



Amphibian Landing Gear Position Advisory System

Installation Manual

Report Number: 9600-1A
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FAA
APPROVED

FEB 09 2009
ACC-17C
CHICAGO AIRCRAFT
CERTIFICATION OFFICE
CENTRAL REGION

INSTALLATION DRAWINGS FOR WIPLINE AMPHIBIOUS FLOATS

Lake and Air Drawing #AGAS-006 Rev F

FLOAT MODEL	FLOAT STC	AIRCRAFT
2100	SA00637CH	AVIAT HUSKY A-1, A-1A, A-1B, A-1C-180, A-1C-200
2100	SA00713CH	PIPER PA-18, PA-18A, PA-18S, PA-18AS
2100	SA00901CH	PIPER PA-12, PA-12S
2100	SA00674CH	CESSNA 172, 172A, 172B, 172C, 172D, 172E, 172F, 172G, 172H, 172I, 172K, 172L, 172M, 172N, 172P, F172D, F172E, F172F, F172G, F172H, F172K, F172L, F172M, F172N, F172P, 175
2100	SA00804CH	CESSNA 170A, 170B
2100	SA00763CH	SCOUT 8GCBC
2350	SA00900CH	CESSNA 172D, 172E, 172F, 172G, 172H, 172I, 172K, 172L, 172R, 172S, 172M, 172N, 172P, 172Q, FR172E, FR172F, FR172G, FR172H, FR172J, FR172K, F172D, F172E, F172F, F172G, F172H, F172K, F172L, 175A, 175B, 175C, P172D, R172K
2350	SA01411CH TC 3A23	MAULE MX-7-180B, MX-7-180C, MX-7-235, MX-7-420
3000	SA01320CH	CESSNA 180, 180A, 180B, 180C, 180D, 180E, 180F, 180G, 180H, 180J, 180K, A185E, A185F, 185, 185A, 185B, 185C, 185D, 185E
3000	SA01156CH	CESSNA 182P, 182Q, 182R, 182S, 182T, F182P, F182Q
3000	SA01412CH TC 3A23	MAULE M-6-235, M-7-235, M-7-235B, M-7-235C, MT-7-235, M-7-260, M-7-260C, MT-7-260, M-7-420A, M-7-420AC, MX-7-235
3450	SA01185CH	CESSNA 206, 206H, P206, A, B, C, D, E, T206H TP206A, B, C, D, E, TU206A, B, C, D, E, F, G, U206, A, B, C, D, E, F, G,
3450	SA01272CH	CESSNA A185E, A185F

Drawing #AGAS-001 Rev E

FLOAT MODEL	FLOAT STC	CESSNA AIRCRAFT
3730	SA7GL SA805CE	185A, A185F A185E
3730	SA666CE	206, P206, U206, P206A, U206A, TU206A, TP206A, U206B, TU206B, U206C, TU206C, U206D, TU206D, U206E, TU206E
3730	SA18GL	U206F, U206G, TU206F, TU206G
4000	SA1569GL	A185E, A185F
4000	SA1483GL	206, P206, A, B, C, D, E, U206, A, B, C, D, E, F, G, TP206A, B, C, D, E, TU206A, B, C, D, E, F, G

SYSTEM DESCRIPTION

The Gear Position Advisory System monitors the amphibious aircraft's airspeed and landing gear position. When, during flight, a predetermined airspeed is exceeded, the system arms itself. When the aircraft speed drops below that threshold, the position of the landing gear is noted, causing the annunciator light to flash and an audio advisory is given over the aircraft audio system. The advisory alerts the pilot of the current position of the aircraft landing gear, and the type of landing appropriate to that configuration.

"GEAR IS DOWN FOR RUNWAY LANDING"
"GEAR IS UP FOR WATER LANDING"

In addition, if the gear stops in an abnormal position (such as one or more gear not fully extended or retracted), the pilot is prompted to check the gear.

"CHECK GEAR"

NOTE: *It is normal for this message to be heard if the gear is extending as the aircraft decelerates below the airspeed threshold.*

The system annunciator lamp and audio alert may be tested by pushing and holding the annunciator button for 4-5 seconds. This will cause the unit to play an introductory message and cycle through two (Up and Down) gear position messages. As each message is played, the annunciator will illuminate (flash) as well.

The audio output of the system may be adjusted over a range of 20%-100% of full output.

INSTALLATION PROCEDURE

OVERVIEW

The Gear Position Advisory System monitors airspeed and landing gear position. When the aircraft enters a landing configuration, an audio message notifies the pilot of the position of the gear and which landing type (runway or water) is anticipated with this position. In addition, should the gear be in an abnormal position, the pilot is prompted to check it. The system functions by sensing the landing gear indicator lights and reading airspeed from the pitot system. It communicates with the pilot through the illuminated annunciator button and an audio connection through the aircraft audio system.

INSTALLATION PREPARATION

The system consists of the interface processor unit and an illuminated pushbutton switch. The electronics package may be mounted behind the instrument panel or in any convenient, dry, temperature controlled area. All connections to the electronics package are made with a single 26-pin high-density connector (supplied).

The pushbutton annunciator should be installed in the vicinity of the airspeed indicator or on the aircraft instrument panel within easy reach of the pilot. Placement is not critical, but the switch requires 2" of clearance behind the panel.

The aircraft gear indicator cluster may have from one to four lights to indicate each gear position. This number will vary from make to make and model of floats. The Landing Gear Position Advisory System must be configured for the number of lights present. Connect pins 24 and 25 to pin 26 (ground), according to Table 1, to indicate this configuration.

SYSTEM DESCRIPTION

INSTALLATION PROCEDURE

Select a position for the annunciator switch. Drill a .625" round hole in the panel. To mount the pushbutton, remove the switch assembly from the actuator by squeezing the disconnect tabs and pulling apart. Unscrew the retainer ring and remove the metal anchor.

Place the switch in the hole from the front of the instrument panel, place the anchor on from the back (noting that the anchor must be aligned with the flats on the actuator body) and screw the retainer ring on. The switch body may be left disconnected temporarily to facilitate wiring. The barrier on either side of the switch bezel should be vertical.

Mount the Gear Advisory Computer in such a location that the airspeed adjustment and volume control are readily accessible.

WIRING THE SYSTEM

The electronics package will be wired to the following areas:

- Aircraft Power (10-28 volts DC)
- Landing Gear Position Lights
- Annunciator Switch
- Aircraft Audio Panel

Each area will be discussed separately. A summary of the connections to the 26-pin connector is found in Table 4.

Annunciator Button

The pushbutton switch has two sets of contacts: one set for the switch and the other set for the lamp. Connect one lamp terminal to pin 19 of the 26-pin connector. Connect the other lamp terminal to pin 12.

Connect one normally open terminal of the switch assembly to pin 26 (or airframe ground). Connect the other normally open terminal to pin 14.

Audio Panel

Connect pin 23 to the aircraft audio panel, using an audio channel that **cannot be turned off**. The unit will power headsets without audio amplification. Pin 23 goes to the "hot" side of audio input. Connect the remaining side of the audio panel input to airframe ground or pin 26 of the connector.

Landing Gear Lights

Access to these lights may vary, but likely will be from a terminal strip located near the gear actuator. Consult the manufacturer's diagram for terminal designations. Only one side of the lamps is broken out to this terminal strip.

There may be from one to four lamps indicating gear up. Connect wires from the gear up indicators to pins 1, 2, 3 and 4 of the 26-pin connector, according to Table 2. There may be from one to four lamps indicating gear down. Connect the wires from these terminals to pins 5, 6, 7 and 8 of the 26-pin connector, according to Table 3.

Note: *When connecting gear position lamps, it is not necessary to connect the lamps in any specific order, so long as all the lamps for a given position are connected to the pins shown in Tables 2 and 3.*

In many cases, the position lamps are switched on the ground side. Indicate this to the unit by connecting pin 22 to pin 26. If, in this installation, the position lamps are controlled by switching power, connect the sensing wires to the side of the lamps where power is applied, and make no connection to pin 22.

Aircraft Power

Connect pin 26 to airframe ground. Connect pin 9 through a 2 amp circuit breaker (a type that can be manually pulled by hand, without using tools) to the A+ bus. It **must** be fused externally, as the unit does not have an internal fuse. The circuit breaker must be marked "Gear Advisory" using engraving, painting or any other approved method. The Gear Position Advisory System will operate on 10-28 VDC.

Install warning Placard near the circuit breaker, Lake and Air p/n 1003418

Connecting to the Pitot System

Connect a standard 1/8" NPT threaded coupler to the pitot fitting on the electronics package. From this coupler route a suitable hose of at least 1/8" inside diameter to the aircraft pitot tube system. Cut the pitot line and install a T-fitting in the line and connect to the system hose. A leak check must be performed after this phase of installation to return the aircraft to service.

Testing the System

After checking all connections, apply power to the system. Approximately 30 seconds after power-up, press and hold the annunciator button for 2-3 seconds. The introductory message will be heard, followed by the GEAR DOWN and GEAR UP advisory messages. The annunciator lamp will flash while each advisory message is heard.

Setup and Adjustments

There are only two adjustments: volume and airspeed threshold. Both are located on the side of the system controller unit. You will need a small, flat-bladed screwdriver to make the adjustments. The aircraft owner or pilot should be consulted to determine the desired threshold and volume settings.

(1) Airspeed

Locate the airspeed adjustment switch found on the side of the electronics box labeled "AIRSPEED." It is set at the factory to 80 mph. To increase the airspeed threshold, turn the switch clockwise and conversely; to lower the airspeed threshold, turn the switch counter-clockwise. The lowest setting is 50 mph (44 kts) and increases in 5 mph increments at each detent. See Installation Drawing Table A.

The recommended airspeed threshold setting is **final approach speed (V Ref) plus 10-20 mph / kts**. Consult the aircraft flight manual or supplement for the aircraft manufacturer's recommended V-speeds.

(2) Volume

Locate the audio volume adjustment switch found on the side of the electronics box labeled "VOLUME." It is set at the factory to 60% of full volume. If it needs adjusting, turn the adjustment screw until the level is comfortable, keeping in mind normal cabin noise while in flight. The control requires 10 full turns to go from the loudest to the softest, and cannot be completely turned off. The minimum setting is 20% and the maximum setting is 100%.

Note: *To facilitate setting the volume control to an acceptable level, a repeat function is programmed into the "push-to test." Simply press and **hold** the annunciator for two complete cycles of the test message. At this time, the message will continue to repeat continuously and the annunciator will remain illuminated until the annunciator is pressed again to stop the cycle. Release the switch and make the necessary volume adjustments. To stop the cycle, press the annunciator one time.*

Finally, complete the Aircraft Flight Manual Supplement with the addition of the appropriate aircraft make, model, serial number and registration number.

SPECIFICATIONS

ADVISORY AIRSPEED RANGE: 50-125 mph / 44-109 kts

OPERATING TEMPERATURE: -4F to 131F / -20C to +55C

POWER REQUIREMENT: Input voltage +10 to +28 VDC
Input current 300 ma.

WEIGHT (with mounting tray): 14 ounces / 397 grams

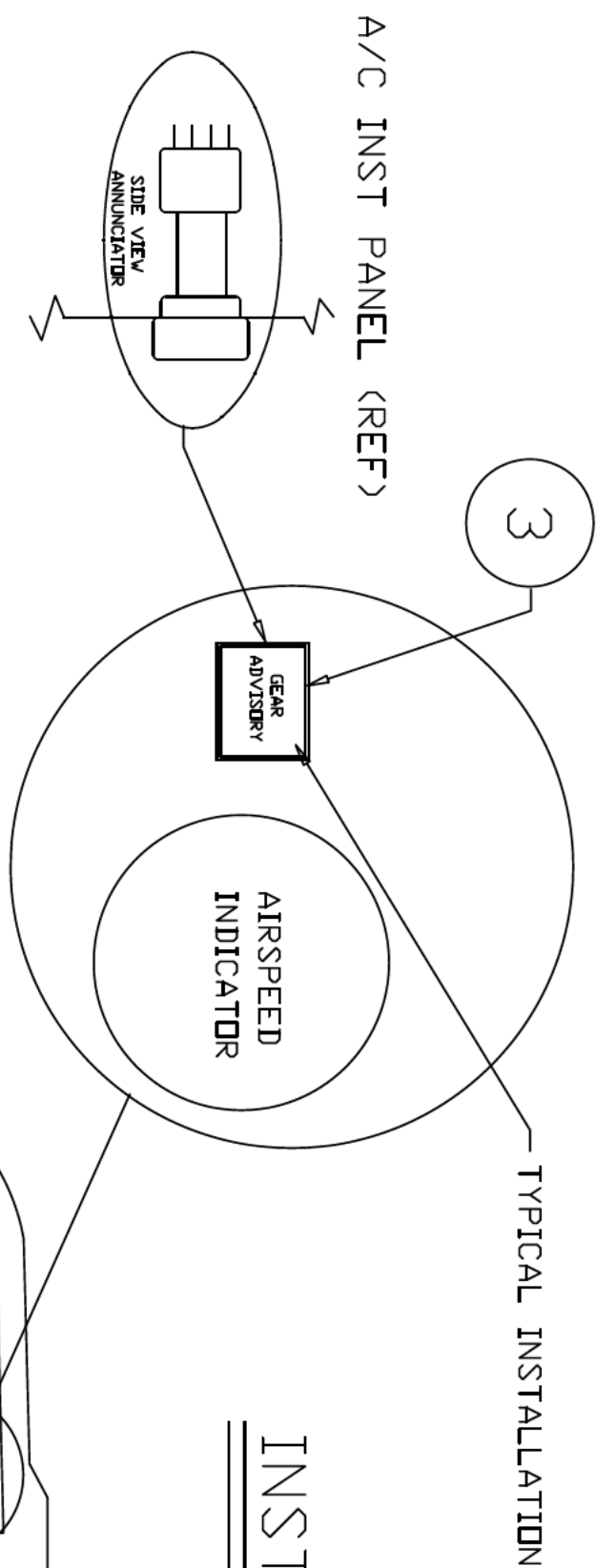
NOTE: No Structures report done, as it was determined that the weight and installation would not effect the structure of the aircraft.

