



## **FUEL/AIR DATA COMPUTER**

---

### **(ADC 200)**

**P/Ns:**  
**962820-1, 962820-2, 962820-3**  
**962820-1A, 962820-2A, 962820-3A**

**INSTALLATION MANUAL**  
**P/N: IM2820**

**REV T**

**SHADIN AVIONICS**  
***7555 Market Place Drive***  
***Eden Prairie, MN 55344***

**Customer Service: 952-927-6500**  
[https://www.shadin.com/  
service@shadin.com](https://www.shadin.com/service@shadin.com)

---

**INSTALLATION MANUAL**


---

**FUEL/AIR DATA COMPUTER**

Rev: T

P/N 962820-1(A), 962820-2(A), 962820-3(A)

Page: i of vi

**PAGE CONTROL CHART**

| <b><u>SECTION<br/>NO.</u></b> | <b><u>DESCRIPTION</u></b>                        | <b><u>PAGE</u></b> |
|-------------------------------|--------------------------------------------------|--------------------|
|                               | <b>REVISION LOG</b>                              | vi                 |
| <b>1.0</b>                    | <b>OVERVIEW</b>                                  | 1-1                |
| 1.1                           | The Manual                                       | 1-1                |
| 1.2                           | Product Information                              | 1-1                |
| 1.3                           | System Configuration                             | 1-2                |
| 1.4                           | Fuel Totalizer Configuration                     | 1-3                |
| 1.5                           | F/ADC200, Argus Moving Map Configuration         | 1-3                |
| <b>2.0</b>                    | <b>FUEL AND AIR DATA SYSTEM SPECIFICATIONS</b>   | 2-1                |
| 2.1                           | Input Data Range                                 | 2-1                |
| 2.2                           | Output Data Range                                | 2-1                |
| 2.3                           | Dimensions                                       | 2-5                |
| 2.4                           | Power Requirements                               | 2-5                |
| 2.5                           | Output Data                                      | 2-5                |
| 2.5.1                         | Serial Output Data Parameters                    | 2-5                |
| 2.6                           | Limitations                                      | 2-6                |
| 2.6.1                         | Warm-up Time                                     | 2-6                |
| 2.6.2                         | Supplemental Equipment                           | 2-6                |
| 2.6.3                         | Static/Pitot Source Error Correction (SSEC/PSEC) | 2-7                |
| 2.6.4                         | SSEC/PSEC Listing                                | 2-7                |
| 2.6.4                         | SSEC/PSEC Listing (Continued)                    | 2-8                |
| 2.6.4                         | SSEC/PSEC Listing (Continued)                    | 2-9                |
| 2.6.4                         | SSEC/PSEC Listing (Continued)                    | 2-10               |
| 2.6.4                         | SSEC/PSEC Listing (Continued)                    | 2-11               |
| 2.7                           | Part Numbering Scheme                            | 2-12               |
| 2.8                           | Electrical Interface Specifications              |                    |
| 2.8.1                         | Heading Interface                                | 2-13               |
| 2.8.2                         | Fuel Flow Interfaces                             | 2-13               |
| 2.8.2.1                       | Digital Fuel Flow                                | 2-13               |
| 2.8.2.2                       | Sine Wave Fuel Flow                              | 2-14               |
| 2.8.2.3                       | DC Voltage Fuel Flow                             | 2-14               |
| 2.9                           | Statistical Specifications                       |                    |
| 2.9.1                         | Mean Time Between Failures                       | 2-14               |
| <b>3.0</b>                    | <b>CERTIFICATION</b>                             | 3-1                |
| <b>4.0</b>                    | <b>PLACING AN ORDER</b>                          | 4-1                |

---

**INSTALLATION MANUAL**


---

**FUEL/AIR DATA COMPUTER**

Rev: T

P/N 962820-1(A), 962820-2(A), 962820-3(A)

Page: ii of vi

| <b><u>SECTION<br/>NO.</u></b> | <b><u>DESCRIPTION</u></b>                                       | <b><u>PAGE</u></b> |
|-------------------------------|-----------------------------------------------------------------|--------------------|
| <b>5.0</b>                    | <b>INSTALLATION PROCEDURE</b>                                   | <b>5-1</b>         |
| 5.1                           | General                                                         | 5-1                |
| 5.2                           | F/ADC Location Selection                                        | 5-1                |
| 5.3                           | Mounting the F/ADC                                              | 5-1                |
| 5.4                           | Mounting the OAT Probe                                          | 5-2                |
| 5.5                           | Connection to the Fuel Flow Sensor                              | 5-3                |
| 5.6                           | Connection to the Heading Source                                | 5-4                |
| 5.7                           | Connection to the Pitot and Static Lines                        | 5-5                |
| 5.8                           | Connection to the Navigation Management System                  | 5-6                |
| 5.9                           | Post Installation Checkout                                      | 5-6                |
| <b>6.0</b>                    | <b>OPERATING INSTRUCTIONS</b>                                   | <b>6-1</b>         |
| <b>7.0</b>                    | <b>INITIALIZATION</b>                                           | <b>7-1</b>         |
| <b>8.0</b>                    | <b>MAJOR COMPONENTS OF THE SYSTEM</b>                           | <b>8-1</b>         |
| <b>9.0</b>                    | <b>CONFIGURING THE AIR DATA</b>                                 | <b>9-1</b>         |
| 9.1                           | Configuring with 'ADSETUP User Manual'                          | 9-1                |
| 9.2                           | Configuring Manually                                            | 9-2                |
|                               | <b>Loopback Procedure 1 for S/W Version 93.00.16 - 93.00.29</b> | <b>9-3</b>         |
|                               | Stage 0 Loopback Configuration                                  | 9-3                |
|                               | Stage 1 Loopback Configuration                                  | 9-4                |
|                               | <b>Loopback Procedure 2 for S/W Version 93.00.51 – 93.00.71</b> | <b>9-5</b>         |
|                               | Stage 0 Loopback Configuration                                  | 9-5                |
|                               | Stage 1 Loopback Configuration                                  | 9-6                |
|                               | Stage 2 Loopback Configuration                                  | 9-7                |
|                               | Stage 3 Loopback Configuration                                  | 9-8                |
|                               | <b>Loopback Procedure 3 for S/W Version 93.00.77</b>            | <b>9-9</b>         |
|                               | Stage 0 Loopback Configuration                                  | 9-9                |
|                               | Stage 1 Loopback Configuration                                  | 9-10               |
|                               | Stage 2 Loopback Configuration                                  | 9-11               |
|                               | Stage 3 Loopback Configuration                                  | 9-12               |
|                               | <b>Loopback Procedure 4 for S/W Version 93.00.82 +</b>          | <b>9-13</b>        |
|                               | Stage 0 Loopback Configuration                                  | 9-13               |
|                               | Stage 1 Loopback Configuration                                  | 9-14               |
|                               | Stage 2 Loopback Configuration                                  | 9-15               |
|                               | Stage 3 Loopback Configuration                                  | 9-16               |
|                               | Stage 4 Loopback Configuration                                  | 9-17               |
|                               | Select No Delay                                                 | 9-18               |

---

**INSTALLATION MANUAL**

---

**FUEL/AIR DATA COMPUTER**

Rev: T

P/N 962820-1(A), 962820-2(A), 962820-3(A)

Page: iii of vi

---

|             |                                                                 |      |
|-------------|-----------------------------------------------------------------|------|
| <b>10.0</b> | <b>SETTING THE K-FACTOR</b>                                     | 10-1 |
|             | Table 1 - Analog K-Factor Settings Table 1                      | 10-2 |
|             | Table 2 - Digital K-Factor Settings Table 2 (Matrix 0)          | 10-3 |
|             | Table 2 - Digital K-Factor Settings Table 2 (Matrix 0)          | 10-4 |
|             | Table 2 - Digital K-Factor Settings Table 2 (Matrix 0)          | 10-5 |
|             | Table 3 - Alternate Digital-K Factor Setting Table 3 (Matrix 1) | 10-6 |

---

**INSTALLATION MANUAL**


---

**FUEL/AIR DATA COMPUTER**

Rev: T

P/N 962820-1(A), 962820-2(A), 962820-3(A)

Page: iv of vi

**11.0 INSTALLATION DRAWINGS AND INSTALL KIT PARTS LISTS**

| <u>Drawing No.</u> | <u>Description/Part Number</u>                                                                        | <u>DATE</u> | <u>REV</u> |
|--------------------|-------------------------------------------------------------------------------------------------------|-------------|------------|
| 4005-642           | Installation, Sine/Square Wave Converter, P/N 631201                                                  | 03/03/10    | B          |
| 4028-005           | Installation, OAT Probe Assembly Kit, P/N 681201-1                                                    | 02/14/05    | C          |
| 4028-411           | Installation, Mounting Tray, P/N 542801A                                                              | 12/30/99    | B          |
| 4028-604           | Installation, ADC200 Frequency/Level Int. FF, P/N 962820-1                                            | 08/31/95    | –          |
| 4028-605           | Installation, ADC200 Sine wave FF, P/N 962820-2                                                       | 08/31/95    | –          |
| 4028-606           | Installation, ADC200 DC FF, P/N 962820-3                                                              | 08/31/95    | –          |
| 4028-607           | Installation Wiring, Fuel/Air data Computer (ADC200) to OAT/Heading System                            | 09/13/95    | A          |
| 4028-608           | Installation Wiring, Fuel/Air data Computer (ADC200) to Fuel System                                   | 09/13/95    | A          |
| 4028-943           | Installation Wiring, F/ADC200, 2000 to Navigational Receivers with RS-232                             | 01/17/05    | C          |
| 4028-944           | Installation Wiring, Loop-Back Harness for F/ADC200, 2000, D-Sub Connector                            | 09/19/05    | C          |
| 4028-946           | Installation Wiring, F/ADC200, 2000 to Navigational Receivers with RS-422, RS-485                     | 03/11/03    | A          |
| 4028-947           | Installation Wiring, F/ADC200, 2000, Shadin Fuel Flow Indicators to Bendix/King Navigational Receiver | 03/11/03    | A          |
| 4028-948           | Installation Wiring, F/ADC200, 2000 and Shadin Converter to Eventide Argus                            | 02/14/05    | A          |
| 4028-A80           | Label, ADC 200/2000 Access Cover, P/N 712801                                                          | 02/14/05    | A          |
| 4070-005           | Installation, Serial to Argus 5000/7000 Converter, P/N 937000-03                                      | 02/14/05    | B          |
| N/A                | Parts List, OAT Probe Assembly Kit, P/N 681201-1                                                      | 04/06/07    | H          |
| N/A                | Parts List, Install Kit, F/ADC 200, P/N IK9628                                                        | 04/06/07    | D          |
| 4028-B94           | Installation Wiring, F/ADC 200, 2000 Shadin FF Indicators to Garmin 430/530                           | 04/29/11    | B          |

---

**INSTALLATION MANUAL**


---

**FUEL/AIR DATA COMPUTER**

Rev: T

P/N 962820-1(A), 962820-2(A), 962820-3(A)

