTN 650 unit is a touch screen, panel-mount, GPS navigator with a colour moving map. Position and flight plan data are displayed on the GDU 620 MFD via RS-232 and ARINC 429 interfaces. GPS position information is also forwarded to the GRS 77 AHRS in order to ensure normal AHRS operation. The GTN 650 also provides LOC/GS information for display on the GDU 620 HSI via an ARINC 429 interface.



*STBY ADI: may be replaced with electric ADI with integral / dedicated backup battery

**Audio panel connection to GDU 620 is recommended for tones and aural alerts generated by the GDU 620. This MUST be connected if SVT is enabled.

Figure S13-3 - G500 System Overview with Optional and Required Equipment

8. HANDLING, PREVENTIVE AND CORRECTIVE MAINTENANCE

There is no change in the handling, preventive or corrective maintenance of the airplane.