DIMENSIONS (without mounting tray): Length: 6.125 inches / 15.5 cm
Width: 3.0 inches / 7.6 cm
Height: 2.125 inches / 5.4 cm

REVISION HISTORY					1
REV	DATE	ECO	DR	DESCRIPTION	
B	12/8/08	21375	AJG	ADDED FIG NO. 12 PLACARD	
C	1/22/09	21462	AJG	SHADIN WAS LAKE & AIR	

FIG NO	DESCRIPTION	QTY/ASSY REQ	MFG	PART NUMBER
1	GEAR ADVISORY COMPUTER (FURN)	1	SHADIN	9600-1A
2	MOUNTING TRAY (FURN)	1	SHADIN	N/A
3	ANNUNCIATOR (FURN)	1	ALCD	164TL-11
4	2 AMP CB	1	VARIOUS	N/A
5	SINGLE 26-PIN HIGH-DENSITY CONNECTOR (FURN)	1	VARIOUS	N/A
6	UNION TEE, TUBE TO TUBE	1	IMPERIAL EASTMAN	264N-04
7	POLYETHYLENE TUBING	AS REQ.	IMPERIAL EASTMAN	44-PN
8	MOUNTING SCREWS	4	VARIOUS	AN526-632-8
9	WASHER	4	VARIOUS	AN936-A6
10	RIVNUT	4	VARIOUS	A6-75
11	WIRING HARNESS, 24 GA.	AS REQ.	VARIOUS	N/A
12	PLACARD, CAUTION, GEAR ADVISORY	1	VARIOUS	1003418

INSTALLATION - ANNUNCIATOR



TYPICAL INSTALLATION - COMPUTER

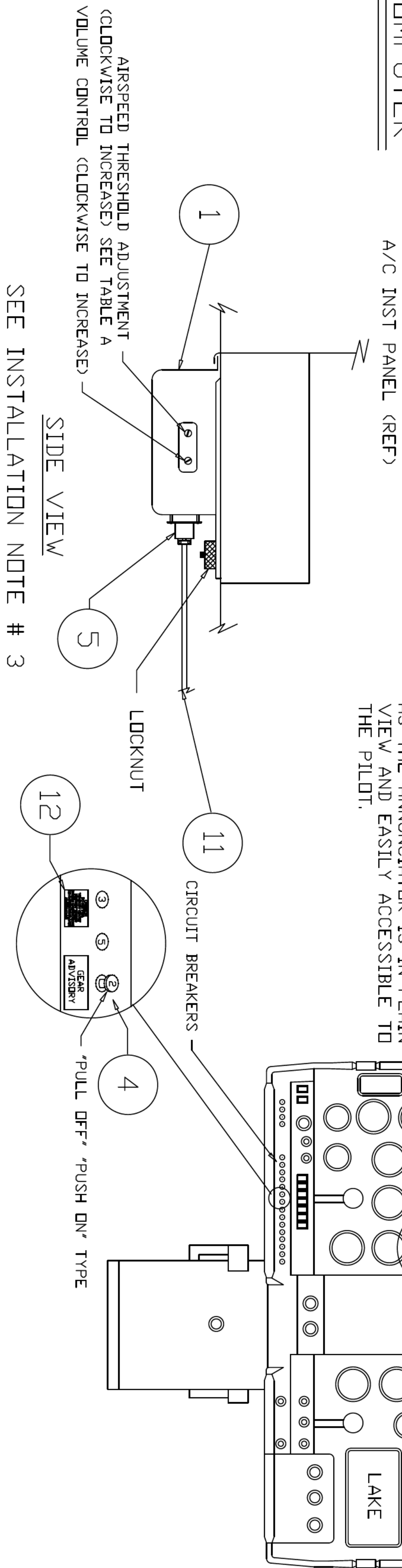
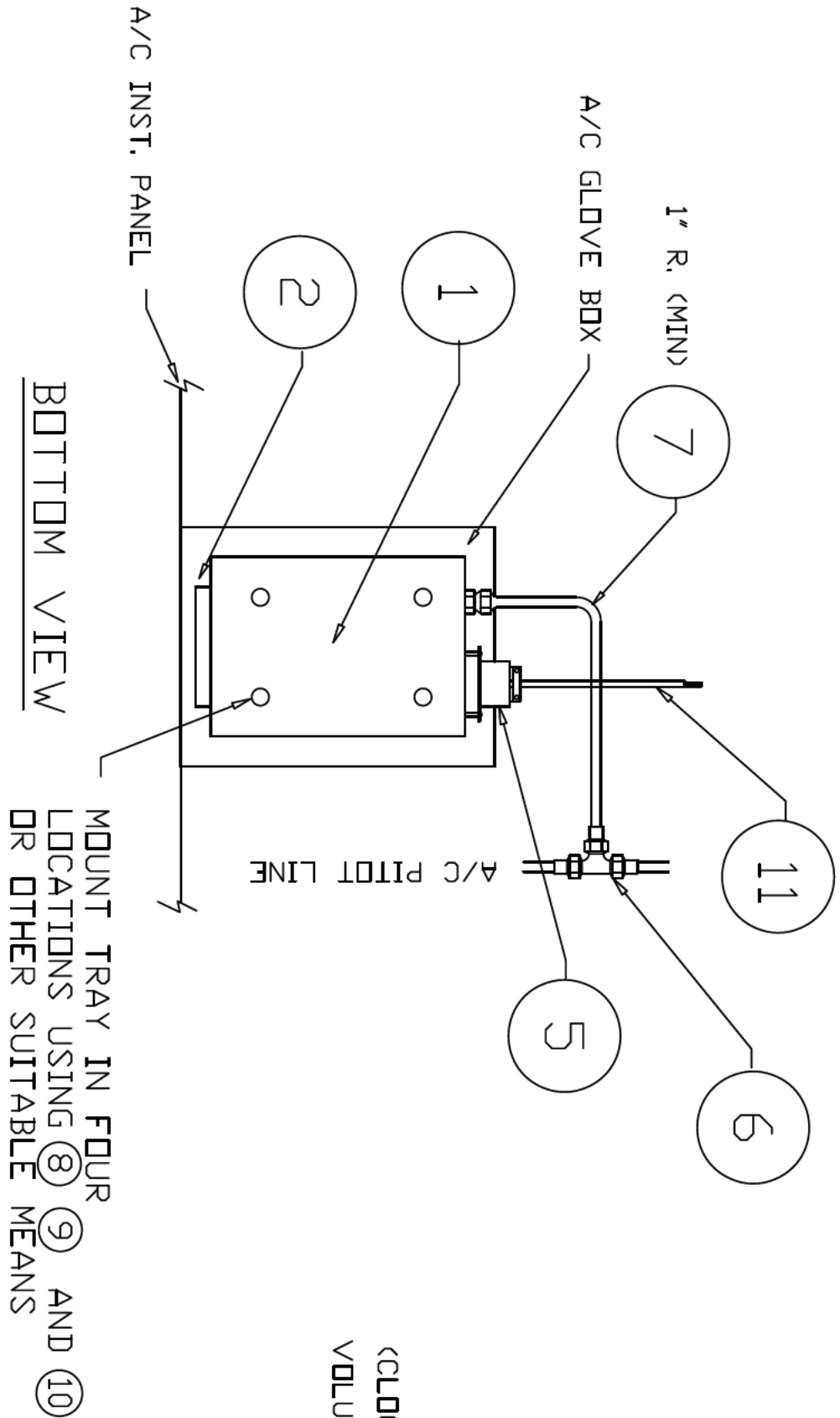


TABLE A

SETTING	AIRSPEED
MPH	KTS
0	50 44
1	55 48
2	60 52
3	65 57
4	70 61
5	75 65
6	80 70
7	85 74
8	90 78
9	95 83
A	100 87
B	105 91
C	110 96
D	115 100
E	120 104
F	125 109

SUMMARY OF CONNECTIONS

PIN	FUNCTION
1	GEAR UP 1
2	GEAR UP 2
3	GEAR UP 3
4	GEAR UP 4
5	GEAR DOWN 1
6	GEAR DOWN 2
7	GEAR DOWN 3
8	GEAR DOWN 4
9	POWER IN (10-28 VDC)
10	NO CONNECTION
11	NO CONNECTION
12	PUSHBUTTON LAMP TERMINAL
13	NO CONNECTION
14	PUSHBUTTON N-O SWITCH TERMINAL
15	NO CONNECTION
16	NO CONNECTION
17	NO CONNECTION
18	NO CONNECTION
19	PUSHBUTTON LAMP TERMINAL
20	NO CONNECTION
21	NO CONNECTION
22	GEAR LOGIC CONFIGURE JUMPER
23	AUDIO OUTPUT
24	GEAR NUMBER CONFIGURE JUMPER 1
25	GEAR NUMBER CONFIGURE JUMPER 2
26	AIRFRAME GROUND

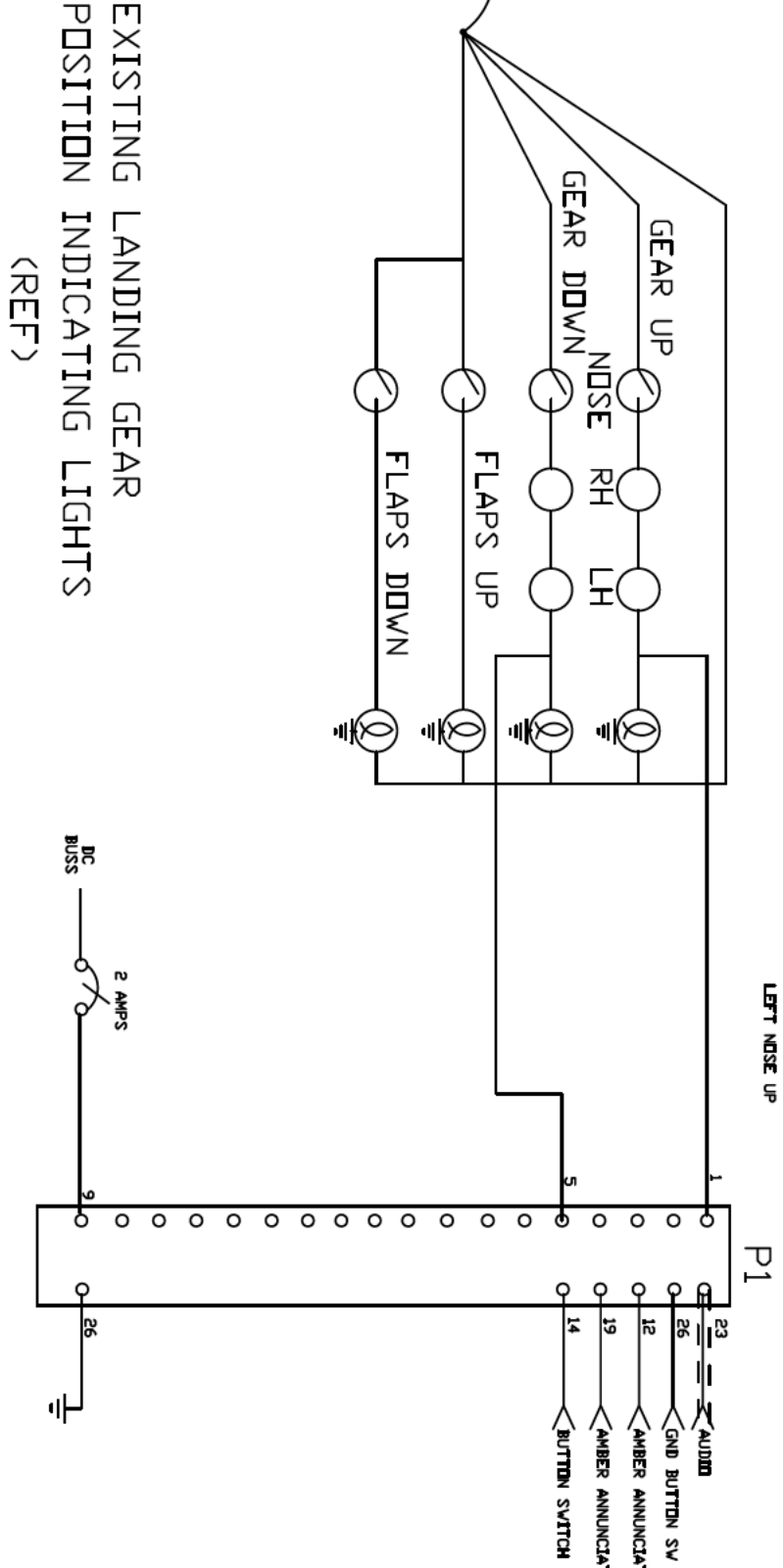
INSTALLATION NOTES

- THIS DRAWING IS TO BE USED IN CONJUNCTION WITH THE INSTALLATION INSTRUCTIONS (FURNISHED), I SECTION III.
- SECURE PITOT LINE AND ELECTRICAL HARNESS EVERY 8" -10" OR WHEREVER NECESSARY (REF AS 4313-1A)
- THE PREFERRED COMPUTER INSTALLATION LOCATION IS ON THE BOTTOM OR TOP OF AIRCRAFT GLOVE BOX. IF THIS SPACE IS OCCUPIED, OTHER LOCATIONS BEHIND INSTRUMENT PANEL ARE PERMISSIBLE. BE SURE THAT THE GEAR ADVISORY COMPUTER IS INSTALLED IN A LOCATION THAT ALLOWS FOR EASY ACCESS TO THE AIRSPEED THRESHOLD AND VOLUME CONTROL ADJUSTMENTS
- UPON COMPLETION OF INSTALLATION, PERFORM PITOT LEAK CHECK PER AC 4313-1A, CHG3, SECTION 4
- ITEMS REQUIRED FOR APPROVAL.
 - COPY OF STC
 - LOG BOOK ENTRY
 - WEIGHT & BALANCE DATA REVISED
 - FORM 337 FILED
- A/C MODELS: LAKE LA-4 & LA-4-200
GRUMMAN G-21, G-44,
G-73, HU-16 & REPUBLIC RC-3