Page: v of vi

**11.0 INSTALL DRAWINGS AND INSTALL KITS PARTS LISTS (continued)**

| <u>Drawing No.</u>       | <u>Description/Part Number</u>                                                                                 | <u>DATE</u> | <u>REV</u> |
|--------------------------|----------------------------------------------------------------------------------------------------------------|-------------|------------|
| <b>AIRCRAFT SPECIFIC</b> |                                                                                                                |             |            |
| 4028-818                 | Installation Wiring, F/ADC-200, 2000<br>w/Analog FF to Beech KingAir Indicators                                | 03/11/03    | B          |
| 4028-819                 | Installation Wiring F/ADC200, 2000 Sine FF to Mitsubishi MU-300 & Model 400 Beechjet                           | 02/14/05    | B          |
| 4028-909                 | Installation Wiring, ADC 200(2000) to Mitsubishi MU-2<br>w/Foxboro PC-620 System                               | 02/14/05    | B          |
| 4028-936                 | Installation Wiring, F/ADC200, 2000 or DigiData with DC FF<br>to Cessna Citation 500, 501, 550, S550, 551, 552 | 02/14/05    | A          |
| 4028-937                 | Installation Wiring, F/ADC200, 2000 or DigiData with DC FF<br>to Cessna Citation 525 Jet                       | 02/14/05    | A          |
| 4028-938                 | Installation Wiring, F/ADC200, 2000 or DigiData with Digital<br>FF to BomBardier LearJet 24, 25D               | 01/17/05    | A          |
| 4028-939                 | Installation Wiring, F/ADC200, 2000 with Sine FF to Rockwell<br>Commander 690 and 695                          | 02/14/05    | A          |
| 4028-940                 | Installation Wiring, F/ADC200, 2000 or DigiData with DC FF<br>to Raytheon Beechjet 400A Aircraft               | 02/14/05    | A          |
| 4028-941                 | Installation Wiring, F/ADC200, 2000 or DigiData with DC FF<br>to Westwind 1124 Models                          | 02/14/05    | A          |
| 4028-942                 | Installation Wiring, F/ADC200, 2000 to Fairchild SA226 Series<br>Aircraft                                      | 01/17/05    | A          |
| 4028-949                 | Installation Wiring, F/ADC200, 2000 to Aerospatiale AS365N2<br>Dauphin                                         | 02/14/05    | A          |
| 4028-950                 | Installation Wiring, F/ADC200, 2000 to Aerospatiale AS332<br>Super Puma                                        | 02/14/05    | A          |
| 4028-A29                 | Installation Wiring, F/ADC200, 2000 or DigiData with DC FF<br>Piper Cheyenne PA31T                             | 01/17/05    | C          |

**INSTALLATION MANUAL****FUEL/AIR DATA COMPUTER**

Rev: T

P/N 962820-1(A), 962820-2(A), 962820-3(A)

Page: vi of vi

**REVISION LOG**

| REV. | DATE     | APP'D | CHANGE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|------|----------|-------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| –    | 6/08/95  | RR    | Release                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| A    | 9/12/95  | SES   | Miscellaneous updates                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| B    | 6/09/97  | KCL   | 4 stage loop back procedure, Report to 4028B, Expand Index                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| C    | 6/23/97  | KCL   | Revise Limitations Section                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| D    | 3/27/98  | KCL   | Format change, SSEC listing, software configuration update, new installation DWGs.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| E    | 12/09/98 | KCL   | Update pages 1-1, 9-9, 10-2, DWG 4028-944 and 4070-005 and include DWG's 4028-A29 and 4028-A80.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| F    | 3/16/99  | KCL   | Updated Drawings 4028-411 and 4028-A29, and Install Kit P/N IK9628                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| G    | 1/31/00  | EDJ   | Added Bendix B & Garmin, Format G, to page 9-7. Added one more Ragen Indicator/Transmitter to page 11-31.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| H    | 9/18/00  | EDJ   | Page 1-1 & 1-3 changed to add Garmin 430/530 GPS. Page 2-1 changed by OAT tolerance, IVS changing to 10,000 fpm, and Pitot and IAS set to 18 knots for low speed. Page 2-6 & 2-7 changed by correcting LearJet HS-125 to Raytheon Hawker HS-125 and moving to page 2-7. Page 5-1 changed by adding TSO paragraph. Page 5-2 & 8-1 changed by OAT kit. Page 5-4 changed by adding Sandel hdg source. Page 9-1 & 9-2 changed by SW version numbers. Pages 9-5 & 9-8 (blank pages) removed. Pages 9-9 to 9-12 added for loopback procedure 3. New page 9-8 changed to remove Switch 4 ARINC setting. Page iv changed by OAT kit, 4028-411, 4028-943, and 4028-B94. |
| J    | 11/03/00 | KCL   | Add sections 2.8 and 2.9. Update sections 2.0, 5.1 and 5.7.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| K    | 08/30/02 | EDJ   | Added P/N 681201-1 OAT probe installation and parts list to page iv drawing list. Corrected page 10-3 Table 2. Added pages 9-13 to 9-21. Page 9-13 became 9-22.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| L    | 02/25/05 | ZK    | Changed Company name. Removed 681201A-1 dwg, parts list, and 93.00.79 Loopback procedure. Corrected Table 1 page 10-2, 4028-A29, 4028-938, 4028-942, and 4028-943. Incorporated updated IK9628 and P/N 681201-1 Parts list. Updated Section 11.0.                                                                                                                                                                                                                                                                                                                                                                                                              |
| M    | 09/22/05 | ZK    | Updated 4028-944 and section 2.2. Corrected typos on pages 2-3, 5-1 and 10-5.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| N    | 04/06/07 | ZK    | Changed Company name. Updated 681201-1 and IK9628 parts list.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| P    | 04/29/08 | EDJ   | Updated all sections with P/N 962820-1(A), -2(A), & -3(A), updated Section 2.2, 2.7, 3.0, and 9.0. Added Antonov and Yak-40 SSEC information in Section 2.6.4.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| R    | 04/29/11 | ZK    | Updated Drawings 4028-B94 and 4005-642.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| T    | 10/11/21 | ZK    | Corrected SAT and TAT description on page 2-5. Updated company address.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|      |          |       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |

The information in this manual is subject to change without notification. To ensure complete and current updates, note the Revision Log above and call Technical Assistance for updated information.

---

**INSTALLATION MANUAL**


---

**FUEL/AIR DATA COMPUTER**

Rev: T

P/N 962820-1(A), 962820-2(A), 962820-3(A)

Page: 1-1

**1.0 OVERVIEW****1.1 The Manual**

This manual is designed to facilitate the installation of the Shadin Fuel/Air data Computer (ADC 200).

**1.2 Product Information**

The Shadin ADC 200 system is designed to provide a **combined** source of fuel and air data. Listed below are the navigational systems that the ADC 200 has been designed to be compatible with.

Receives Serial Data from:

Magellan  
Skynav 5000

Avidyne  
440, 540

ARNAV  
STAR 5000  
FMS 7000  
R5000

Trimble  
2000/2000A  
2100/3000  
3100/2101

Bendix King  
KLN90  
KLN90A  
KLN90B  
KLN89/89B  
KLN900

Garmin  
150, 155, 155XL, 165  
230, 230XL  
300, 300XL  
430, 530  
650, 750

BFGoodrich  
Pronav LNS 6000

IIMorrow  
611, 612, 618  
NMS 2001  
800, 820, 360  
GX50, 55, 60

Transmits Serial Data to:

|             |          |
|-------------|----------|
| ARNAV       | Magellan |
| Bendix/King | Trimble  |
| Garmin      |          |

Note: To find out which particular receiver models have Air data receive capability, contact the manufacturers.



**INSTALLATION MANUAL****FUEL/AIR DATA COMPUTER**

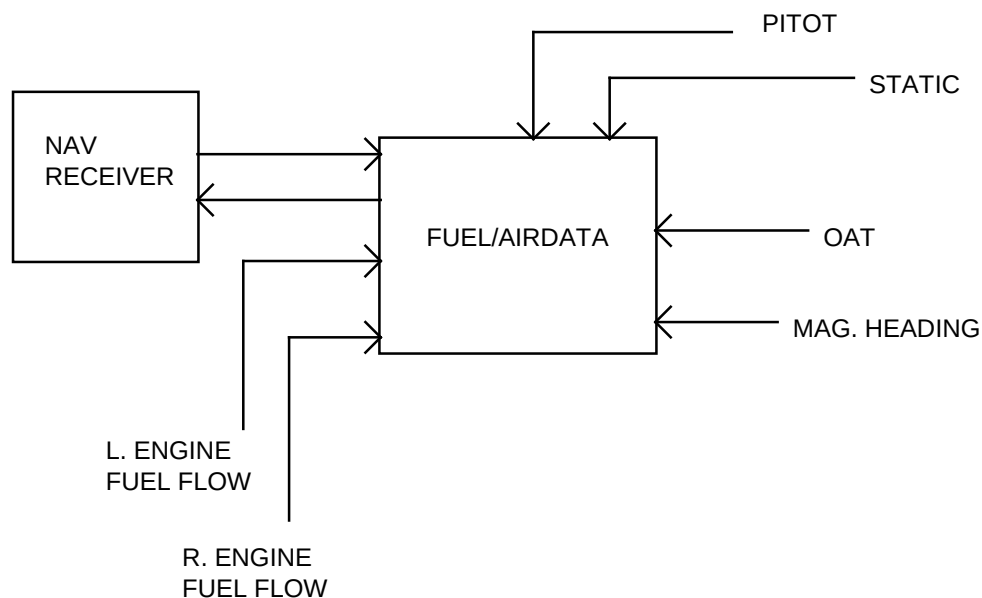
Rev: T

P/N 962820-1(A), 962820-2(A), 962820-3(A)

Page: 1-2

**1.3 System Configuration**

The Fuel/Air data system is a remote mounted box, which is connected to the GPS receiver via serial data. It is also connected to the pitot and static line, OAT probe, fuel flow sensors and the aircraft heading source.

**SYSTEM CONFIGURATION**

**INSTALLATION MANUAL****FUEL/AIR DATA COMPUTER**

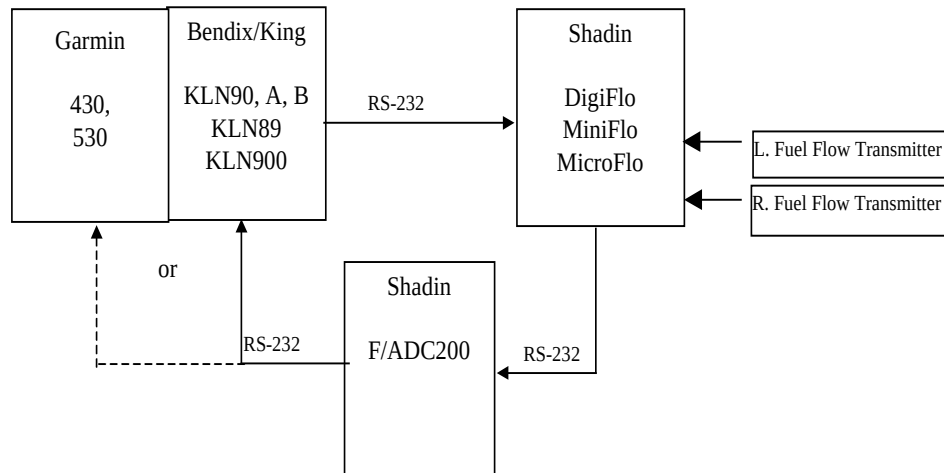
Rev: T

P/N 962820-1(A), 962820-2(A), 962820-3(A)

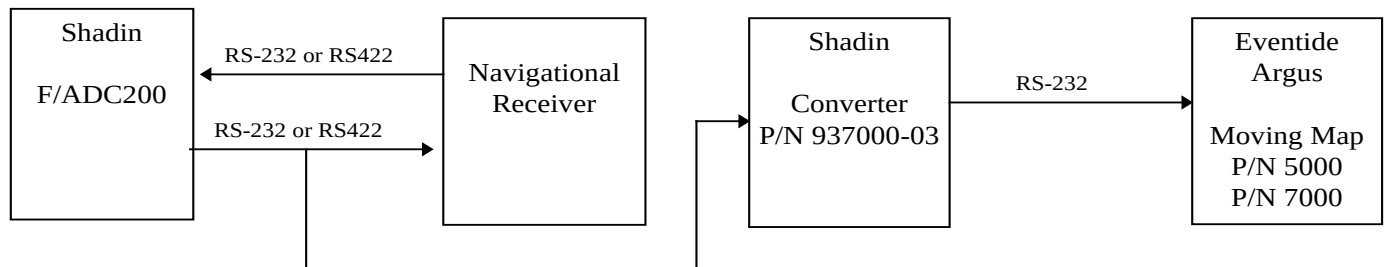
Page: 1-3

**1.4 Fuel Totalizer Configuration**

Shown below is an optional system configuration utilizing a Shadin Fuel Flow Indicator. Note that the only navigational receivers supported in this configuration are the Bendix/King KLN series and the Garmin 430/530. Consult Drawing Number 4028-947 contained in section 11 for installation information on the Bendix/King KLN series, and Drawing Number 4028-B94 for the Garmin 430/530.