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10	NO CONNECTION
11	NO CONNECTION
12	PUSHBUTTON LAMP TERMINAL
13	NO CONNECTION
14	PUSHBUTTON N-O SWITCH TERMINAL
15	NO CONNECTION
16	NO CONNECTION
17	NO CONNECTION
18	NO CONNECTION
19	PUSHBUTTON LAMP TERMINAL
20	NO CONNECTION
21	NO CONNECTION
22	GEAR LOGIC CONFIGURE JUMPER
23	AUDIO OUTPUT
24	GEAR NUMBER CONFIGURE JUMPER 1
25	GEAR NUMBER CONFIGURE JUMPER 2
26	AIRFRAME GROUND

IMPORTANT NOTE: DO NOT CONNECT ANY SIGNAL OR WIRE TO PINS LISTED AS "NO CONNECTION"



WIRING SCHEMATIC

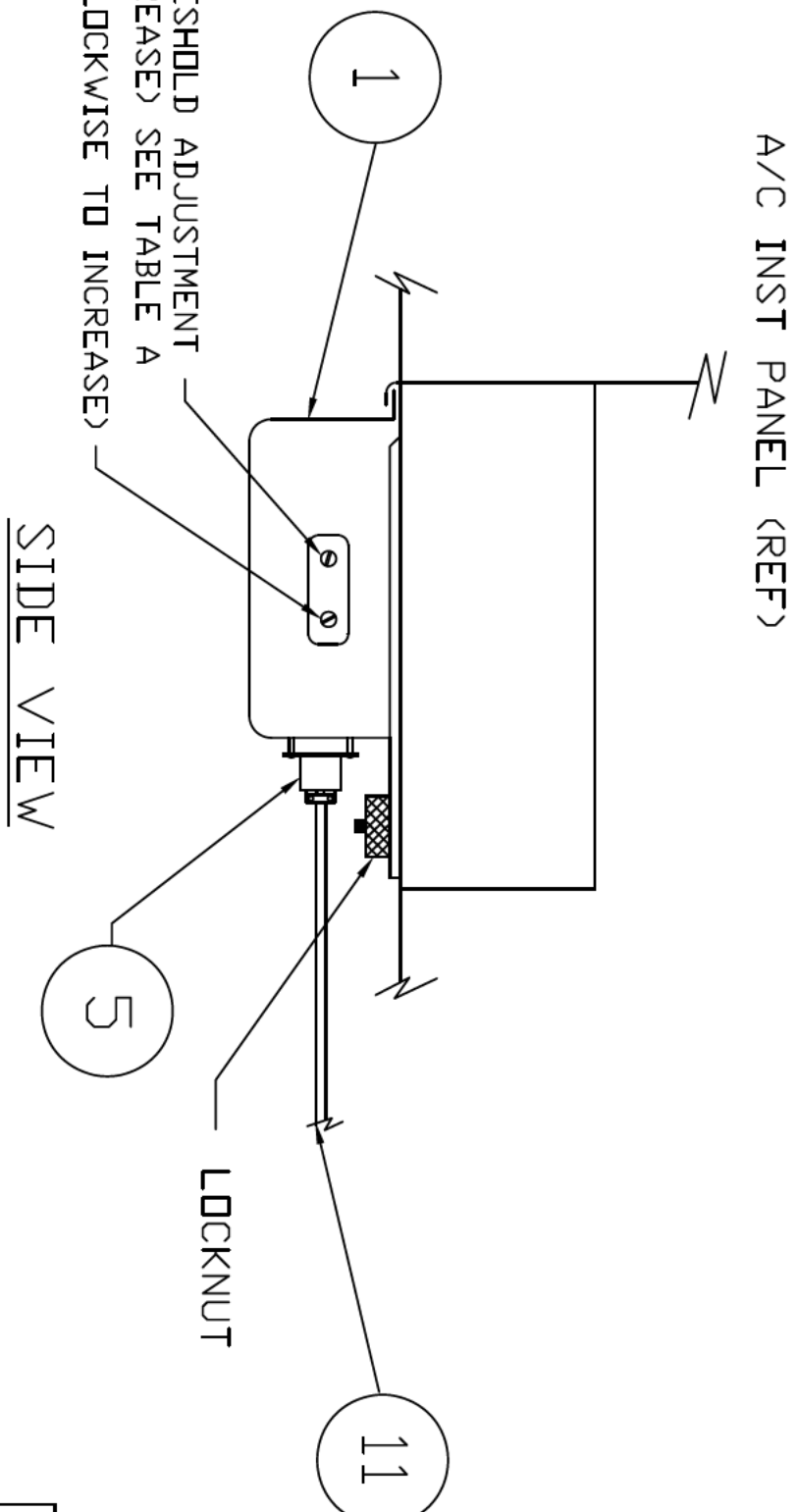
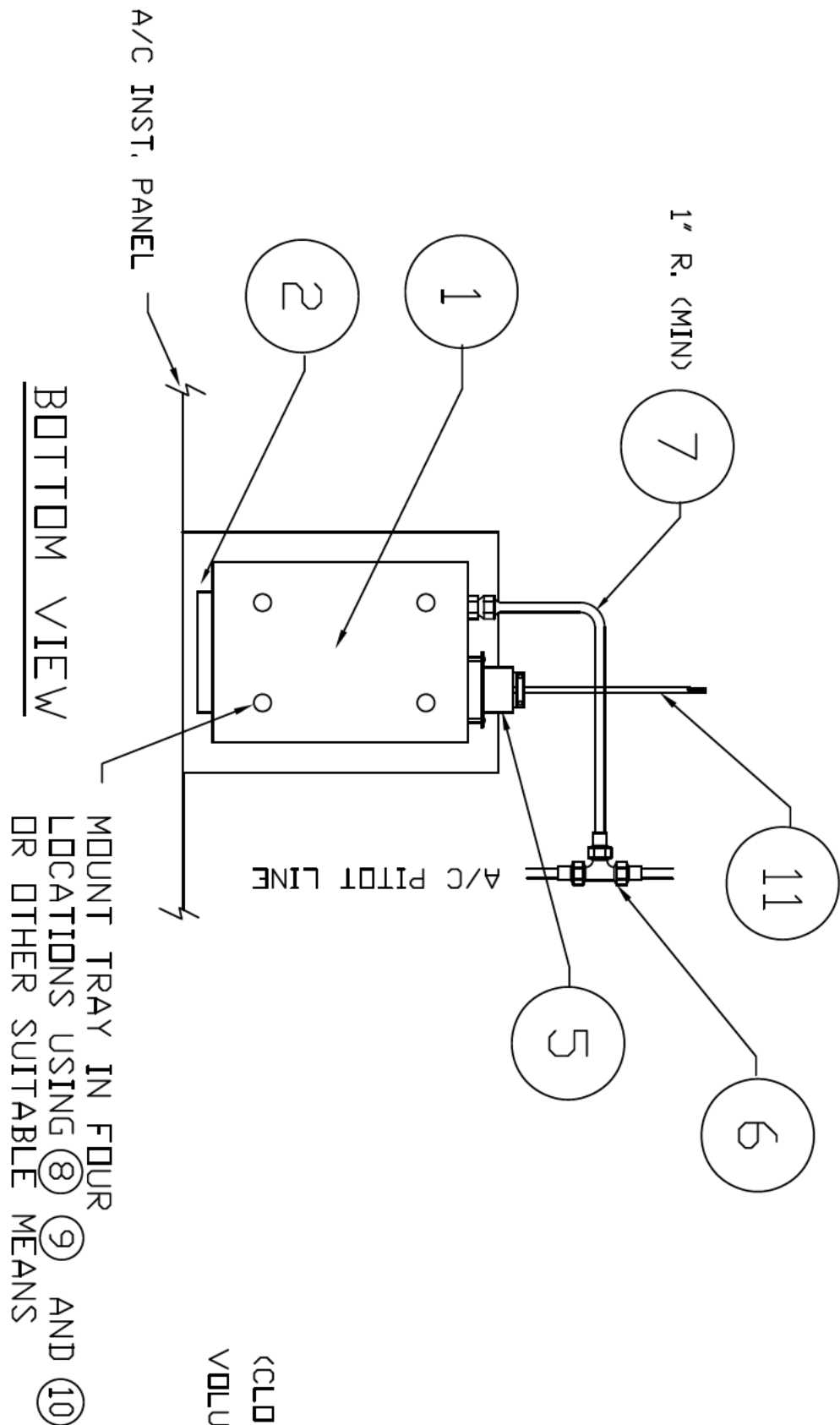
MOUNT TRAY IN FOUR LOCATIONS USING (8) (9) AND (10) OR OTHER SUITABLE MEANS

MAT'L	LAKE & AIR		
FINISH	1700 HENRY AVE. SOUTH ST. PAUL, MN 55075 (651) 451-1205		
TITLE INST., GEAR ADVISORY		PART NO. AGAS-005	REV C
ALL DIMENSIONS ARE AFTER FINISH		THIRD ANGLE PROJECTION	SCALE NONE
TOLERANCES X ± .015 XX ± .005 X ± .5		SIZE D	SHEET 1 of 1

REVISION HISTORY					1
REV	DATE	ECO	DR	DESCRIPTION	
C	12/8/08	21375	AJG	ADDED FIG NO. 12 PLACARD	
D	1/22/09	21462	AJG	SHADIN WAS LAKE & AIR	

FIG NO	DESCRIPTION	QTY/ASSY REQ	MFG	PART NUMBER
1	GEAR ADVISORY COMPUTER (FURN)	1	SHADIN	9600-1A
2	MOUNTING TRAY (FURN)	1	SHADIN	N/A
3	ANNUNCIATOR (FURN)	1	ALCO	164TL-11
4	2 AMP CB	1	VARIOUS	N/A
5	SINGLE 26-PIN HIGH-DENSITY CONNECTOR (FURN)	1	VARIOUS	N/A
6	UNION TEE, TUBE TO TUBE	1	IMPERIAL EASTMAN	264N-04
7	POLYETHYLENE TUBING	AS REQ.	IMPERIAL EASTMAN	44-PN
8	MOUNTING SCREWS	4	VARIOUS	AN526-632-8
9	WASHER	4	VARIOUS	AN936-A6
10	RIVNUT	4	VARIOUS	A6-75
11	WIRING HARNESS, 24 GA.	AS REQ.	VARIOUS	N/A
12	PLACARD, CAUTION, GEAR ADVISORY	1	VARIOUS	1003418

TYPICAL INSTALLATION - COMPUTER



NOTE: OTHER LOCATIONS ARE PERMISSIBLE AS LONG AS THE ANNUNCIATOR IS IN PLAIN VIEW AND EASILY ACCESSIBLE TO THE PILOT.