**1.5 F/ADC200, Argus Moving Map Configurations.**

Shown below is the system configuration that supports output to a Eventide Argus moving map using the Shadin serial to serial data converter P/N 937000-03. The fuel and Air data are displayed on the Eventide-Argus moving map. Consult Drawing numbers 4070-005 and 4028-948 contained in section 11.



**INSTALLATION MANUAL****FUEL/AIR DATA COMPUTER**

Rev: T

P/N 962820-1(A), 962820-2(A), 962820-3(A)

Page: 2-1

**2.0 FUEL AND AIR DATA SYSTEM SPECIFICATIONS****2.1 Input Data Range**

|           |                              |
|-----------|------------------------------|
| Pitot     | 18 to 350 kt.                |
| Static    | -1000 to 55,000 ft.          |
| OAT       | -60°C to, +60°C              |
| Heading   | 0 - 360°                     |
| Fuel Flow | 1 to 450 GPH Range Selected  |
| K Factor  | 500 to 130000 PPG Continuous |

**2.2 Output Data Range**

| PARAMETER        | Accuracy*      | RANGE              |
|------------------|----------------|--------------------|
| IAS              | <b>Table A</b> | 20 to 350 kts.     |
| P.ALT            | <b>Table B</b> | -1000 to 50000 ft. |
| OAT              | ±1.5°C per TSO | -60°C to +60°C     |
| TRUE HEADING     | ±2°            | 0 - 360 degrees    |
| MAGNETIC HEADING | ±1°            | 0 - 360 degrees    |
| IVS              | <b>Table C</b> | ± 10,000 ft./min.  |
| TAS              | <b>Table A</b> | 20 - 600 kts.      |
| MACH             | <b>Table D</b> | .2 - .95           |
| WIND SPEED       | ±5 kts.        | 5 - 360 kts.       |
| WIND DIRECTION   | ±10°           | 0 - 360 degrees    |
| FUEL FLOW        | ±2%            | 1-450 GPH          |

\* Listed accuracies are after warm-up is complete per the ambient temperatures listed in Section 2.6.1

This table is used as the tolerance for both IAS and TAS. For values between table rows, linearly interpolate between the adjacent table points.

| AIRSPPEED<br>KNOTS | TOLERANCE<br>± KNOTS |
|--------------------|----------------------|
| 50                 | 5.0                  |
| 80                 | 3.0                  |
| 100                | 2.0                  |
| 120                | 2.0                  |
| 150                | 2.0                  |
| 200                | 2.0                  |
| 250                | 2.4                  |
| 300                | 2.8                  |
| 350                | 3.2                  |
| 400                | 3.6                  |
| 450                | 4.0                  |

**Table A - Calibrated Airspeed Tolerance**

**INSTALLATION MANUAL****FUEL/AIR DATA COMPUTER**

Rev: T

P/N 962820-1(A), 962820-2(A), 962820-3(A)

Page: 2-2

This table is used as the tolerance for pressure altitude. Note that for an altitude between points in the tables, the tolerance is linearly interpolated between the adjacent table points.

| <b>ALTITUDE<br/>FEET</b> | <b>TOLERANCE<br/>± FEET</b> |
|--------------------------|-----------------------------|
| 0                        | 25                          |
| 1000                     | 25                          |
| 2000                     | 25                          |
| 3000                     | 25                          |
| 4000                     | 25                          |
| 5000                     | 25                          |
| 8000                     | 30                          |
| 11000                    | 35                          |
| 14000                    | 40                          |
| 17000                    | 45                          |
| 20000                    | 50                          |
| 30000                    | 75                          |
| 40000                    | 100                         |
| 50000                    | 125                         |

**Table B -Pressure Altitude Tolerance**

**INSTALLATION MANUAL****FUEL/AIR DATA COMPUTER**

Rev: T

P/N 962820-1(A), 962820-2(A), 962820-3(A)

Page: 2-3

This table is used as the tolerance for vertical speed. For values between table rows, linearly interpolate between the adjacent table points.

| <b>VERTICAL<br/>SPEED<br/>FPM</b> | <b>TOLERANCE<br/>± FPM</b> |
|-----------------------------------|----------------------------|
| 20000                             | 1000                       |
| 6000                              | 300                        |
| 4000                              | 200                        |
| 2000                              | 100                        |
| 1000                              | 50                         |
| 500                               | 45                         |
| 200                               | 45                         |
| 100                               | 45                         |
| 50                                | 45                         |
| 0                                 | 45                         |
| -50                               | 45                         |
| -100                              | 45                         |
| -200                              | 45                         |
| -500                              | 45                         |
| -1000                             | 50                         |
| -2000                             | 100                        |
| -4000                             | 200                        |
| -6000                             | 300                        |
| -20000                            | 1000                       |

**Table C- Vertical Airspeed Tolerance**

**INSTALLATION MANUAL****FUEL/AIR DATA COMPUTER**

Rev: T

P/N 962820-1(A), 962820-2(A), 962820-3(A)

Page: 2-4

This table is used as the tolerance for MACH Number. For values between table rows, linearly interpolate between the adjacent table points.

| ALTITUDE | TOLERANCE |        |
|----------|-----------|--------|
| FEET     | MACH      | ± MACH |
| 0        | .3        | .012   |
|          | .4        | .012   |
|          | .5        | .010   |
|          | .6        | .0075  |
| 10,000   | .4        | .012   |
|          | .5        | .010   |
|          | .6        | .0075  |
|          | .7        | .005   |
| 20,000   | .4        | .012   |
|          | .5        | .010   |
|          | .6        | .0075  |
|          | .7        | .005   |
| 30,000   | .6        | .0075  |
|          | .7        | .005   |
|          | .80       | .005   |
|          | .90       | .005   |
|          | .95       | .0075  |
| 40,000   | .70       | .005   |
|          | .80       | .005   |
|          | .90       | .005   |
|          | .95       | .0075  |
| 50,000   | .75       | .005   |
|          | .90       | .005   |
|          | .95       | .0075  |
|          | 1.00      | .015   |

**Table D - MACH Tolerance**

**INSTALLATION MANUAL****FUEL/AIR DATA COMPUTER**

Rev: T

P/N 962820-1(A), 962820-2(A), 962820-3(A)

Page: 2-5

**2.3 Dimensions (including mounting rack)**

Size: 6.3"L x 3.5"H x 3.1"W

Weight: 20 oz.

**2.4 Power Requirements**

System Power required: 28 VDC @ 1300 mA 14 VDC @ 900 mA

**2.5 Output Data**

Electric Format: RS-422 or RS-232

**2.5.1 Serial Output Data Parameters****Fuel Group**

Left Fuel Flow

Right Fuel Flow

Fuel Used Total

Total Fuel Used

Fuel Used Right

Fuel Used Left

Fuel Remaining

NM/Gal (ground)

Fuel to Destination

Fuel at Destination

**Air data Group**

Aircraft Type

MACH Number

True Air Speed (TAS)

Indicated Air Speed (IAS)

Wind Direction and Speed

Vertical Speed

Static Air Temperature (SAT)

Total Air Temperature (TAT)

Density Altitude

Drift Angle

Magnetic Heading

Pressure Altitude

Rate of Turn

Note: Not all parameters will be available to all navigational receivers. Contact the manufacturer for display capabilities.

---

**INSTALLATION MANUAL**

---

**FUEL/AIR DATA COMPUTER**

Rev: T

P/N 962820-1(A), 962820-2(A), 962820-3(A)

Page: 2-6

---

**2.6 Limitations****2.6.1 Warm-up time**

The Fuel/Air data System requires a warm-up time that varies with ambient temperature:

|               |                             |
|---------------|-----------------------------|
| 70°C ambient  | 5 minutes warm-up required  |
| 15°C ambient  | 10 minutes warm-up required |
| -20°C ambient | 15 minutes warm-up required |
| -40°C ambient | 20 minutes warm-up required |

If the ADC has been configured for a fuel flow delay, fuel flow and thus fuel used information shall be unavailable at startup for the duration of the selected delay.

**2.6.2 Supplemental equipment**

All Shadin F/ADC(s) and ADC(s) are not designed to replace factory installed Air data fuel flow systems or other gauges. They are not intended to be used as a primary system to drive altimeters or airspeed indicators. The F/ADC fuel section is not a fuel quantity system and therefore reports only what was manually entered by the operator.

**2.6.3 Static Source Error Correction (SSEC),  
Pitot Source Error Correction (PSEC)**

For certain models of aircraft, the Fuel/Air data System will make corrections to pressure altitude by compensating for static source error. For some of these models, the Fuel/Air data System will make corrections to indicated airspeed by compensating for pitot source error.

The System does not provide true and absolute readings for all circumstances. It makes no altitude corrections when the uncorrected IAS is below 100 knots, and it makes no airspeed corrections when the uncorrected IAS is below 150 knots. It does not account for other factors, such as the current useful weight, that contribute to static source error and pitot source error. Rather, the Fuel/Air data System performs calculations based solely on indicated airspeed and pressure altitude. The SSEC / PSEC corrections were derived from specific aircraft data referred to in section 2.6.4. To configure the Shadin F/ADC for a specific aircraft model refer to section 9.



## INSTALLATION MANUAL

## FUEL/AIR DATA COMPUTER

Rev: T

P/N 962820-1(A), 962820-2(A), 962820-3(A)

Page: 2-7

**2.6.4 SSEC/PSEC LISTING****Antonov An-12 (SSEC only)**

Airplane Flight Manual, An-12, Sect. 1 General Information  
 1991, MCA USSR Subsect. 1.5. S&DSECs  
 approved 02/05/1992

Page 9

**Antonov An-24 (SSEC only)**

Airplane Flight Manual, An-24, Sect. 6 Flight Characteristics  
 2001, Ukrainian SAA Subsect. 6.7 S&DSECs  
 approved 03/29/2002

Page 81

**Antonov An-26 (SSEC only)**

Airplane Flight Manual, An-26, Sect. 6 Flight Characteristics  
 2001, Ukrainian SAA Subsect. 6.10 S&DSECs  
 approved 03/29/2002

Page 53

**Antonov An-30 (SSEC only)**

Airplane Flight Manual, An-30, Sect. 6 Airplane Characteristics  
 1982, MCA USSR Subsect. Flight Characteristics  
 approved 12/25/1979

Page 31

**Beechcraft Beechjet-400 (SSEC only)**

Airplane Flight Manual, BeechJet 400, Section 6, Performance  
 FAA approved 1/86 Altitude Correction  
 Revision A9 14/92 Copilot System

Page 6-14

Figure 6-8

**Boeing 707-321B Advanced  
SSEC**

Airplane Flight Manual, Boeing 707, Section IV, Performance  
 FAA approved 3/27/69, D6-1588 Altitude Calibration  
 Revision 2/4/69 Pilot & Copilot

Page 19

FLAPS UP

**PSEC**

Airplane Flight Manual, Boeing 707, Section IV, Performance  
 FAA approved 9/20/66, D6-1588 Airspeed Calibration  
 Pilot & Copilot

Page 18

FLAPS UP

**Cessna 500 (SSEC only)**

Airplane Flight Manual, Cessna/Citation Model 500, Section IV, Performance  
 FAA approved Aug 7/74 Altitude Correction  
 Revision 53 - Dated 11 Dec 85 Pilot & Copilot system

Figure 4-7

Page 4-17.1

**INSTALLATION MANUAL****FUEL/AIR DATA COMPUTER**

Rev: T

P/N 962820-1(A), 962820-2(A), 962820-3(A)