TYPICAL INSTALLATION

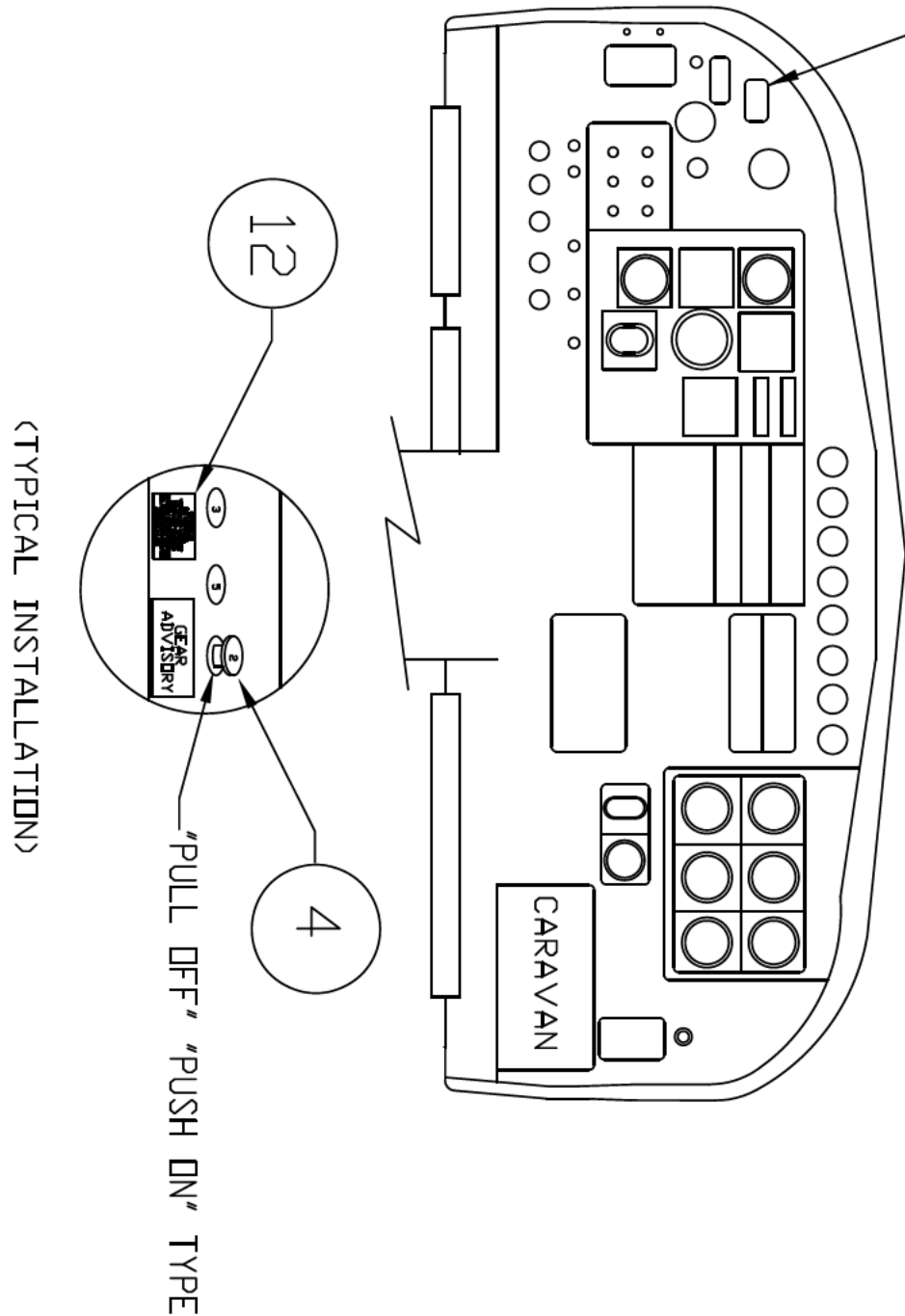


TABLE A

SETTING	AIRSPEED	
	MPH	KTS
0	50	44
1	55	48
2	60	52
3	65	57
4	70	61
5	75	65
6	80	70
7	85	74
8	90	78
9	95	83
A	100	87
B	105	91
C	110	96
D	115	100
E	120	104
F	125	109

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10	NO CONNECTION
11	NO CONNECTION (A)
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INSTALLATION NOTES

- (1) THIS DRAWING IS TO BE USED IN CONJUNCTION WITH THE INSTALLATION INSTRUCTIONS (FURNISHED) 1 SECTION III.
- (2) SECURE PITOT LINE AND ELECTRICAL HARNESS EVERY 8" -10" OR WHEREVER NECESSARY (REF AS 4313-1A)
- (3) THE PREFERRED COMPUTER INSTALLATION LOCATION IS ON THE BOTTOM OR TOP OF AIRCRAFT GLOVE BOX. IF THIS SPACE IS OCCUPIED, OTHER LOCATIONS BEHIND INSTRUMENT PANEL ARE PERMISSIBLE. BE SURE THAT THE GEAR ADVISORY COMPUTER IS INSTALLED IN A LOCATION THAT ALLOWS FOR EASY ACCESS TO THE AIRSPEED THRESHOLD AND VOLUME CONTROL ADJUSTMENTS
- (4) UPON COMPLETION OF INSTALLATION, PERFORM PITOT LEAK CHECK PER AC 4313-1A, CHG3, SECTION 4
- (5) ITEMS REQUIRED FOR APPROVAL:
 - COPY OF STC
 - LOG BOOK ENTRY
 - WEIGHT & BALANCE DATA REVISED
 - FORM 337 FILED
- (6) A/C MODEL: CESSNA 208 DN 8000 FLDATS.

MATL	LAKE & AIR		
FINISH	1700 HENRY AVE. SOUTH ST. PAUL, MN 55075 (651) 451-1205		
TITLE		INST., GEAR ADVISORY	
PART NO.		AGAS-004	REV D
THIRD ANGLE PROJECTION		TOLERANCES: X = ±.05 XXX = ±.005 X = ±.5	SCALE: NONE
ALL DIMENSIONS ARE AFTER FINISH		Sheet 1 of 1	

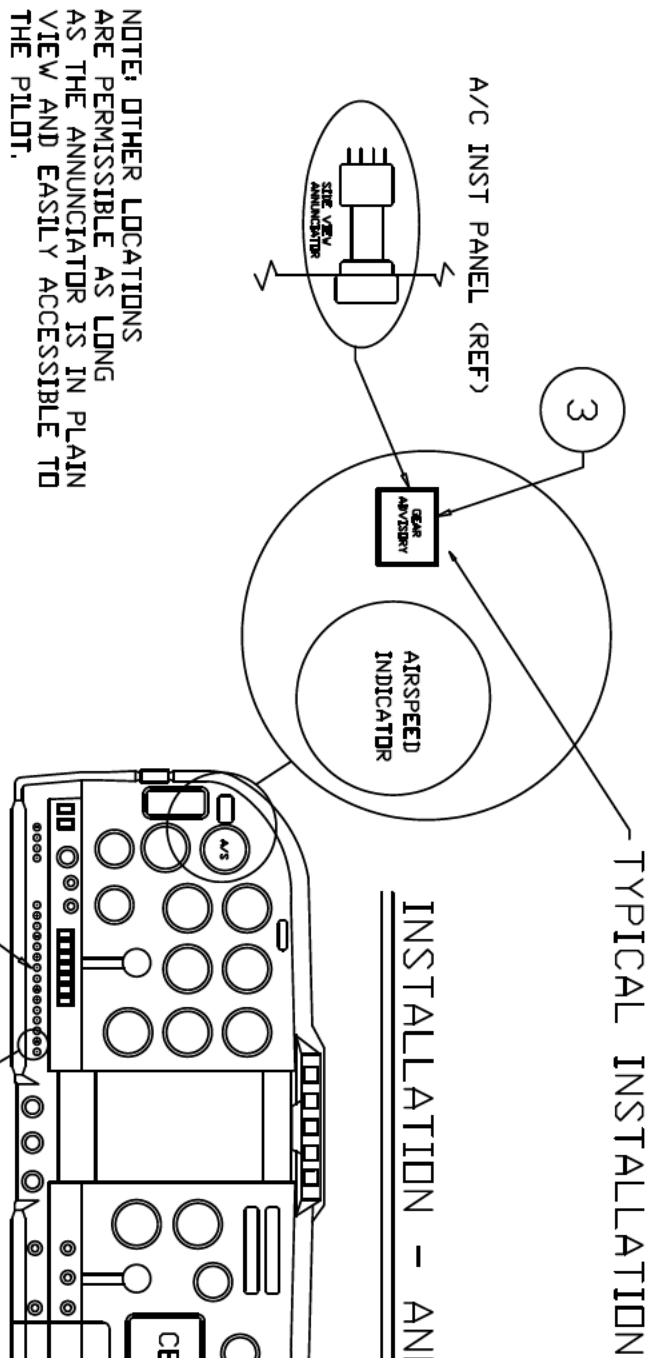
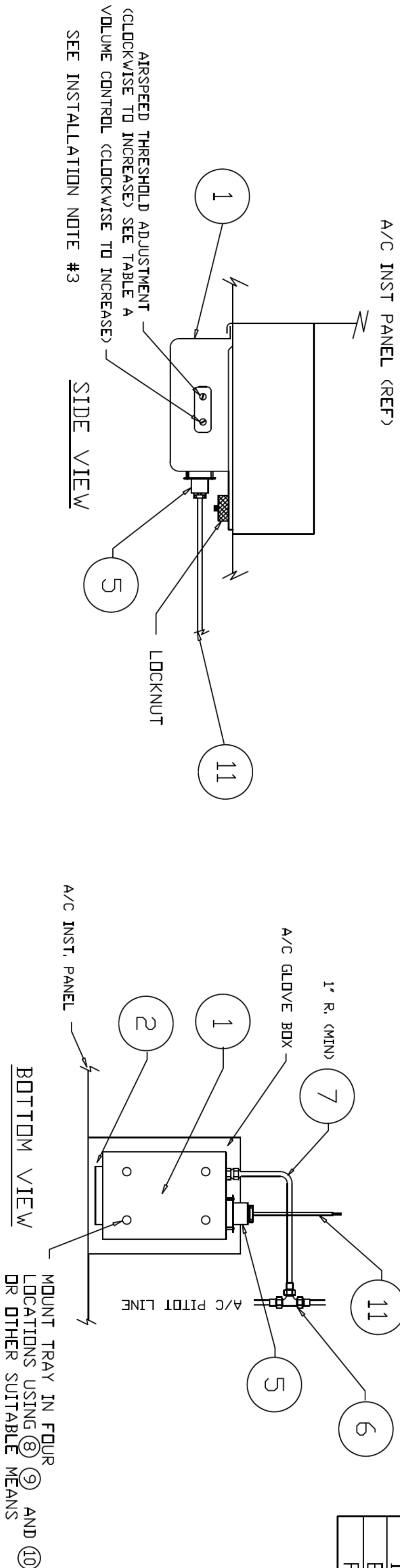
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11	WIRING HARNESS, 24 GA.	AS REQ.	VARIOUS	1003418
12	PLACARD, CAUTION, GEAR ADVISORY	1	VARIOUS	

(B)

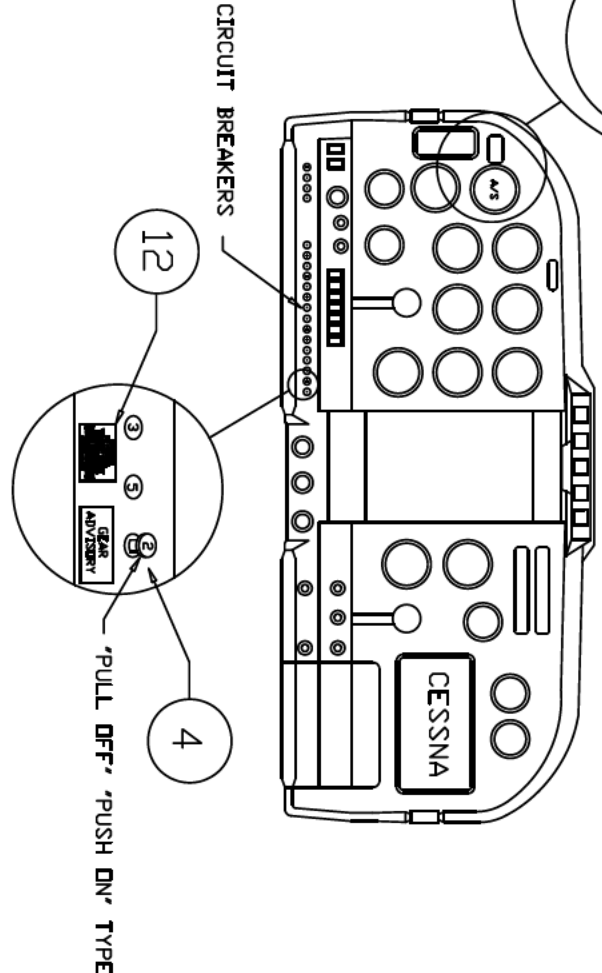
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B	105 91
C	110 96
D	115 100
E	120 104
F	125 109

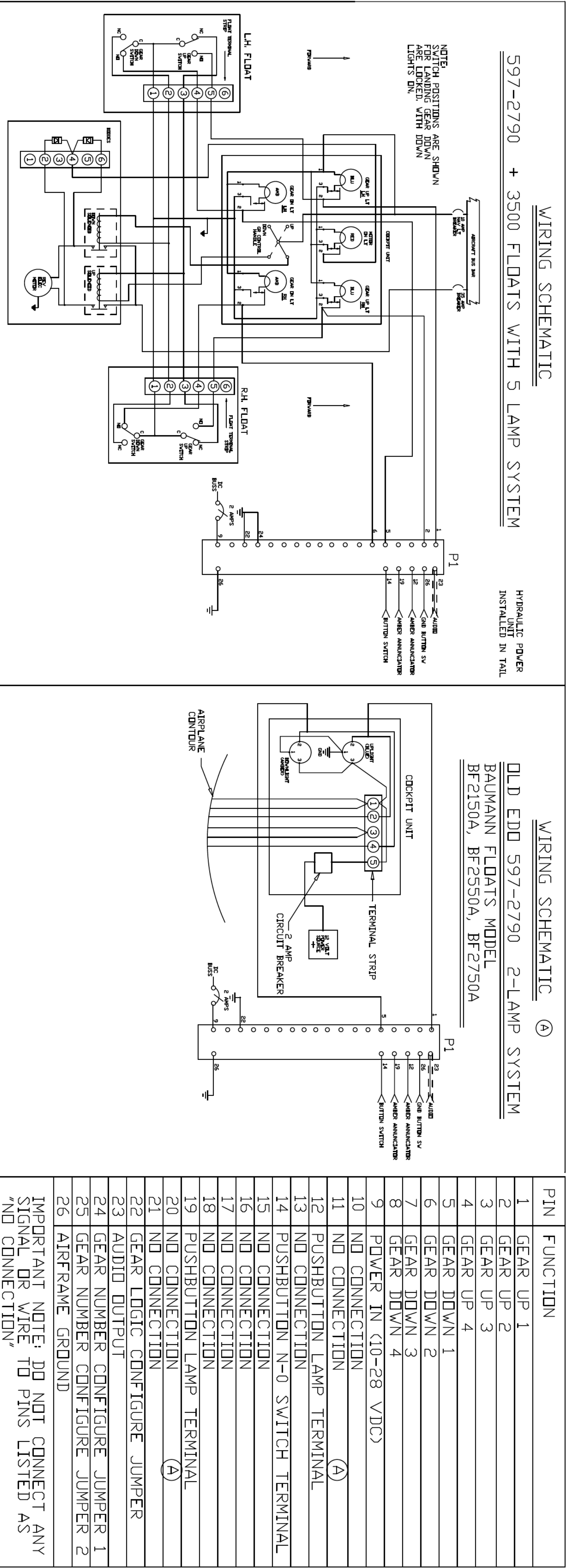
TYPICAL INSTALLATION - COMPUTER



INSTALLATION - ANNUNCIATOR



SUMMARY OF CONNECTIONS



WIRING SCHEMATIC (A)

OLD EDD 597-2790 2-LAMP SYSTEM
BAUMANN FLDATS MODEL
BF2150A, BF2550A, BF2750A

INSTALLATION NOTES

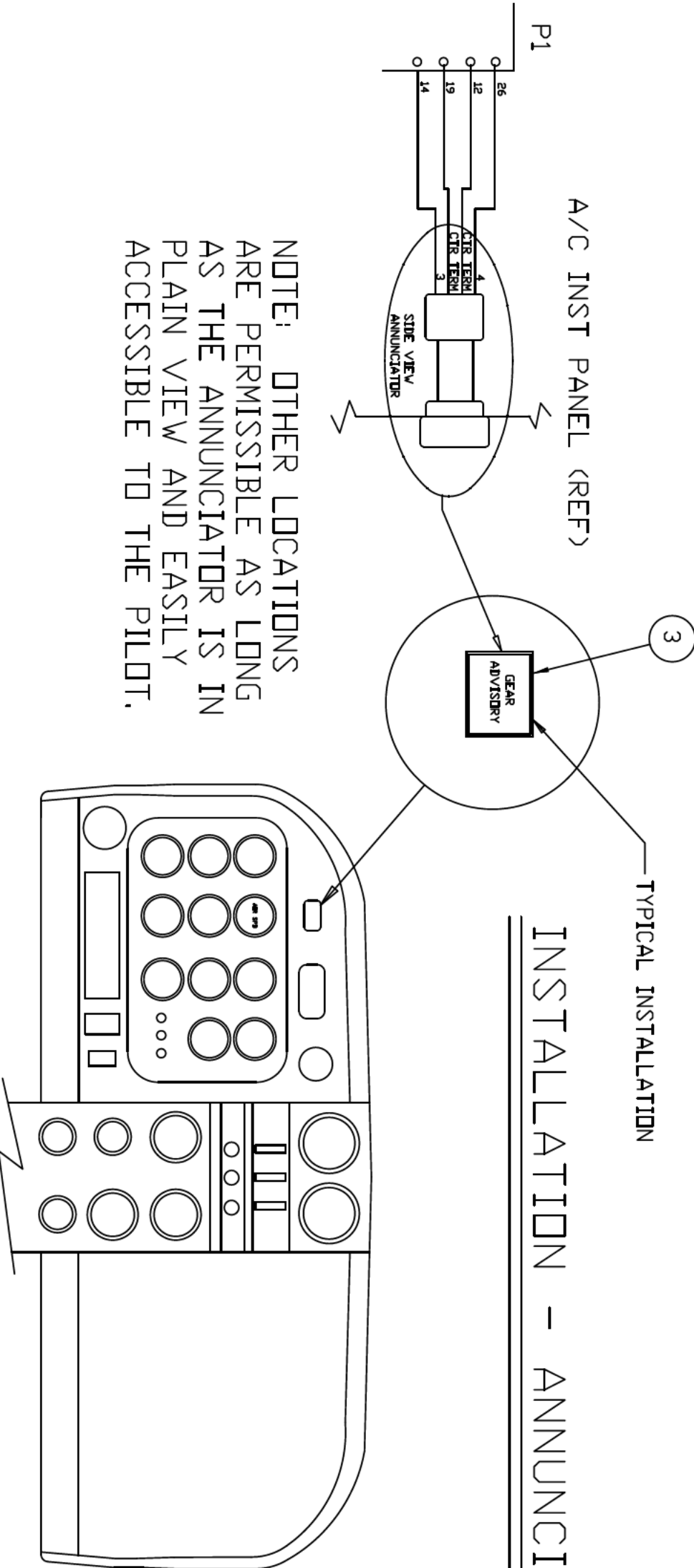
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- (3) THE PREFERRED COMPUTER INSTALLATION LOCATION IS ON THE BOTTOM OR TOP OF AIRCRAFT GLOVE BOX. IF THIS SPACE IS OCCUPIED, OTHER LOCATIONS BEHIND INSTRUMENT PANEL ARE PERMISSIBLE. BE SURE THAT THE GEAR ADVISORY COMPUTER IS INSTALLED IN A LOCATION THAT ALLOWS FOR EASY ACCESS TO THE AIRSPEED THRESHOLD AND VOLUME CONTROL ADJUSTMENTS UPON COMPLETION OF INSTALLATION. PERFORM PITOT LEAK CHECK PER AC 4313-14, CHG3, SECTION 4
- (4) ITEMS REQUIRED FOR APPROVAL:
A. COPY OF STC
B. LOG BOOK ENTRY
C. WEIGHT & BALANCE DATA REVISED
D. FORM 337 FILED
- (5) A/C MODELS: AVIAT HUSKY ON BF2150A AMPHIBIOUS FLDATS
CESSNA 172, & R172K ON BF2550A AMPHIBIOUS FLDATS
MAULE ON BF2750A AMPHIBIOUS FLDATS
CESSNA 180 ON EDD 597-2790 AMPHIBIOUS FLDATS
CESSNA 185 ON EDD 597-2790/696-3500
DR PK 3500A AMPHIBIOUS FLDATS
CESSNA 206 ON EDD 696-3500
DR PK 3500A/C3500A/D3500A AMPHIBIOUS FLDATS
HELIID ON EDD 696-3500
DR PK C4000A/D4000A AMPHIBIOUS FLDATS

MATL	1700 HENRY AVE. SOUTH ST. PAUL, MN 55075	LAKE & AIR	
FINISH	(657) 451-1205	INST., GEAR ADVISORY	
ALL DIMENSIONS ARE AFTER FINISH	THIRD ANGLE PROJECTION X ± .005 XX ± .005 XXX ± .005	TOLERANCES SIZE NONE	PART NO. AGAS-003
			REV E

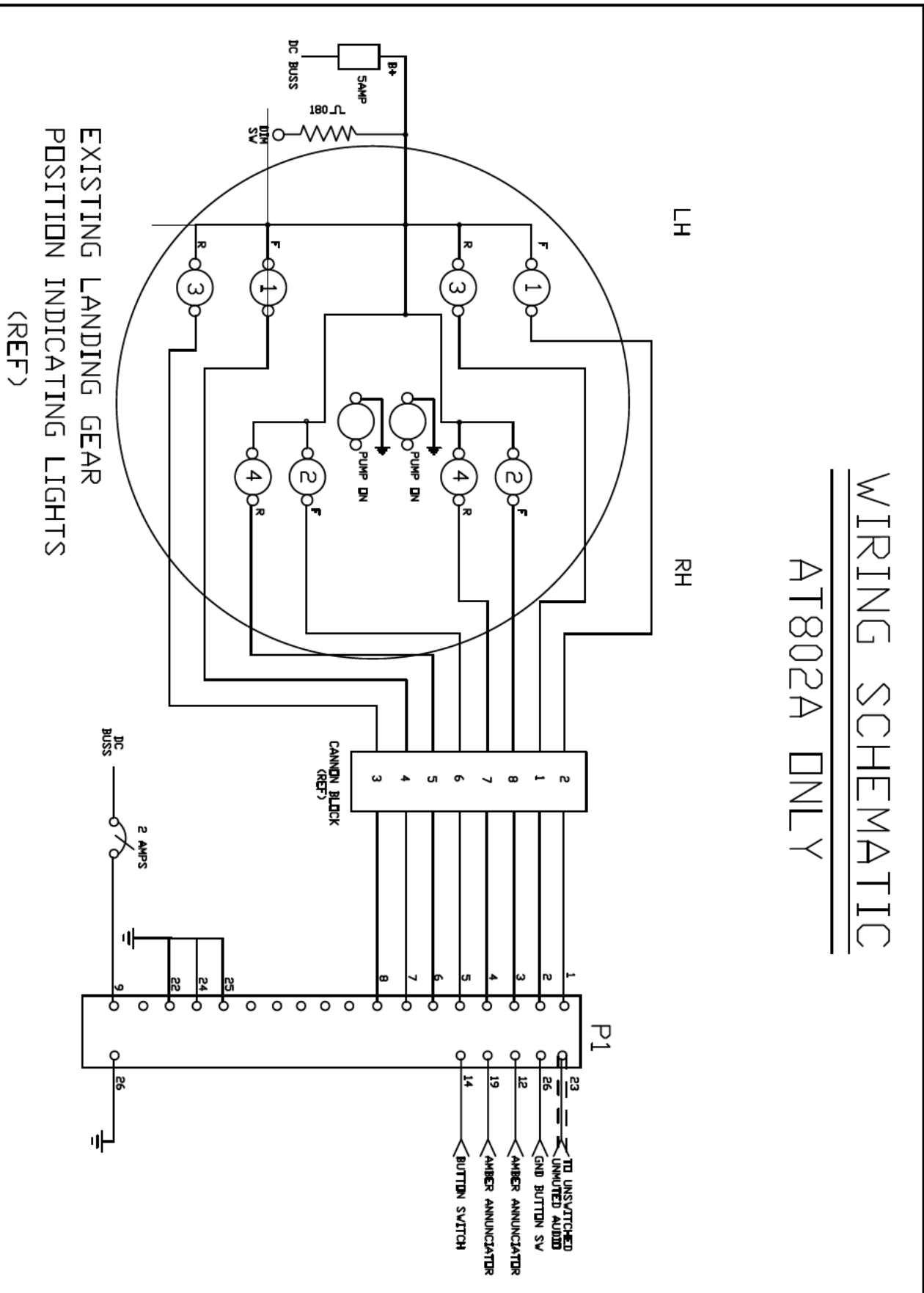
REVISION HISTORY				1
REV	DATE	ECO	DR	DESCRIPTION
E	12/8/08	21375	AJG	ADDED FIG NO. 12 PLACARD
F	1/22/09	21462	AJG	SHADIN WAS LAKE & AIR

FIG NO	DESCRIPTION	QTY/ASSY REQ	MFG	PART NUMBER
1	GEAR ADVISORY COMPUTER (FURN)	1	SHADIN	9600-1A
2	MOUNTING TRAY (FURN)	1	SHADIN	N/A
3	ANNUNCIATOR (FURN)	1	ALCO	164TL-11
4	2 AMP CB	1	VARIOUS	N/A
5	SINGLE 26-PIN HIGH-DENSITY CONNECTOR (FURN)	1	VARIOUS	N/A
6	UNION TEE, TUBE TO TUBE	1	IMPERIAL EASTMAN	264N-04
7	POLYETHYLENE TUBING	AS REQ.	IMPERIAL EASTMAN	44-PN
8	MOUNTING SCREWS	4	VARIOUS	AN526-632-8
9	WASHER	4	VARIOUS	AN936-A6
10	RIVNUT	4	VARIOUS	A6-75
11	WIRING HARNESS, 24 GA.	AS REQ.	VARIOUS	N/A
12	PLACARD, CAUTION, GEAR ADVISORY	1	VARIOUS	1003418