Page: 2-8

**2.6.4 SSEC/PSEC LISTING (Continued)****Cessna 501 (SSEC only)**

Airplane Flight Manual, Cessna/Citation I SP Model 501, Section IV, Performance

|              |                     |            |
|--------------|---------------------|------------|
| FAA approved | Altitude Correction | Figure 4-5 |
|--------------|---------------------|------------|

|          |                        |           |
|----------|------------------------|-----------|
| Original | Pilot & Copilot system | Page 4-15 |
|----------|------------------------|-----------|

NOTE: Uses same Hardware configuration as Cessna 500

**Cessna 525 (SSEC only)**

Airplane Flight Manual Model 525

|                     |              |
|---------------------|--------------|
| Altitude Correction | Rept FT525-4 |
|---------------------|--------------|

|                        |         |
|------------------------|---------|
| Pilot & Copilot system | Page 47 |
|------------------------|---------|

**Cessna 550 (SSEC only)**

Airplane Flight Manual, Cessna/Citation II Model 550, Section IV, Performance

|              |                     |            |
|--------------|---------------------|------------|
| FAA approved | Altitude Correction | Figure 4-5 |
|--------------|---------------------|------------|

|          |                        |           |
|----------|------------------------|-----------|
| Original | Pilot & Copilot system | Page 4-15 |
|----------|------------------------|-----------|

**Cessna 560 (SSEC only)**

Airplane Flight Manual, Model 560, S/N 259 &amp; Below, Section IV, Performance

|              |                     |            |
|--------------|---------------------|------------|
| FAA approved | Altitude Correction | Figure 4-5 |
|--------------|---------------------|------------|

|          |                        |           |
|----------|------------------------|-----------|
| Original | Pilot & Copilot system | Page 4-17 |
|----------|------------------------|-----------|

**Cessna 560 (SSEC only)**

Airplane Flight Manual, Model 560 , S/N 260 &amp; Up, Section IV, Performance

|              |                     |            |
|--------------|---------------------|------------|
| FAA approved | Altitude Correction | Figure 4-5 |
|--------------|---------------------|------------|

|          |                        |           |
|----------|------------------------|-----------|
| 56FMA-00 | Pilot & Copilot system | Page 4-19 |
|----------|------------------------|-----------|

**Cessna Citation S550 (SSEC only)**

Airplanes -0115 through -0160 Except Airplanes Incorporating SBS550-32-7 and Airplanes -0001 through -0114 Incorporating SBS550-32-1 but not SBS550-32-7.

|                                           |                  |
|-------------------------------------------|------------------|
| Section IV - Performance, Standard Charts | Pages 4-17, 4-18 |
|-------------------------------------------|------------------|

|              |                               |            |
|--------------|-------------------------------|------------|
| FAA approved | Altimeter Position Correction | Figure 4-5 |
|--------------|-------------------------------|------------|

|             |                 |
|-------------|-----------------|
| Revision 37 | Pilot & Copilot |
|-------------|-----------------|

**INSTALLATION MANUAL****FUEL/AIR DATA COMPUTER**

Rev: T

P/N 962820-1(A), 962820-2(A), 962820-3(A)

Page: 2-9

**2.6.4 SSEC/PSEC LISTING (Continued)****Douglas DC-8****SSEC**

|                                                        |                        |
|--------------------------------------------------------|------------------------|
| Airplane Manual, Douglas DC-8, Section IV, Performance | Page 20                |
| FAA approved                                           | Altitude Correction    |
| DAC-33161 10/1/66                                      | Pilot & Copilot system |

**PSEC**

|                                                        |                        |
|--------------------------------------------------------|------------------------|
| Airplane Manual, Douglas DC-8, Section IV, Performance | Page 11                |
| FAA approved                                           | Airspeed Correction    |
| DAC-33161 10/1/66                                      | Pilot & Copilot system |

**Falcon 10 (SSEC only)**

|                                                                  |                 |
|------------------------------------------------------------------|-----------------|
| Airplane Flight Manual, Section 6. Performance, 7 Position Error | Page 6-27       |
| FAA approved 10/17/73                                            | Position Error  |
| Revision 14, 6/6/78                                              | Pilot & Copilot |

**Falcon 20-C, D, E (SSEC only)**

|                                          |                     |
|------------------------------------------|---------------------|
| Maintenance Instruction Manual, 34-18-03 | Page A48            |
| Sept 1/77                                | Altitude Correction |
| CS-143                                   | Copilot system      |

**Falcon 20-F (SSEC only)**

|                                          |               |
|------------------------------------------|---------------|
| Maintenance Instruction Manual, 34-18-03 | Section 5     |
| DTM30528                                 | Subsection 20 |
| DGAC Approved                            | Page 4        |

---

**INSTALLATION MANUAL**


---

**FUEL/AIR DATA COMPUTER**

Rev: T

P/N 962820-1(A), 962820-2(A), 962820-3(A)

Page: 2-10

**2.6.4 SSEC/PSEC LISTING (Continued)****Falcon 50****SSEC**

Airplane Flight Manual, Section 5. Performance Page 5.25.2

DGAC approved Copilot (for A/C equipped with one ADC)

Revision 24

**PSEC**

Airplane Flight Manual, Section 5. Performance Page 5.25.2

DGAC approved Pilot (normal) and Copilot MACH Indicators

Revision 24

**LearJet 24 (SSEC only)**

Airplane Manual, LearJet Model 24, Section IV, Performance

FAA approved 3/17/66 Altitude Correction Figure 4-10

Revised 7/19/68 Pilot &amp; Copilot system Page 4-16

**LearJet 25D (SSEC only)**

Airplane Manual, LearJet 25D/F AFM, Performance

FAA approved 10/14/86 Altitude Correction Figure 5-10

FM-018 Release A Copilot system Page 5-18

**LearJet 35 (SSEC only)**

Flight Manual, LearJet 35, Normal System, Flaps up, Gear up Page 5-18

FAA approved, 4/30/76 Altitude Position Correction Figure 5-10

Reissued 2/25/81 Pilot's Altimeter- STBY &amp; Copilot's Altimeter

**LearJet 55 (SSEC only)**

Gates LearJet 55, APM, Performance Data, Flaps up, Gear up Page 5-20

FAA approved, 3-17-81 Altitude Position Correction Figure 5-11

Change 13

**Lockheed Jetstar (SSEC only)**

Airplane Flight Manual, Performance Data, Weight = 32,000 Lb., Clean Configuration: Leading

Edge Flaps up, Trailing Edge Flaps up, Landing Gear up Page 4-25

FAA approved, 12/14/76 Altimeter Installation Correction Figure 4-15

## INSTALLATION MANUAL

## FUEL/AIR DATA COMPUTER

Rev: T

P/N 962820-1(A), 962820-2(A), 962820-3(A)

Page: 2-11

**2.6.4 SSEC/PSEC LISTING (Continued)****Mitsubishi MU-300 (SSEC only)**

Airplane Flight Manual, Diamond IA, Section 6, Performance

FAA approved Jan 11/84

Altitude Correction

Figure 6-8

Copilot system

Page 6-20

**Raytheon Hawker HS-125-3A (SSEC only)**

Airplane Manual,

Section 5

Document No. H.S.1.10

Static Position Error

Figure 5-4

CAA Approved

Correction to Altimeter

Page 13

**Raytheon Hawker HS125-700A (SSEC only)**

125 Crew Manual, First Officer, Section 2, Flaps Retracted

Page 2-30

Static Position Correction to Altimeter

Figure 6

Revision :G, 4/77

**Sabreliner 60 (SSEC only)**

Sabreliner Pilot's Manual, SR 75-064, Weight = 16,000 Lb.

9/1/76

Altitude Calibration

Figure 7-2

**Sabreliner 65 (SSEC only)**

Pilots Manual, SR-78-028

Altitude Correction

Figures 7-1 through 7-5

Pilot &amp; Copilot system

265-65-7-31,32A,33

**Westwind 1124A (SSEC only)**

Airplane Flight Manual, 1124A , Section V, Performance

CAA approved

Altitude Correction

Figures 5-13, Flaps 0

Copilot system

Pages V-25

NOTE: Gross Weight averaged at 18,750 lbs.

**Yak-40 (SSEC only)**

Airplane Flight Manual, Sect. 7.1.3.

Page 7

Yak-40, 1995

Altitude correction

---

**INSTALLATION MANUAL**

---

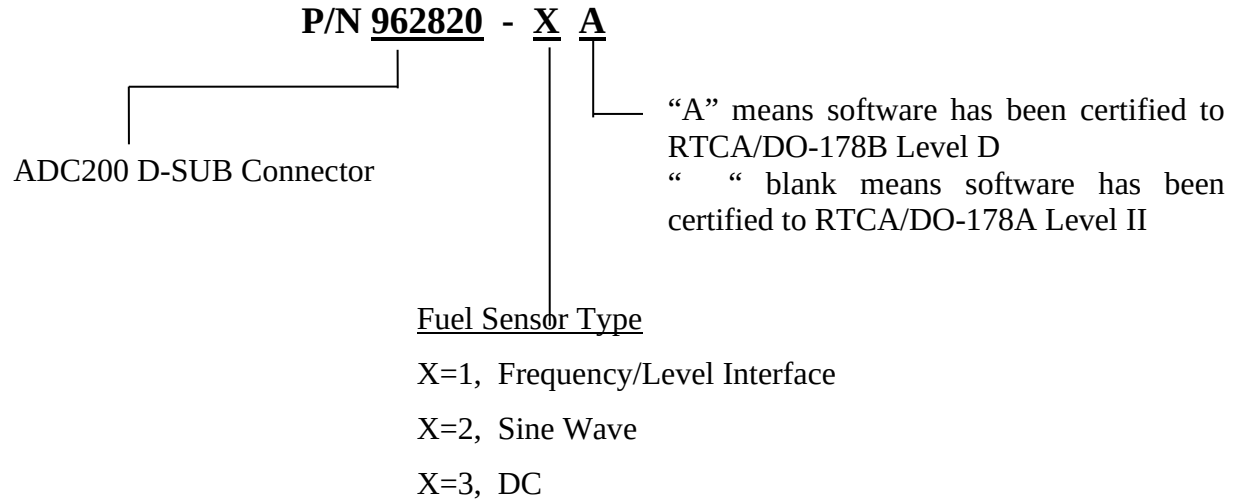
**FUEL/AIR DATA COMPUTER**

Rev: T

P/N 962820-1(A), 962820-2(A), 962820-3(A)

Page: 2-12

---

**2.7 Part Numbering Scheme**

---

**INSTALLATION MANUAL**


---

**FUEL/AIR DATA COMPUTER**

Rev: T

P/N 962820-1(A), 962820-2(A), 962820-3(A)

Page: 2-13

**2.8 Electrical Interface Specifications**

The specifications for the heading and fuel flow interfaces are listed in this section.

**2.8.1 Heading Interface**

The heading interface follows the ARINC 407 standard (line voltage of 11.8 Vrms).

| Synchro Leg | Input Impedance |
|-------------|-----------------|
| H           | 10 kohm         |
| X           | 17 kohm         |
| Y           | 17 kohm         |

**2.8.2 Fuel Flow Interfaces**

There are three basic types of fuel flow interfaces supported. The interface type is defined in the ADC2000 part number. Refer to section 2.7 for the part numbering scheme.

**2.8.2.1 Digital Fuel Flow Interface**

There are two possible installations for the digital fuel flow interface, the first is that the ADC is connected to a dedicated fuel flow transmitter, and the second is that the ADC is connected into a fuel flow system.

Dedicated Transmitter

|                                     |         |
|-------------------------------------|---------|
| Fuel Flow Interface Input Impedance | 47 kohm |
|-------------------------------------|---------|

Shared Transmitter

Under normal operating conditions the voltage swing (the signal amplitude) can be calculated using  $V_s = [R/(R + 47\text{ k})] * 5\text{ Vdc} - 0.5\text{ Vdc}$ , where R is the input impedance of the aircraft fuel flow indicator.

For example with an input impedance  $R = 1\text{ Mohm}$ , the voltage swing  $V_s = 4.27\text{ Vdc}$

With the fuel flow information encoded in frequency and not amplitude, the loading effects do not produce an error provided the aircraft indicator can detect the signal transitions.

---

**INSTALLATION MANUAL**

---

**FUEL/AIR DATA COMPUTER**

Rev: T

P/N 962820-1(A), 962820-2(A), 962820-3(A)

Page: 2-14

---

**2.8.2.2 Sine Wave Fuel Flow Interface**

The interface source signal amplitude varies with frequency. Listed in the table below are the input impedance vs. peak to peak input voltages of the ADC2000 under normal operating conditions.

| Input Impedance | Input Voltage                               |
|-----------------|---------------------------------------------|
| 2 Mohm          | Input voltage less than or equal to 1.0 Vpp |
| 24.5 kohm       | Input voltage greater than 1.0 Vpp          |

Maximum Input Voltage                      10 Vpp

**2.8.2.3 DC Voltage Fuel Flow Interface**

The DC voltage fuel flow interface has a differential input. The specifications under normal operating conditions are listed below.

Positive input                      greater than 100 Mohm  
Negative input                      greater than 100 Mohm

Maximum Input Voltage                      10.2 Vdc

**2.9 Statistical Specifications****2.9.1 Mean Time Between Failures**

MTBF:                      17,660 hours



---

**INSTALLATION MANUAL**

---

**FUEL/AIR DATA COMPUTER**

Rev: T

P/N 962820-1(A), 962820-2(A), 962820-3(A)

Page: 3-1

---

**3.0 CERTIFICATION****TSO -C106, -C44a**Environmental Categories RTCA/DO-160B

|                               |                  |
|-------------------------------|------------------|
| Temp. ALT                     | F2               |
| Temp. Variation               | B                |
| Humidity                      | A                |
| Shock & Vibration             | P, K, S, M, N, O |
| Magnetic Effect               | B                |
| Power Input                   | B                |
| Voltage Spike                 | B                |
| AF Conducted Susceptibility   | B                |
| Induced Signal Susceptibility | B                |
| RF Susceptibility             | A                |
| RF Emission                   | B                |

Software Certification

P/N 962820-1, 962820-2, and 962820-3 conforms to level II as defined by RTCA/DO-178A.

P/N 962820-1A, 962820-2A, and 962820-3A conforms to level D as defined by RTCA/DO-178B.

**INSTALLATION MANUAL****FUEL/AIR DATA COMPUTER**

Rev: T

P/N 962820-1(A), 962820-2(A), 962820-3(A)

Page: 4-1

---

**4.0 PLACING AN ORDER**

Please know the aircraft year and model number, its serial number, and the engine make and model number when you call to place orders. Information on the fuel flow system previously installed in the aircraft and any communication interface (RS-232 or RS-422) information may also prove useful.

We may request a wiring diagram of the aircraft's fuel flow system and transducer and/or K-factors.

---

**INSTALLATION MANUAL**

---

**FUEL/AIR DATA COMPUTER**

Rev: T

P/N 962820-1(A), 962820-2(A), 962820-3(A)

Page: 5-1

---

**5.0 INSTALLATION PROCEDURE****5.1 General**

The conditions and tests required for TSO approval of this article are minimum performance standards. It is the responsibility of those installing this article either on or within a specific type or class of aircraft to determine that the aircraft installation conditions are within the TSO standards. TSO articles must have separate approval for installation in an aircraft. The article may be installed only if performed under 14 CFR part 43 or the applicable airworthiness requirements.

All work must conform to AC 43.13-1B; latest release.

**5.2 F/ADC Location Selection**

The Fuel Air data Computer should be mounted in a dry, temperature stable location with enough distance from motors, pulse generating equipment, relays and cables carrying high DC or AC current to avoid interference with low level signals of the OAT and fuel flow.

The equipment may be installed in non-pressurized and non-controlled temperature locations.

In considering the location, keep in mind that the F/ADC requires signals from the fuel flow, the OAT probe, heading system and the pitot and static lines. Placement in the front section of the aircraft is favorable, in order to avoid running all of these signals to the tail of the aircraft.

**5.3 Mounting the F/ADC**

The computer should be mounted per Drawing 4028-604, -605, -606, and Drawing 4028-411, using the recommended hardware. Any orientation is acceptable. Make sure that the computer is not the lowest point in the pitot and static system, to reduce the chances of collecting moisture or water in it. Form a water trap, if necessary.

**INSTALLATION MANUAL****FUEL/AIR DATA COMPUTER**

Rev: T

P/N 962820-1(A), 962820-2(A), 962820-3(A)

Page: 5-2

**5.4 Mounting the OAT Probe**

1. Refer to Drawing 4028-005 and OAT Probe Assy Kit P/N 681201-1. Use the supplied stiffener to support the probe. Keep the probe away from transmitting antennas and static ports of autopilots to avoid interference.
2. Refer to Drawing 4028-607: +5V is supplied to the OAT probe from (red wire) J1:15. The OAT signal is the white (or black) wire from J1:14.
3. The sun shield must be installed for proper indication of OAT.
4. For single engine installation, avoid mounting the OAT probe on the belly of the aircraft to avoid erroneous reading due to the presence of hot exhaust gases.
5. Below is an OAT °C to microampere conversion chart. The amperage can be measured by connecting an ammeter in series between the signal wire of the OAT probe and the ADC200. This information is provided for trouble shooting purposes only.

| OAT °C | Input $\mu$ A |  | OAT °C | Input $\mu$ A |  | OAT °C | Input $\mu$ A |  | OAT °C | Input $\mu$ A |
|--------|---------------|--|--------|---------------|--|--------|---------------|--|--------|---------------|
| -60    | 213           |  | -20    | 253           |  | +20    | 293           |  | +60    | 333           |
| -50    | 223           |  | -10    | 263           |  | +30    | 303           |  |        |               |
| -40    | 233           |  | 0      | 273           |  | +40    | 313           |  |        |               |
| -30    | 243           |  | +10    | 283           |  | +50    | 323           |  |        |               |

1°C = 1  $\mu$ A

---

**INSTALLATION MANUAL****FUEL/AIR DATA COMPUTER**

Rev: T

P/N 962820-1(A), 962820-2(A), 962820-3(A)

Page: 5-3

---

**5.5 Connection to the Fuel Flow Sensor**

1. If the aircraft is not equipped with a fuel flow source, refer to the STC covering the installation of the fuel flow transducer on the engine.
  2. When connecting to any fuel transducer, Shadin recommends using a 3 conductor, 22 gauge, shielded wire with the shield terminated at the Air Data only.
  3. Note that for single engines all fuel flow types should use left side inputs only.
  4. \*Install the transducers according to the engine STC, using Drawing 4028-608 (Freq. Option) to connect the fuel flow transducer to the computer.
  5. \*If the aircraft is equipped with a digital fuel flow transducer (P/N 680501), use Drawing 4028-608 (High-Level Option) and the STC drawing covering the installation.
  6. Before hooking to an existing fuel system in a turbine or jet application, consult all installation drawings contained in this manual.
  7. \*If the aircraft is equipped with a DC fuel flow system, use Drawing 4028-608 (DC Fuel Flow Option) and the STC covering the installation.
  8. \*If the aircraft is equipped with a sine wave pickup coil type of fuel flow transducer, use Drawing 4028-608 (Sine Wave Signal). Use the Converter, P/N 631201. Note that if this is a new installation, use part number 962820-2(A) ADC200.
  9. Install the sine to square converter, P/N 631201, between the fuel flow transducer and the F/ADC as depicted in 4028-608 and 4005-642.
  10. Make sure that the system is initialized with the proper transducer K factor for a digital or sine systems and with the proper airframe make and model for the DC fuel flow systems. See the attached tables in section 10.0.
- \* Consult section 11 for specific aircraft installation wiring drawings.

**INSTALLATION MANUAL****FUEL/AIR DATA COMPUTER**

Rev: T

P/N 962820-1(A), 962820-2(A), 962820-3(A)

Page: 5-4

**5.6 Connection to the Heading Source**

The system is designed to interface with any ARINC-407 heading system (X,Y,Z) with no effect on the heading system or the bootstrap.

| XYZ<br>Heading<br>ARINC<br>407 | FUEL<br>Air<br>Data<br>J1 | Collins<br>328A-2A<br>2P1 | Collins<br>HSI331A<br>P1 | Collins<br>MCS<br>65<br>P1 | Collins<br>328A-5 | King<br>KI525A<br>P2 | King<br>KSG105<br>P1 | Sperry<br>Gyro-<br>syn<br>Comp.<br>P1 | Sigma-<br>Tek<br>DG | Sandel<br>SN3308 |    |
|--------------------------------|---------------------------|---------------------------|--------------------------|----------------------------|-------------------|----------------------|----------------------|---------------------------------------|---------------------|------------------|----|
|                                |                           |                           |                          |                            |                   |                      |                      |                                       |                     | P1               | P2 |
| X                              | 5                         | 11                        | S                        | 25                         | 32                | s                    | t                    | L                                     | A                   |                  | 25 |
| Y                              | 4                         | 4                         | T                        | 40                         | 22                | v                    | p                    | M                                     | B                   |                  | 6  |
| Z                              | 7                         | 3                         | U                        | 24                         | 12                | t                    | k                    | K                                     | D                   | 4                |    |
| H                              | 6                         | 26                        | V                        | 6                          | 53                | r                    | c                    | H                                     | E                   |                  | 4  |
| C                              | 7                         | 22                        | W                        | 5                          | 57                | u                    | f                    | J                                     | H                   | 4                |    |

The C wire (AC common) and the Z wire must be connected together at the source (bootstrap).

**INSTALLATION MANUAL****FUEL/AIR DATA COMPUTER**

Rev: T

P/N 962820-1(A), 962820-2(A), 962820-3(A)

Page: 5-5

**5.7 Connection to the Pitot and Static Lines**

The pitot static line should be cut and a tee installed, to tap into these lines. Use the appropriate type of fittings to match the type installed in the aircraft. Refer to CFR part 43, appendix E for approved practices in installing and verifying these connections.

*PITOT/STATIC adapter helpful hints*

To make an adapter for the Shadin ADC200, the following parts could be used. It is recommended to use all aluminum fittings.

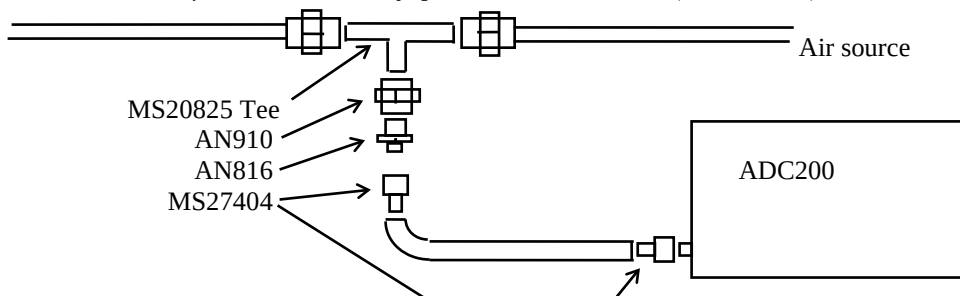
Existing Pitot/Static lines → AN910-1D → AN816-2D → #2 Hose(with female fittings)

| AN910 DASH NUMBER |             | PIPE<br>SIZE |
|-------------------|-------------|--------------|
| BRASS             | ALUM. ALLOY |              |
| -1                | -1D         | 1/8"         |
| -2                | -2D         | 1/4"         |
| -3                | -3D         | 3/8"         |
| -4                | -4D         | 1/2"         |
| -6                | -6D         | 3/4"         |
| -8                | -8D         | 1"           |

| AN816 DASH NUMBER |             | TUBE<br>O. D. | PIPE<br>THREAD |
|-------------------|-------------|---------------|----------------|
| STEEL             | ALUM. ALLOY |               |                |
| -2                | -2D         | 1/8"          | 1/8"           |
| -3                | -3D         | 3/16"         | 1/8"           |
| -4                | -4D         | 1/4"          | 1/8"           |
| -5                | -5D         | 5/16"         | 1/8"           |
| -6                | -6D         | 3/8"          | 1/4"           |
| -8                | -8D         | 1/2"          | 3/8"           |
| -10               | -10D        | 5/8"          | 1/2"           |
| -12               | -12D        | 3/4"          | 3/4"           |
| -16               | -16D        | 1"            | 1"             |

| MS20825 TEE |             | TUBE<br>O. D. | PIPE<br>THREAD |
|-------------|-------------|---------------|----------------|
| STEEL       | ALUM. ALLOY |               |                |
| -2          | -2D         | 1/8"          | 1/8"           |
| -3          | -3D         | 3/16"         | 1/8"           |
| -4          | -4D         | 1/4"          | 1/8"           |
| -5          | -5D         | 5/16"         | 1/8"           |

HOSE: Stratoflex 193-2 or Aeroquip 306-2 with MS27404 (P/N 311-2D) on each end.