INSTALLATION - ANNUNCIATOR



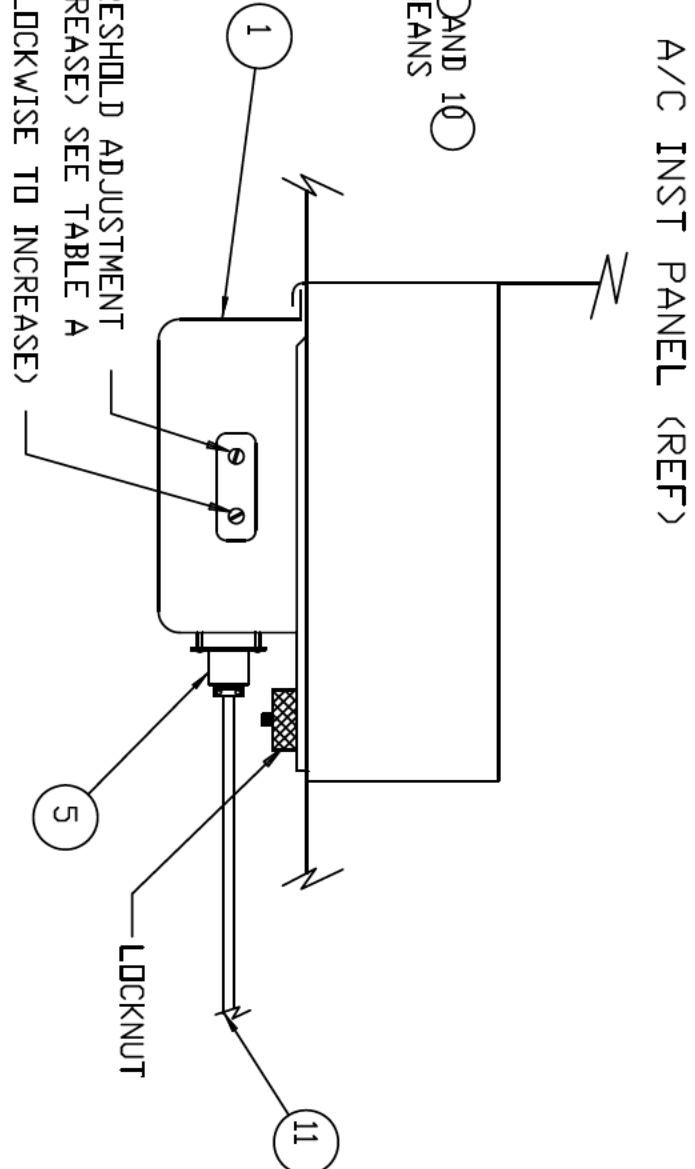
TYPICAL INSTALLATION - COMPUTER



SUMMARY OF CONNECTIONS

SETTING		AIRSPEED	
	MPH	KTS	
0	50	44	
1	35	48	
2	60	52	
3	65	57	
4	70	61	
5	75	65	
6	80	70	
7	85	74	
8	90	78	
9	95	83	
A	100	87	
B	105	91	
C	110	96	
D	115	100	
E	120	104	
F	125	109	

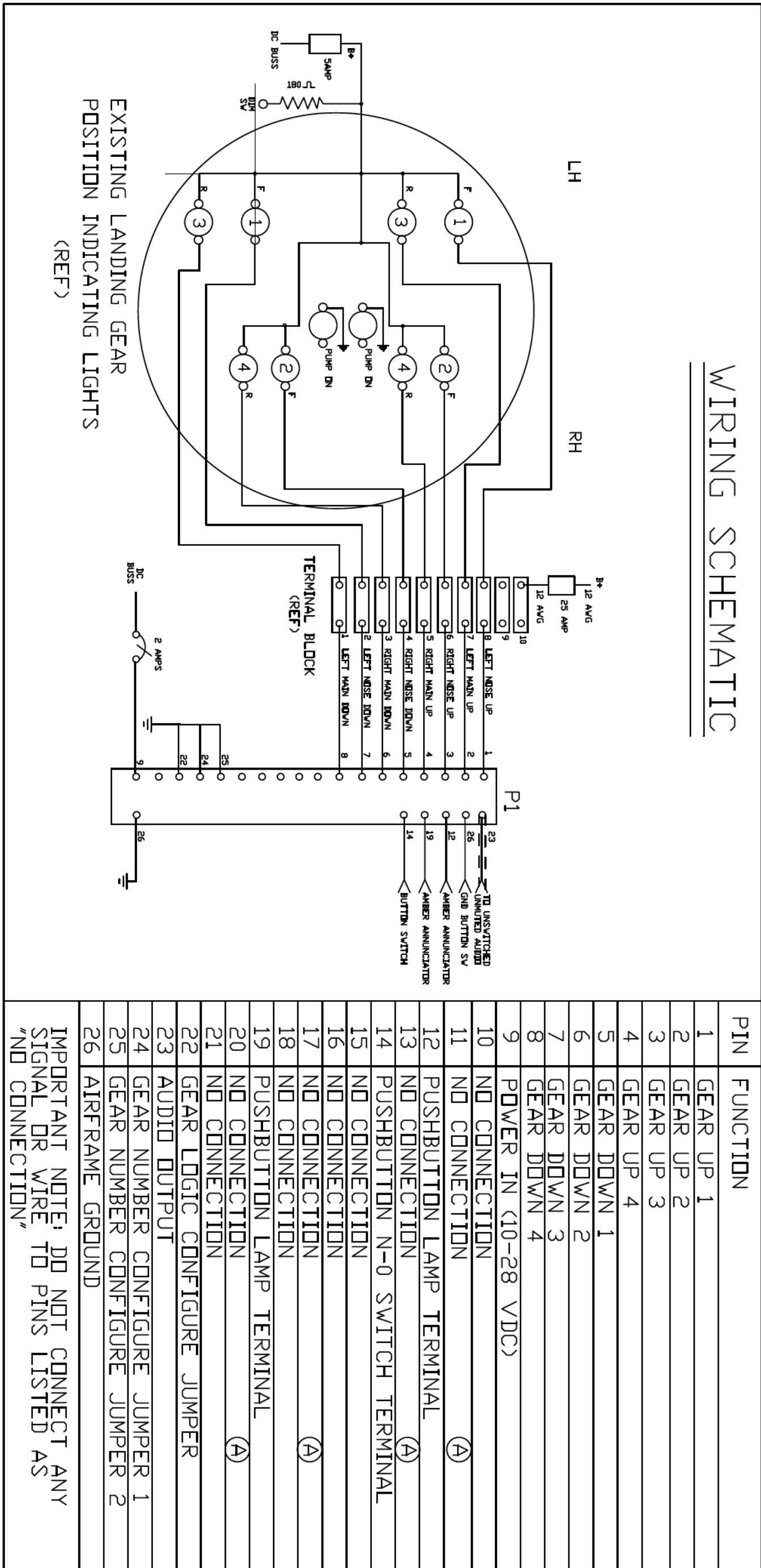
TABLE A



SEE INSTALLATION NOTE #3

INSTALLATION NOTES

- (1) THIS DRAWING IS TO BE USED IN CONJUNCTION WITH THE INSTALLATION INSTRUCTIONS (FURNISHED) ; SECTION III.
- (2) SECURE PILOT LINE AND ELECTRICAL HARNESS EVERY 8" -10" OR WHEREVER NECESSARY (REF AS 4313-1A)
- (3) THE PREFERRED COMPUTER INSTALLATION LOCATION IS ON THE BOTTOM OR TOP OF AIRCRAFT GLOVE BOX. IF THIS SPACE IS OCCUPIED, OTHER LOCATIONS BEHIND INSTRUMENT PANEL ARE PERMISSIBLE. BE SURE THAT THE GEAR ADVISORY COMPUTER IS INSTALLED IN A LOCATION THAT ALLOWS FOR EASY ACCESS TO THE AIRSPEED THRESHOLD AND VOLUME CONTROL ADJUSTMENTS
- (4) UPON COMPLETION OF INSTALLATION, PERFORM PILOT LEAK CHECK PER AC 4313-1A, CHG3, SECTION 4
- (5) ITEMS REQUIRED FOR APPROVAL:
 - COPY OF STC
 - LOG BOOK ENTRY
 - WEIGHT & BALANCE DATA REVISED
 - FORM 337 FILED
- (6) A/C MODELS: DHC-2 ON EDO 4580
DHC-2 ON W/PLINE 6000/6100
DHC-3 ON W/PLINE 8000
DHC-6 ON W/PLINE 13000
AT802 ON W/PLINE 10000
AT802A ON W/PLINE 10000



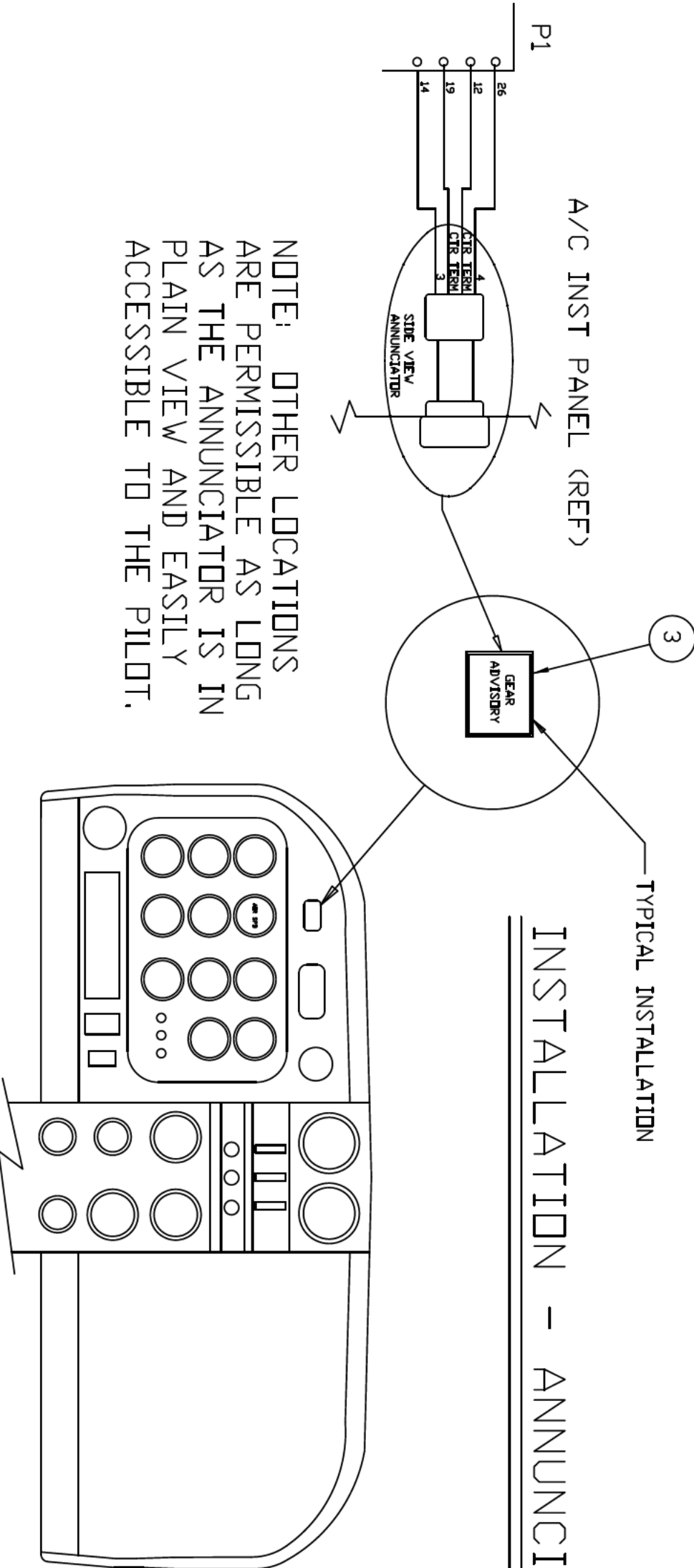
PIN	FUNCTION
1	GEAR UP 1
2	GEAR UP 2
3	GEAR UP 3
4	GEAR UP 4
5	GEAR DOWN 1
6	GEAR DOWN 2
7	GEAR DOWN 3
8	GEAR DOWN 4
9	POWER IN (10-28 VDC)
10	NO CONNECTION
11	NO CONNECTION (4)
12	PUSHBUTTON LAMP TERMINAL (4)
13	NO CONNECTION
14	PUSHBUTTON N-O SWITCH TERMINAL
15	NO CONNECTION
16	NO CONNECTION
17	NO CONNECTION (4)
18	NO CONNECTION
19	PUSHBUTTON LAMP TERMINAL (4)
20	NO CONNECTION
21	NO CONNECTION
22	GEAR LOGIC CONFIGURE JUMPER
23	AUDIO OUTPUT
24	GEAR NUMBER CONFIGURE JUMPER 1
25	GEAR NUMBER CONFIGURE JUMPER 2
26	AIFFRAME GROUND

IMPORTANT NOTE: DO NOT CONNECT ANY SIGNAL OR WIRE TO PINS LISTED AS "NO CONNECTION"