---

**INSTALLATION MANUAL**

---

**FUEL/AIR DATA COMPUTER**

Rev: T

P/N 962820-1(A), 962820-2(A), 962820-3(A)

Page: 5-6

---

**5.8 Connection to the Navigation Management System**

1. Use the appropriate installation wiring diagram (4028-943 or -946) to connect the Fuel Air data Computer's Connector J2 to the navigation management system.
2. A 2 amp. circuit breaker should be used for powering the system. Mark the C/B "F/ADC" by engraving, painting or other approved method.
3. Keep the cables away from power cables, DME and transponder cables.
4. Refer to the specific Nav Receiver Installation Manuals for details.

**5.9 Post Installation Checkout**

1. The pitot and static system must be checked for leaks.
2. Operate the Navigation Management System; select the altitude and airspeed pages. Use the static and pitot test system to check the accuracy of the readout in the Navigation Management System pages.
3. Select heading page. Slew compass through 360°. The error should be within  $\pm 1^\circ$ .
4. Select the OAT page. Compare to the reported ambient temperature. The error should be  $\pm 2^\circ\text{C}$ .
5. Run the engines and select the fuel flow page. Compare the fuel flow readout with the engine manufacturer's fuel flow charts under the ambient temperature and pressure conditions.



---

**INSTALLATION MANUAL****FUEL/AIR DATA COMPUTER**

Rev: T

P/N 962820-1(A), 962820-2(A), 962820-3(A)

Page: 6-1

---

**6.0 OPERATING INSTRUCTIONS**

1. Power the avionics DC buss and the Navigation Management System.
2. After the warm-up period density altitude and PALT are available. IAS will be available but will be out of range until actual airspeed is available. Winds aloft will be available if IAS > 40 Kts and magnetic heading is within 40° of magnetic track.
3. Fuel Flow, Fuel Used, Fuel Remaining, Heading and OAT will be available after power-up.
4. Refer to the specific Nav Receiver Operator's Manual for page selection of various data.

**INSTALLATION MANUAL****FUEL/AIR DATA COMPUTER**

Rev: T

P/N 962820-1(A), 962820-2(A), 962820-3(A)

Page: 7-1

---

**7.0 INITIALIZATION**

1. The system requires initialization of K factor for fuel flow transducers or aircraft model for DC fuel flow sensors. Refer to Table 1 **analog** for fuel flow and Table 2 or Table 3 for **digital or sine** fuel flow.
2. Refer to the specific Navigational Receiver Operator Manuals for the serial port set up.

**INSTALLATION MANUAL****FUEL/AIR DATA COMPUTER**

Rev: T

**P/N 962820-1(A), 962820-2(A), 962820-3(A)**Page: 8-1

---

**8.0 MAJOR COMPONENTS OF THE SYSTEM**

1. Nav Receiver Input/Output
2. Fuel/Air data Computer
3. Outside Air Temperature Probe, P/N 681201( )

**INSTALLATION MANUAL****FUEL/AIR DATA COMPUTER**

Rev: T

P/N 962820-1(A), 962820-2(A), 962820-3(A)

Page: 9-1

---

**9.0 CONFIGURING THE AIR DATA**

Part number 962820-X(A) (X= 1 or 2 or 3) Air data Computer needs to be configured to program it for the particular installation. The procedures contained in this Installation Manual are for software versions 93.00.16 to 93.00.29, 93.00.51 to 93.00.71, 93.00.77, and 93.00.82 and above. There are two methods to accomplish this task. The first method is to follow the procedures as set forth in the 'ADSETUPF User Manual'. The second method is to manually enter the information by performing a 'Loop-Back' procedure.

**9.1 Configuring with 'ADSETUP User Manual'**

The 'ADSETUPF User Manual' is a configuration utility that allows setting the ADC configuration by running a program on a PC. The PC is connected to the unit via the serial communication port. Following the steps as set forth in the user manual allow the Air data to be configured. See the 'ADSETUPF User Manual' for more details.

**INSTALLATION MANUAL****FUEL/AIR DATA COMPUTER**

Rev: T

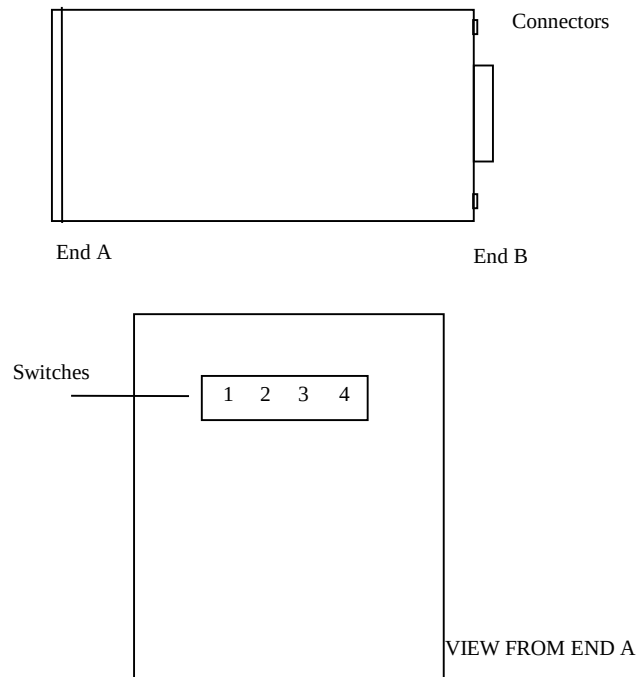
P/N 962820-1(A), 962820-2(A), 962820-3(A)

Page: 9-2

**9.2 Configuring Manually (Loop-Back)**

The switches that are available from the backside of the unit need to be set to the appropriate positions as determined by the switch settings listed below. After the correct switch positions have been selected, the unit is powered using the 'Loop-Back' harness (consult drawing number 4028-944 contained in section 11). The purpose of the 'loop back' harness is to tie the RS-232 transmit and receive ports together. This allows the software, when the unit is powered on, to read the switch positions. Switch 1 is set to different positions to select the separate stages that the loopback is performing. There are 5 different 'loopback' procedures. Use 'loopback' procedure 1 for Software Versions 93.00.16-93.00.29. Use 'loopback' procedure 2 for software versions 93.00.51-93.00.71. Use 'loopback' procedure 3 for software versions 93.00.77. Use 'loopback' procedure 4 for software version 93.00.82 and above. Note that procedure 1 has 2 stages. Procedure 2, and 3 have 4 stages and procedure 4 has 5 stages. Remember to cycle power between stages and that the F/ADC is to be powered on for 1 minute for each stage.

The following figure shows the approximate switch positions:



## INSTALLATION MANUAL

## FUEL/AIR DATA COMPUTER

Rev: T

P/N 962820-1(A), 962820-2(A), 962820-3(A)

Page: 9-3

**Loop-back Procedure 1 for Software Version 93.00.16 - 93.00.29****Stage 0 Loopback Configuration:**

Switch 1 is set to 0 to indicate that the stage 0 loopback is being performed.

| <u>SWITCH 2</u> | <u>Fuel Units and Engine Type:</u> |               |   |
|-----------------|------------------------------------|---------------|---|
| 0               | - Gallons                          | Single Engine |   |
| 1               | - Liters                           | "             | " |
| 2               | - Lbs 5.8                          | "             | " |
| 3               | - Lbs 6.71                         | "             | " |
| 4               | - Kilograms                        | "             | " |
| 5               | - Lbs 6.5                          | "             | " |
| 6               | - Lbs 6.3                          | "             | " |
| 7               | - (not used)                       | "             | " |
| 8               | - Gallons                          | Twin Engine   |   |
| 9               | - Liters                           | "             | " |
| A               | - Lbs 5.8                          | "             | " |
| B               | - Lbs 6.71                         | "             | " |
| C               | - Kilograms                        | "             | " |
| D               | - Lbs 6.5                          | "             | " |
| E               | - Lbs 6.3                          | "             | " |
| F               | - (DO NOT USE)                     |               |   |

| <u>SWITCH 3</u> | <u>9600 BAUD Loran Input Type:</u>                       |  |  |
|-----------------|----------------------------------------------------------|--|--|
| 0               | - Trimble                                                |  |  |
| 1               | - ARNAV                                                  |  |  |
| 2               | - Bendix or IIMorrow Apollo NMS2001, 800, 820            |  |  |
| 3               | - Garmin                                                 |  |  |
| 4               | - Northstar                                              |  |  |
| 5               | - Foster                                                 |  |  |
| 6               | - IIMorrow 611, 612 and 618                              |  |  |
| 7               | - Shadin Flow Meter                                      |  |  |
| 8-E             | - (DO NOT USE)                                           |  |  |
| F               | - Use this position to make selection on <u>SWITCH 4</u> |  |  |

| <u>SWITCH 4</u> | <u>Other Loran Input Type:</u>      |  |  |
|-----------------|-------------------------------------|--|--|
| 0               | - Northstar, 1200 BAUD              |  |  |
| 1               | - Foster, 1200 BAUD                 |  |  |
| 2               | - IIMorrow 611, 612, 618; 1200 BAUD |  |  |
| 3-F             | - (DO NOT USE)                      |  |  |

---

**INSTALLATION MANUAL****FUEL/AIR DATA COMPUTER**

Rev: T

P/N 962820-1(A), 962820-2(A), 962820-3(A)

Page: 9-4

---

**Stage 1 Loopback Configuration:**

Switch 1 is set to 1 to indicate that the stage 1 loopback is being performed.

**SWITCH 2**     **PALT Correction (static pressure correction by model):**

- 0     -   None
- 1     -   MU-300
- 2     -   Cessna Citation 501
- 3     -   Cessna 525
- 4     -   Cessna 550
- 5-F   -   (DO NOT USE)

**SWITCH 3**     **Loran Output Type:**

- 0     -   Format Z - Trimble and Garmin
- 1     -   Format X - ARNAV
- 2     -   Generic
- 3     -   Surveyor
- 4     -   Bendix C - Bendix/King and F/ADC without Baro Interface
- 5     -   Bendix D - Bendix/King and F/ADC with Baro Interface
- 6     -   Shadin S - IIMorrow GX50, 55, 60
- 7-F   -   (DO NOT USE)

**SWITCH 4**     **Altimeter Selection for Baro DC Input:**

- 0     -   None        (Use this selection)
- 1     -   Type 1       (Not available)
- 2     -   Type 2       (Not available)
- 3     -   Type 3       (Not available)
- 4     -   Type 4       (Not available)
- 5     -   Type 5       (Not available)
- 6     -   Type 6       (Not available)
- 7     -   Type 7       (Not available)
- 8-F   -   (not used)

---

**INSTALLATION MANUAL**


---

**FUEL/AIR DATA COMPUTER**

Rev: T

P/N 962820-1(A), 962820-2(A), 962820-3(A)

Page: 9-5

---

**Loopback Procedure 2 for Software Version 93.00.51-93.00.71**


---

**Stage 0 Loopback Configuration:**

Switch 1 is set to 0 to indicate that the stage 0 loopback is being performed.

| <u>SWITCH 2</u> | <u>Fuel Units and Engine Type:</u> |              |               |
|-----------------|------------------------------------|--------------|---------------|
| 0               | -                                  | Gallons      | Single Engine |
| 1               | -                                  | Liters       | " "           |
| 2               | -                                  | Lbs 5.8      | " "           |
| 3               | -                                  | Lbs 6.71     | " "           |
| 4               | -                                  | Kilograms    | " "           |
| 5               | -                                  | Lbs 6.5      | " "           |
| 6               | -                                  | Lbs 6.3      | " "           |
| 7               | -                                  | (not used)   | " "           |
| 8               | -                                  | Gallons      | Twin Engine   |
| 9               | -                                  | Liters       | " "           |
| A               | -                                  | Lbs 5.8      | " "           |
| B               | -                                  | Lbs 6.71     | " "           |
| C               | -                                  | Kilograms    | " "           |
| D               | -                                  | Lbs 6.5      | " "           |
| E               | -                                  | Lbs 6.3      | " "           |
| F               | -                                  | (DO NOT USE) |               |

| <u>SWITCH 3</u> | <u>9600 BAUD Loran Input Type:</u> |                                                        |
|-----------------|------------------------------------|--------------------------------------------------------|
| 0               | -                                  | Trimble                                                |
| 1               | -                                  | ARNAV                                                  |
| 2               | -                                  | Bendix or IIMorrow Apollo NMS2001, 800, 820            |
| 3               | -                                  | Garmin                                                 |
| 4               | -                                  | Northstar                                              |
| 5               | -                                  | Foster                                                 |
| 6               | -                                  | IIMorrow 611, 612 and 618                              |
| 7               | -                                  | Shadin Flow Meter                                      |
| 8-E             | -                                  | (DO NOT USE)                                           |
| F               | -                                  | Use this position to make selection on <u>SWITCH 4</u> |

| <u>SWITCH 4</u> | <u>Other Loran Input Type:</u> |                                   |
|-----------------|--------------------------------|-----------------------------------|
| 0               | -                              | Northstar, 1200 BAUD              |
| 1               | -                              | Foster, 1200 BAUD                 |
| 2               | -                              | IIMorrow 611, 612, 618; 1200 BAUD |
| 3-F             | -                              | (DO NOT USE)                      |



---

**INSTALLATION MANUAL**

---

**FUEL/AIR DATA COMPUTER**

Rev: T

P/N 962820-1(A), 962820-2(A), 962820-3(A)

Page: 9-6

---

**Stage 1 Loopback Configuration:**

Switch 1 is set to 1 to indicate that the stage 1 loopback is being performed.

**SWITCH 2**    **OAT Probe Type:**

- 0    -   Shadin OAT Probe
- 1    -   ARINC 575 (DO NOT USE)
- 2    -   Rosemount 500  $\Omega$  (DO NOT USE)
- 3-F   -   (DO NOT USE)

**SWITCH 3**    **Loran Output Type:**

- 0    -   Format Z - Trimble and Garmin
- 1    -   Format X - ARNAV
- 2    -   Generic
- 3    -   Surveyor
- 4    -   Bendix C - Bendix/King and F/ADC without Baro Interface
- 5    -   Bendix D - Bendix/King and F/ADC with Baro Interface
- 6    -   Shadin S - IIMorrow GX50, 55, 60
- 7    -   Bendix B – (fuel only)
- 8-F   -   (DO NOT USE)

**SWITCH 4**    **Altimeter Selection for Baro DC Input:**

- 0    -   None        (Use this selection)
- 1    -   Type 1       (Not Available)
- 2    -   Type 2       (Not Available)
- 3    -   Type 3       (Not Available)
- 4    -   Type 4       (Not Available)
- 5    -   Type 5       (Not Available)
- 6    -   Type 6       (Not Available)
- 7    -   Type 7       (Not Available)
- 8    -   (DO NOT USE)
- 9    -   Type 9       (Not Available)
- A-F   -   (DO NOT USE)

**INSTALLATION MANUAL****FUEL/AIR DATA COMPUTER**

Rev: T

P/N 962820-1(A), 962820-2(A), 962820-3(A)

Page: 9-7

**Stage 2 Loopback configuration:**

Switch 1 is set to 2 to indicate that the stage 2 loopback is being performed.

**SWITCH 2    Fuel Filter Type:**

- 0        -    Injector
- 1        -    Carburetor

| <b><u>SWITCH 3 AND SWITCH 4</u></b> |     | <b><u>CORRECTION For SSEC/PSEC Select:</u></b> | <b><u>F/ADC Software Version:</u></b> |
|-------------------------------------|-----|------------------------------------------------|---------------------------------------|
| 0                                   | 0   | - No correction                                | ALL                                   |
| 0                                   | 1   | - MITSUBISHI MU-300                            | 93.00.29 and up                       |
| 0                                   | 2   | - CESSNA CITATION 500/501                      | 93.00.29 and up                       |
| 0                                   | 3   | - CESSNA 525                                   | 93.00.29 and up                       |
| 0                                   | 4   | - CESSNA 550                                   | 93.00.29 and up                       |
| 0                                   | 5   | - Citation 560 SN <=259                        | 93.00.29 and up                       |
| 0                                   | 6   | - Citation 560 SN >=260                        | 93.00.29 and up                       |
| 0                                   | 7   | - Citation 650                                 | 93.00.29 and up                       |
| 0                                   | 8   | - Sabreliner 65                                | 93.00.29 and up                       |
| 0                                   | 9   | - WestWind 1124A                               | 93.00.29 and up                       |
| 0                                   | A   | - LearJet 24                                   | 93.00.29 and up                       |
| 0                                   | B   | - Raytheon Hawker HS 125-3A                    | 93.00.29 and up                       |
| 0                                   | C   | - Falcon 20-F                                  | 93.00.29 and up                       |
| 0                                   | D   | - Falcon 20-C, D, E                            | 93.00.29 and up                       |
| 0                                   | E   | - LearJet 25D                                  | 93.00.29 and up                       |
| 0                                   | F   | - Douglas DC-8                                 | 93.00.58 and up                       |
| 1                                   | 0   | - Beechjet 400                                 | 93.00.63 and up                       |
| 1                                   | 1   | - Boeing 707-321B                              | 93.00.63 and up                       |
| 1                                   | 2   | - Cessna Citation S550                         | 93.00.63 and up                       |
| 1                                   | 3   | - Falcon 10                                    | 93.00.63 and up                       |
| 1                                   | 4   | - Falcon 50                                    | 93.00.63 and up                       |
| 1                                   | 5   | - Raytheon Hawker HS125-700A                   | 93.00.63 and up                       |
| 1                                   | 6   | - LearJet 35                                   | 93.00.63 and up                       |
| 1                                   | 7   | - LearJet 55                                   | 93.00.63 and up                       |
| 1                                   | 8   | - Sabreliner 60 (SSEC Only)                    | 93.00.63 and up                       |
| 1                                   | 9   | - Lockheed Jetstar II                          | 93.00.63 and up                       |
| 1                                   | A-F | - Reserved for future (DO NOT USE)             |                                       |

---

**INSTALLATION MANUAL**

---

**FUEL/AIR DATA COMPUTER**

Rev: T

P/N 962820-1(A), 962820-2(A), 962820-3(A)

Page: 9-8

---

**Stage 3 Loopback configuration:**

Switch 1 is set to 3 to indicate that the stage 3 loopback is being performed.

**SWITCH 2, K-FACTOR TABLE SELECTION:**

For F/ADC 962820-1(A) and 962820-2(A) only.

- 0 - Standard K-FACTOR Matrix 0 - (Table 2 in this manual)
- 1 - Alternate K-FACTOR Matrix 1- (Table 3 in this manual)
- 2-F - (DO NOT USE)

**SWITCH 3, FUEL FLOW DELAY TIME**

- 0 - No Delay
- 1 - 5 Second Delay
- 2 - 10 Second Delay
- 3 - 15 Second Delay
- 4 - 20 Second Delay
- 5 - 25 Second Delay
- 6 - 30 Second Delay
- 7 - 35 Second Delay
- 8 - 40 Second Delay
- 9 - 45 Second Delay
- A-F - (DO NOT USE)

## INSTALLATION MANUAL

## FUEL/AIR DATA COMPUTER

Rev: T

P/N 962820-1(A), 962820-2(A), 962820-3(A)

Page: 9-9

**Loopback Procedure 3 for Software Version 93.00.77.****Stage 0 Loopback Configuration:**

Switch 1 is set to 0 to indicate that the stage 0 loopback is being performed.

| <u>SWITCH 2</u> | <u>Fuel Units and Engine Type:</u> |              |               |
|-----------------|------------------------------------|--------------|---------------|
| 0               | -                                  | Gallons      | Single Engine |
| 1               | -                                  | Liters       | " "           |
| 2               | -                                  | Lbs 5.8      | " "           |
| 3               | -                                  | Lbs 6.71     | " "           |
| 4               | -                                  | Kilograms    | " "           |
| 5               | -                                  | Lbs 6.5      | " "           |
| 6               | -                                  | Lbs 6.3      | " "           |
| 7               | -                                  | (not used)   | " "           |
| 8               | -                                  | Gallons      | Twin Engine   |
| 9               | -                                  | Liters       | " "           |
| A               | -                                  | Lbs 5.8      | " "           |
| B               | -                                  | Lbs 6.71     | " "           |
| C               | -                                  | Kilograms    | " "           |
| D               | -                                  | Lbs 6.5      | " "           |
| E               | -                                  | Lbs 6.3      | " "           |
| F               | -                                  | (DO NOT USE) |               |

| <u>SWITCH 3</u> | <u>9600 BAUD Loran Input Type:</u> |                                                        |
|-----------------|------------------------------------|--------------------------------------------------------|
| 0               | -                                  | Trimble                                                |
| 1               | -                                  | ARNAV                                                  |
| 2               | -                                  | Bendix or IIMorrow Apollo NMS2001, 800, 820            |
| 3               | -                                  | Garmin                                                 |
| 4               | -                                  | Northstar                                              |
| 5               | -                                  | Foster                                                 |
| 6               | -                                  | IIMorrow 611, 612 and 618                              |
| 7               | -                                  | Shadin Flow Meter                                      |
| 8-E             | -                                  | (DO NOT USE)                                           |
| F               | -                                  | Use this position to make selection on <u>SWITCH 4</u> |

| <u>SWITCH 4</u> | <u>Other Loran Input Type:</u> |                                   |
|-----------------|--------------------------------|-----------------------------------|
| 0               | -                              | Northstar, 1200 BAUD              |
| 1               | -                              | Foster, 1200 BAUD                 |
| 2               | -                              | IIMorrow 611, 612, 618; 1200 BAUD |
| 3-F             | -                              | (DO NOT USE)                      |

---

**INSTALLATION MANUAL**

---

**FUEL/AIR DATA COMPUTER**

Rev: T

P/N 962820-1(A), 962820-2(A), 962820-3(A)

Page: 9-10

---

**Stage 1 Loopback Configuration:**

Switch 1 is set to 1 to indicate that the stage 1 loopback is being performed.