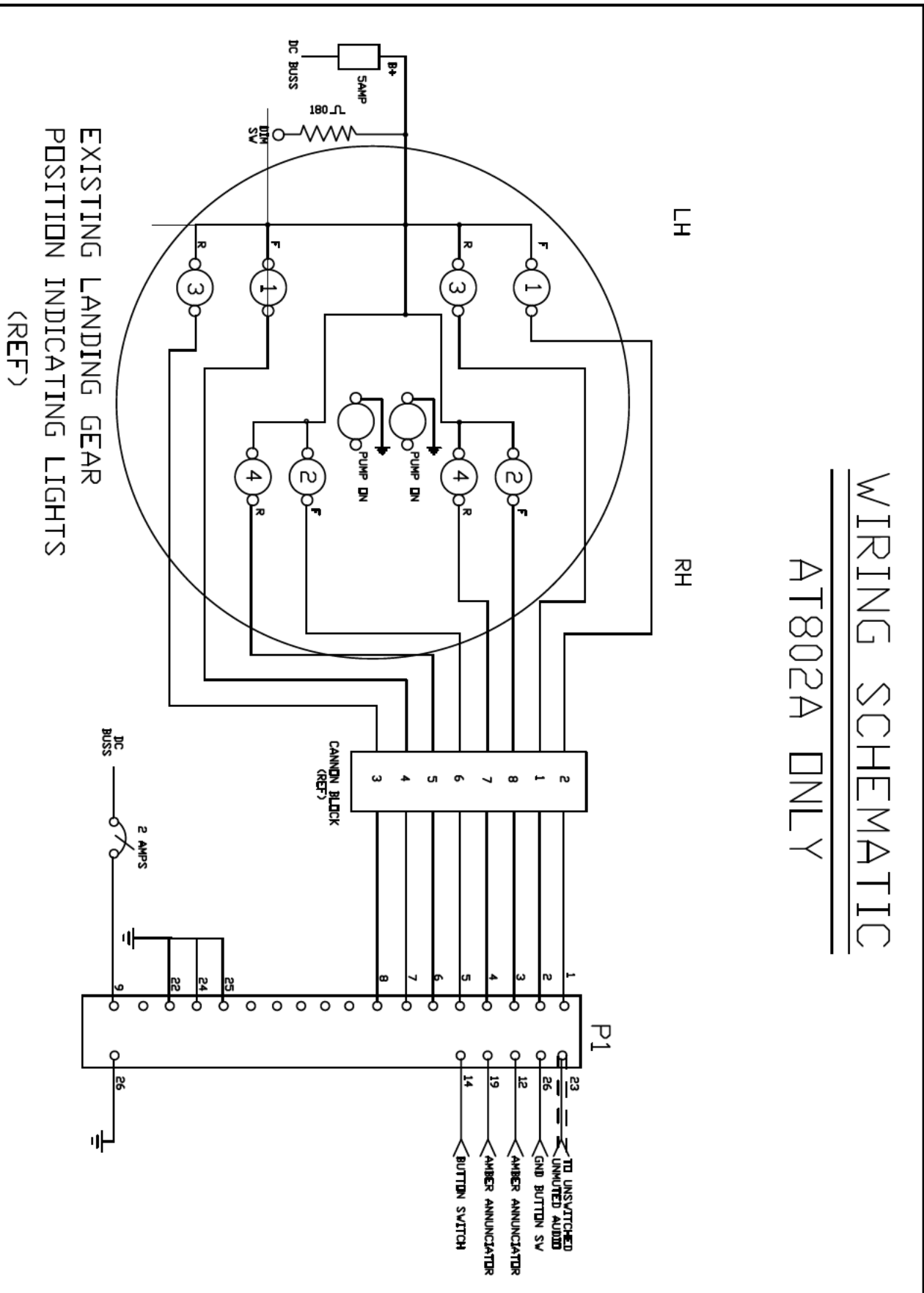
REVISION HISTORY				1
REV	DATE	ECO	DR	DESCRIPTION
E	12/8/08	21375	AJG	ADDED FIG NO. 12 PLACARD
F	1/22/09	21462	AJG	SHADIN WAS LAKE & AIR

FIG NO	DESCRIPTION	QTY/ASSY REQ	MFG	PART NUMBER
1	GEAR ADVISORY COMPUTER (FURN)	1	SHADIN	9600-1A
2	MOUNTING TRAY (FURN)	1	SHADIN	N/A
3	ANNUNCIATOR (FURN)	1	ALCO	164TL-11
4	2 AMP CB	1	VARIOUS	N/A
5	SINGLE 26-PIN HIGH-DENSITY CONNECTOR (FURN)	1	VARIOUS	N/A
6	UNION TEE, TUBE TO TUBE	1	IMPERIAL EASTMAN	264N-04
7	POLYETHYLENE TUBING	AS REQ.	IMPERIAL EASTMAN	44-PN
8	MOUNTING SCREWS	4	VARIOUS	AN526-632-8
9	WASHER	4	VARIOUS	AN936-A6
10	RIVNUT	4	VARIOUS	A6-75
11	WIRING HARNESS, 24 GA.	AS REQ.	VARIOUS	N/A
12	PLACARD, CAUTION, GEAR ADVISORY	1	VARIOUS	1003418

INSTALLATION - ANNUNCIATOR



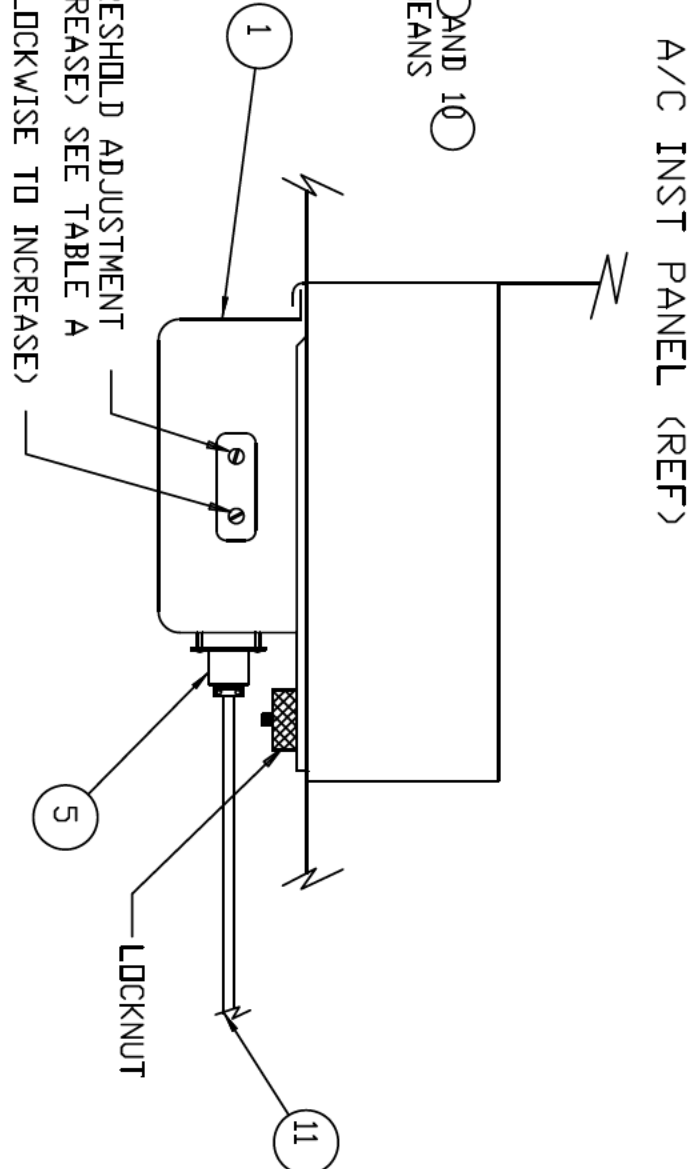
TYPICAL INSTALLATION - COMPUTER



SUMMARY OF CONNECTIONS

SETTING		AIRSPEED	
	MPH	KTS	
0	50	44	
1	35	48	
2	60	52	
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7	85	74	
8	90	78	
9	95	83	
A	100	87	
B	105	91	
C	110	96	
D	115	100	
E	120	104	
F	125	109	

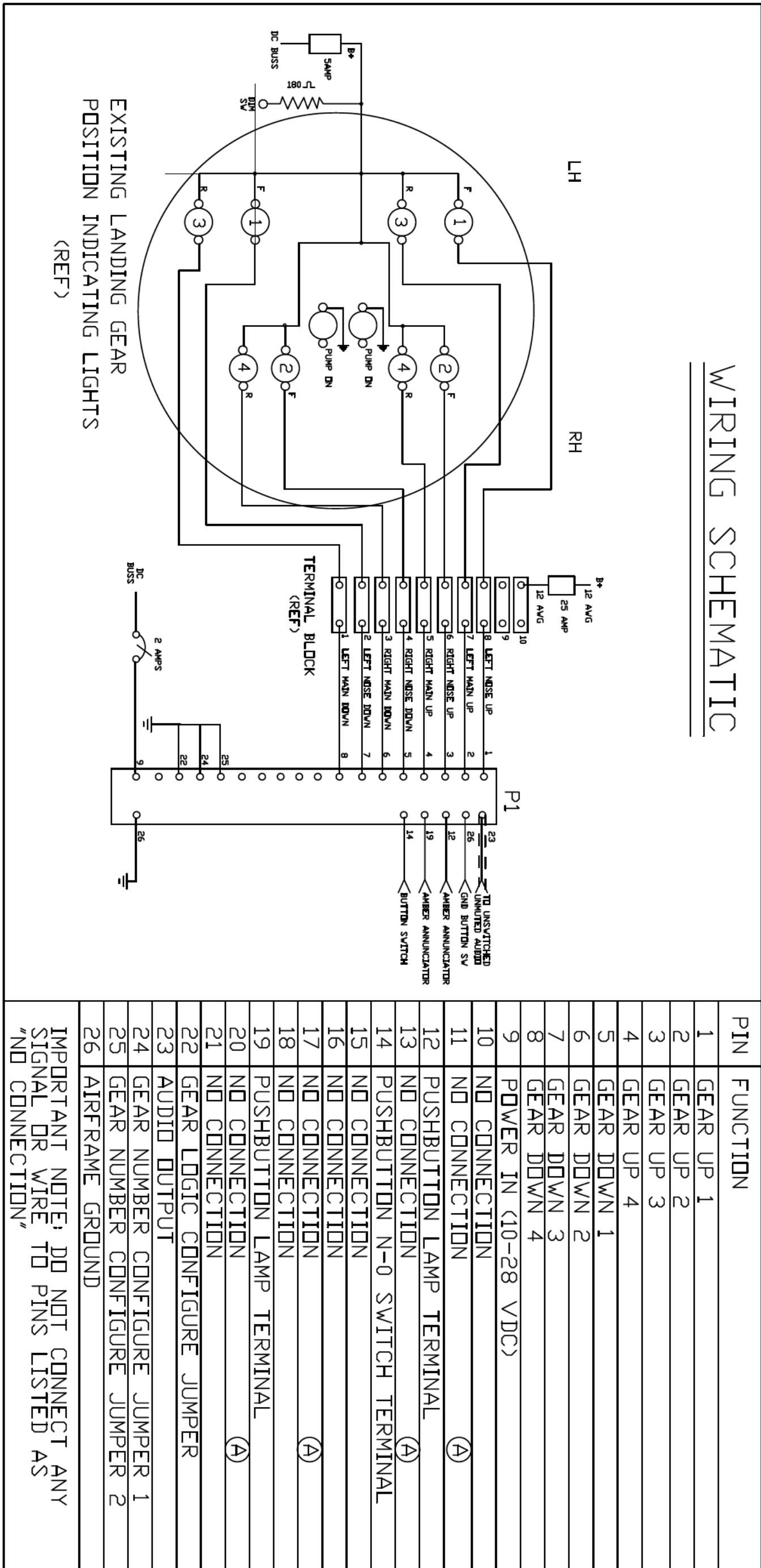
TABLE A



SEE INSTALLATION NOTE #3

INSTALLATION NOTES

- (1) THIS DRAWING IS TO BE USED IN CONJUNCTION WITH THE INSTALLATION INSTRUCTIONS (FURNISHED) ; SECTION III.
- (2) SECURE PILOT LINE AND ELECTRICAL HARNESS EVERY 8" -10" OR WHEREVER NECESSARY (REF AS 4313-1A)
- (3) THE PREFERRED COMPUTER INSTALLATION LOCATION IS ON THE BOTTOM OR TOP OF AIRCRAFT GLOVE BOX. IF THIS SPACE IS OCCUPIED, OTHER LOCATIONS BEHIND INSTRUMENT PANEL ARE PERMISSIBLE. BE SURE THAT THE GEAR ADVISORY COMPUTER IS INSTALLED IN A LOCATION THAT ALLOWS FOR EASY ACCESS TO THE AIRSPEED THRESHOLD AND VOLUME CONTROL ADJUSTMENTS
- (4) UPON COMPLETION OF INSTALLATION, PERFORM PILOT LEAK CHECK PER AC 4313-1A, CHG3, SECTION 4
- (5) ITEMS REQUIRED FOR APPROVAL:
 - COPY OF STC
 - LOG BOOK ENTRY
 - WEIGHT & BALANCE DATA REVISED
 - FORM 337 FILED
- (6) A/C MODELS: DHC-2 ON EDO 4580
DHC-2 ON W/PLINE 6000/6100
DHC-3 ON W/PLINE 8000
DHC-6 ON W/PLINE 13000
AT802 ON W/PLINE 10000
AT802A ON W/PLINE 10000



PIN	FUNCTION
1	GEAR UP 1
2	GEAR UP 2
3	GEAR UP 3
4	GEAR UP 4
5	GEAR DOWN 1
6	GEAR DOWN 2
7	GEAR DOWN 3
8	GEAR DOWN 4
9	POWER IN (10-28 VDC)
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18	NO CONNECTION
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20	NO CONNECTION
21	NO CONNECTION
22	GEAR LOGIC CONFIGURE JUMPER
23	AUDIO OUTPUT
24	GEAR NUMBER CONFIGURE JUMPER 1
25	GEAR NUMBER CONFIGURE JUMPER 2
26	AIFFRAME GROUND

IMPORTANT NOTE: DO NOT CONNECT ANY SIGNAL OR WIRE TO PINS LISTED AS "NO CONNECTION"

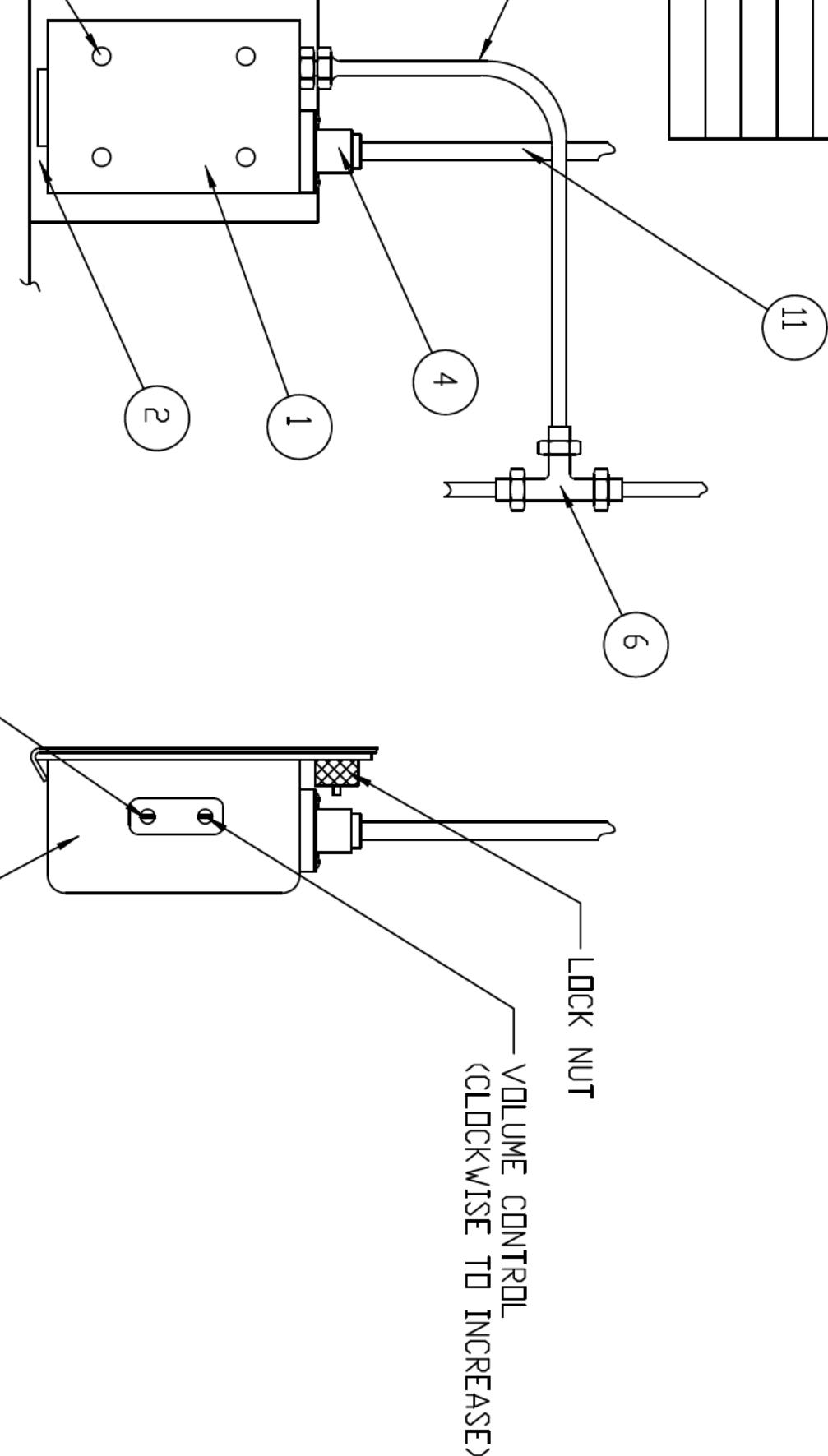
MATERIAL	LAKE & AIR		
	1700 HENRY AVE. SOUTH ST. PAUL, MN 55075		
	(651) 451-1205		
FINISH	TITLE		
	INST., GEAR ADVISORY		
	PART NO.		
ALL DIMENSIONS ARE AFTER FINISH		AGAS-002	REV F
THIRD ANGLE PROJECTION		SCALE NONE	
TOLERANCES: SIZE D		Sheet 1 of 1	
X ± .015			
XX ± .005			
X ± .05			

REVISION HISTORY			
REV	DATE	ECO	DR
A	6/19/00	—	LF
B	10/12/05	—	LF
C	10/24/07	—	LF
D	04/10/08	—	DM
E	12/08/08	21375	AG
F	1/22/09	21462	AUG

DESCRIPTION			
ADDED MODELS			
ADDED 172 MODELS			
ADDED MODELS			
ADDED MODELS HUSKY A-1C-180 AND A-1C-200- ADDED FIG NO. 12 PLACARD SHADIN WAS LAKE & AIR- ADDED 170A AND 170B TO LIST OF A/C MODELS			

QTY	DESCRIPTION	QTY	DESCRIPTION	PART NUMBER
1	GEAR ADVISORY COMPUTER KIT	1	SHADIN	590H-1A
2	MOUNTING TRAY (INCLUDED IN KIT)	1	SHADIN	N/A
3	MANUFACTURER (INCLUDED IN KIT)	1	A/C	16-11-11
4	SINGLE 86-PIN HIGH DENSITY CONNECTOR (INCLUDED IN KIT)	1	VARIABLES	N/A
5	2 AMP CB	1	VARIABLES	N/A
6	1/4" O.D. TUBE TO TUBES	1	INFEED EXHAUST	264H-14
7	FLUENT/FLUE TUBING	4/R	INFEED EXHAUST	44-17H
8	MOUNTING SCREWS	4	VARIABLES	AN53-52-8
9	WASHER	4	VARIABLES	AN53-46
10	REINUT	4	VARIABLES	46-75
11	WIRING HARNESS, 24 GA	4/R	VARIABLES	N/A
12	FLARE/NO. 10/10IN. GEAR ADVISORY	1	VARIABLES	100C410

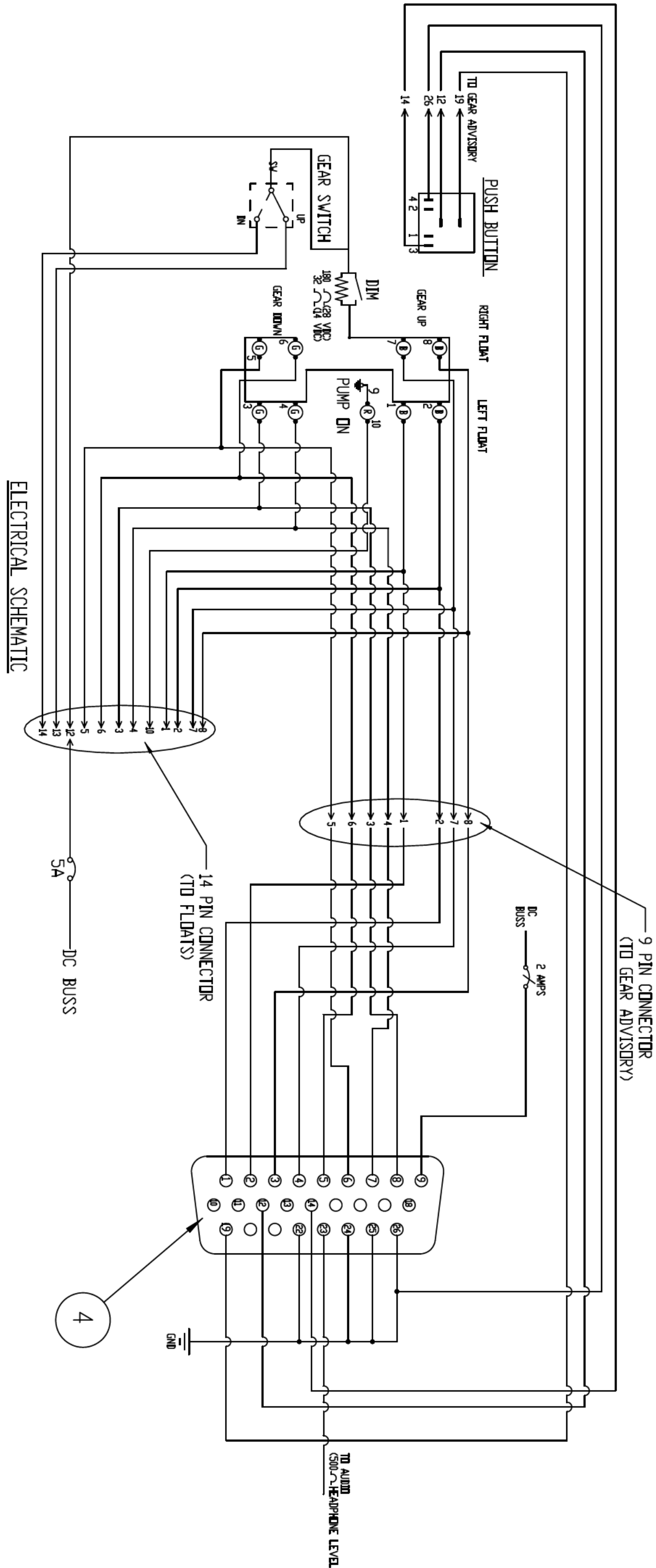
SETTING	AIRSPEED
MPH	KTS
0	50
1	55
2	60
3	65
4	70
5	75
6	80
7	85
8	90
9	95
A	100
B	105
C	110
D	115
E	120
F	125



GEAR ADVISORY COMPUTER IS INSTALLED IN A LOCATION THAT ALLOWS FOR EASY ACCESS TO AIRSPEED THRESHOLD AND VOLUME ADJUSTMENTS

INSTALLATION – GEAR ADVISORY

NOTE: SECURE PITOT LINES AND ELECTRICAL HARNESS EVERY 8" TO 10" OR WHEREVER NECESSARY (REF AC 43.13-1A)



- NOTES:
- THIS DRAWING IS TO BE USED IN CONJUNCTION WITH THE INSTALLATION INSTRUCTIONS (SECTION III)
 - UPON COMPLETION OF INSTALLATION, PERFORM PITOT LEAK CHECK PER AC 43.13-1A CHAPTER 16, SECTION 4
 - ITEMS REQUIRED FOR APPROVAL:
 - COPY OF STC
 - LOG BOOK ENTRY
 - WEIGHT (WITH MOUNTING TRAY) 14 LBS
 - FORM 337 FILED

INSTALLATION – GEAR ADVISORY SWITCH & CIRCUIT BREAKER

MODELS: AIRCRAFT WITH W/PI LINE AMPHIBIAN FLOATS, MODEL 2100, 2350, 3000, 3450

1. CESSNA:

2100 Floats: 170A, 170B, 172, 172A, 172B, 172C, 172D, 172E, 172F, 172G, 172H, 172I, 172K, 172L, 172M, 172N, 172P, 172Q, 172R, 172S, 172T, 172U, 172V, 172W, 172X, 172Y, 172Z, 173A, 173B, 173C, 173D, 173E, 173F, 173G, 173H, 173I, 173J, 173K, 173L, 173M, 173N, 173O, 173P, 173Q, 173R, 173S, 173T, 173U, 173V, 173W, 173X, 173Y, 173Z, 174A, 174B, 174C, 174D, 174E, 174F, 174G, 174H, 174I, 174J, 174K, 174L, 174M, 174N, 174O, 174P, 174Q, 174R, 174S, 174T, 174U, 174V, 174W, 174X, 174Y, 174Z, 175A, 175B, 175C, 175D, 175E, 175F, 175G, 175H, 175I, 175J, 175K, 175L, 175M, 175N, 175O, 175P, 175Q, 175R, 175S, 175T, 175U, 175V, 175W, 175X, 175Y, 175Z, 176A, 176B, 176C, 176D, 176E, 176F, 176G, 176H, 176I, 176J, 176K, 176L, 176M, 176N, 176O, 176P, 176Q, 176R, 176S, 176T, 176U, 176V, 176W, 176X, 176Y, 176Z, 177A, 177B, 177C, 177D, 177E, 177F, 177G, 177H, 177I, 177J, 177K, 177L, 177M, 177N, 177O, 177P, 177Q, 177R, 177S, 177T, 177U, 177V, 177W, 177X, 177Y, 177Z, 178A, 178B, 178C, 178D, 178E, 178F, 178G, 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