**SWITCH 2**    **OAT Probe Type:**

- 0    -   Shadin OAT Probe
- 1    -   ARINC 575 (DO NOT USE)
- 2    -   Rosemount 500  $\Omega$  (DO NOT USE)
- 3-F   -   (DO NOT USE)

**SWITCH 3**    **Loran Output Type:**

- 0    -   Format Z - Trimble and Garmin
- 1    -   Format X - ARNAV
- 2    -   Generic
- 3    -   Surveyor
- 4    -   Bendix C - Bendix/King and F/ADC without Baro Interface
- 5    -   Bendix D - Bendix/King and F/ADC with Baro Interface
- 6    -   Shadin S - IIMorrow GX50, 55, 60, CNX80
- 7    -   Bendix B – (fuel only)
- 8    -   Garmin G
- 9-F   -   (DO NOT USE)

**SWITCH 4**    **Altimeter Selection for Baro DC Input:**

- 0    -   None        (Use this selection)
- 1    -   Type 1       (Not Available)
- 2    -   Type 2       (Not Available)
- 3    -   Type 3       (Not Available)
- 4    -   Type 4       (Not Available)
- 5    -   Type 5       (Not Available)
- 6    -   Type 6       (Not Available)
- 7    -   Type 7       (Not Available)
- 8    -   (DO NOT USE)
- 9    -   Type 9       (Not Available)
- A-F   -   (DO NOT USE)

**INSTALLATION MANUAL****FUEL/AIR DATA COMPUTER**

Rev: T

P/N 962820-1(A), 962820-2(A), 962820-3(A)

Page: 9-11

**Stage 2 Loopback configuration:**

Switch 1 is set to 2 to indicate that the stage 2 loopback is being performed.

**SWITCH 2    Fuel Filter Type:**

- 0        -    Injector
- 1        -    Carburetor

| <b><u>SWITCH 3 AND SWITCH 4</u></b> |     | <b><u>CORRECTION For SSEC/PSEC Select:</u></b> | <b><u>F/ADC Software Version:</u></b> |
|-------------------------------------|-----|------------------------------------------------|---------------------------------------|
| 0                                   | 0   | - No correction                                | ALL                                   |
| 0                                   | 1   | - MITSUBISHI MU-300                            | 93.00.29 and up                       |
| 0                                   | 2   | - CESSNA CITATION 500/501                      | 93.00.29 and up                       |
| 0                                   | 3   | - CESSNA 525                                   | 93.00.29 and up                       |
| 0                                   | 4   | - CESSNA 550                                   | 93.00.29 and up                       |
| 0                                   | 5   | - Citation 560 SN <=259                        | 93.00.29 and up                       |
| 0                                   | 6   | - Citation 560 SN >=260                        | 93.00.29 and up                       |
| 0                                   | 7   | - Citation 650                                 | 93.00.29 and up                       |
| 0                                   | 8   | - Sabreliner 65                                | 93.00.29 and up                       |
| 0                                   | 9   | - WestWind 1124A                               | 93.00.29 and up                       |
| 0                                   | A   | - LearJet 24                                   | 93.00.29 and up                       |
| 0                                   | B   | - Raytheon Hawker HS 125-3A                    | 93.00.29 and up                       |
| 0                                   | C   | - Falcon 20-F                                  | 93.00.29 and up                       |
| 0                                   | D   | - Falcon 20-C, D, E                            | 93.00.29 and up                       |
| 0                                   | E   | - LearJet 25D                                  | 93.00.29 and up                       |
| 0                                   | F   | - Douglas DC-8                                 | 93.00.58 and up                       |
| 1                                   | 0   | - Beechjet 400                                 | 93.00.63 and up                       |
| 1                                   | 1   | - Boeing 707-321B                              | 93.00.63 and up                       |
| 1                                   | 2   | - Cessna Citation S550                         | 93.00.63 and up                       |
| 1                                   | 3   | - Falcon 10                                    | 93.00.63 and up                       |
| 1                                   | 4   | - Falcon 50                                    | 93.00.63 and up                       |
| 1                                   | 5   | - Raytheon Hawker HS125-700A                   | 93.00.63 and up                       |
| 1                                   | 6   | - LearJet 35                                   | 93.00.63 and up                       |
| 1                                   | 7   | - LearJet 55                                   | 93.00.63 and up                       |
| 1                                   | 8   | - Sabreliner 60 (SSEC Only)                    | 93.00.63 and up                       |
| 1                                   | 9   | - Lockheed Jetstar II                          | 93.00.63 and up                       |
| 1                                   | A-F | - Reserved for future (DO NOT USE)             |                                       |

**INSTALLATION MANUAL****FUEL/AIR DATA COMPUTER**

Rev: T

P/N 962820-1(A), 962820-2(A), 962820-3(A)

Page: 9-12

---

**Stage 3 Loopback configuration:**

Switch 1 is set to 3 to indicate that the stage 3 loopback is being performed.

**SWITCH 2, K-FACTOR TABLE SELECTION:**

For F/ADC 962820-1(A) and 962820-2(A) only.

- 0 - Standard K-FACTOR Matrix 0 - (Table 2 in this manual)
- 1 - Alternate K-FACTOR Matrix 1- (Table 3 in this manual)
- 2-F - (DO NOT USE)

**SWITCH 3, FUEL FLOW DELAY TIME**

- 0 - No Delay
- 1 - 5 Second Delay
- 2 - 10 Second Delay
- 3 - 15 Second Delay
- 4 - 20 Second Delay
- 5 - 25 Second Delay
- 6 - 30 Second Delay
- 7 - 35 Second Delay
- 8 - 40 Second Delay
- 9 - 45 Second Delay
- A-F - (DO NOT USE)

---

**INSTALLATION MANUAL**


---

**FUEL/AIR DATA COMPUTER**

Rev: T

P/N 962820-1(A), 962820-2(A), 962820-3(A)

Page: 9-13

---

**Loopback Procedure 4 for Software Version 93.00.82 and above**


---

**Stage 0 Loopback Configuration:**

Switch 1 is set to 0 to indicate that the stage 0 loopback is being performed.

| <u>SWITCH 2</u> | <u>Fuel Units and Engine Type:</u> |              |               |
|-----------------|------------------------------------|--------------|---------------|
| 0               | -                                  | Gallons      | Single Engine |
| 1               | -                                  | Liters       | " "           |
| 2               | -                                  | Lbs 5.8      | " "           |
| 3               | -                                  | Lbs 6.71     | " "           |
| 4               | -                                  | Kilograms    | " "           |
| 5               | -                                  | Lbs 6.5      | " "           |
| 6               | -                                  | Lbs 6.3      | " "           |
| 7               | -                                  | (not used)   | " "           |
| 8               | -                                  | Gallons      | Twin Engine   |
| 9               | -                                  | Liters       | " "           |
| A               | -                                  | Lbs 5.8      | " "           |
| B               | -                                  | Lbs 6.71     | " "           |
| C               | -                                  | Kilograms    | " "           |
| D               | -                                  | Lbs 6.5      | " "           |
| E               | -                                  | Lbs 6.3      | " "           |
| F               | -                                  | (DO NOT USE) |               |

| <u>SWITCH 3</u> | <u>9600 BAUD Loran Input Type:</u> |                                                        |
|-----------------|------------------------------------|--------------------------------------------------------|
| 0               | -                                  | Trimble                                                |
| 1               | -                                  | ARNAV                                                  |
| 2               | -                                  | Bendix or IIMorrow Apollo NMS2001, 800, 820            |
| 3               | -                                  | Garmin                                                 |
| 4               | -                                  | Northstar                                              |
| 5               | -                                  | Foster                                                 |
| 6               | -                                  | IIMorrow 611, 612 and 618                              |
| 7               | -                                  | Shadin Flow Meter                                      |
| 8-E             | -                                  | (DO NOT USE)                                           |
| F               | -                                  | Use this position to make selection on <u>SWITCH 4</u> |

| <u>SWITCH 4</u> | <u>Other Loran Input Type:</u> |                                   |
|-----------------|--------------------------------|-----------------------------------|
| 0               | -                              | Northstar, 1200 BAUD              |
| 1               | -                              | Foster, 1200 BAUD                 |
| 2               | -                              | IIMorrow 611, 612, 618; 1200 BAUD |
| 3-F             | -                              | (DO NOT USE)                      |



---

**INSTALLATION MANUAL****FUEL/AIR DATA COMPUTER**

Rev: T

P/N 962820-1(A), 962820-2(A), 962820-3(A)

Page: 9-14

---

**Stage 1 Loopback Configuration:**

Switch 1 is set to 1 to indicate that the stage 1 loopback is being performed.

**SWITCH 2**    **OAT Probe Type:**

- 0    -   Shadin OAT Probe
- 1    -   ARINC 575 (DO NOT USE)
- 2    -   Rosemount 500  $\Omega$  (DO NOT USE)
- 3-F   -   (DO NOT USE)

**SWITCH 3**    **Loran Output Type:**

- 0    -   Format Z - Trimble and Garmin
- 1    -   Format X - ARNAV
- 2    -   Generic
- 3    -   Surveyor
- 4    -   Bendix C - Bendix/King and F/ADC without Baro Interface
- 5    -   Bendix D - Bendix/King and F/ADC with Baro Interface
- 6    -   Shadin S - IIMorrow GX50, 55, 60
- 7    -   Bendix B – (fuel only)
- 8    -   Garmin G
- 9-F   -   (DO NOT USE)

**SWITCH 4**    **Altimeter Selection for Baro DC Input:**

- 0    -   None        (Use this selection)
- 1    -   Type 1       (Not Available)
- 2    -   Type 2       (Not Available)
- 3    -   Type 3       (Not Available)
- 4    -   Type 4       (Not Available)
- 5    -   Type 5       (Not Available)
- 6    -   Type 6       (Not Available)
- 7    -   Type 7       (Not Available)
- 8    -   (DO NOT USE)
- 9    -   Type 9       (Not Available)
- A    -   (DO NOT USE)
- B    -   Type 11       (Not Available)
- C-F   -   (DO NOT USE)

**INSTALLATION MANUAL****FUEL/AIR DATA COMPUTER**

Rev: T

P/N 962820-1(A), 962820-2(A), 962820-3(A)

Page: 9-15

**Stage 2 Loopback configuration:**

Switch 1 is set to 2 to indicate that the stage 2 loopback is being performed.

**SWITCH 2    Fuel Filter Type:**

- 0        -    Injector
- 1        -    Carburetor

| <b><u>SWITCH 3 AND SWITCH 4</u></b> |   | <b><u>CORRECTION For SSEC/PSEC Select:</u></b> | <b><u>F/ADC Software Version:</u></b> |
|-------------------------------------|---|------------------------------------------------|---------------------------------------|
| 0                                   | 0 | - No correction                                | ALL                                   |
| 0                                   | 1 | - MITSUBISHI MU-300                            | 93.00.29 and up                       |
| 0                                   | 2 | - CESSNA CITATION 500/501                      | 93.00.29 and up                       |
| 0                                   | 3 | - CESSNA 525                                   | 93.00.29 and up                       |
| 0                                   | 4 | - CESSNA 550                                   | 93.00.29 and up                       |
| 0                                   | 5 | - Citation 560 SN <=259                        | 93.00.29 and up                       |
| 0                                   | 6 | - Citation 560 SN >=260                        | 93.00.29 and up                       |
| 0                                   | 7 | - Citation 650                                 | 93.00.29 and up                       |
| 0                                   | 8 | - Sabreliner 65                                | 93.00.29 and up                       |
| 0                                   | 9 | - WestWind 1124A                               | 93.00.29 and up                       |
| 0                                   | A | - LearJet 24                                   | 93.00.29 and up                       |
| 0                                   | B | - Raytheon Hawker HS 125-3A                    | 93.00.29 and up                       |
| 0                                   | C | - Falcon 20-F                                  | 93.00.29 and up                       |
| 0                                   | D | - Falcon 20-C, D, E                            | 93.00.29 and up                       |
| 0                                   | E | - LearJet 25D                                  | 93.00.29 and up                       |
| 0                                   | F | - Douglas DC-8                                 | 93.00.58 and up                       |
| 1                                   | 0 | - Beechjet 400                                 | 93.00.63 and up                       |
| 1                                   | 1 | - Boeing 707-321B                              | 93.00.63 and up                       |
| 1                                   | 2 | - Cessna Citation S550                         | 93.00.63 and up                       |
| 1                                   | 3 | - Falcon 10                                    | 93.00.63 and up                       |
| 1                                   | 4 | - Falcon 50                                    | 93.00.63 and up                       |
| 1                                   | 5 | - Raytheon Hawker HS125-700A                   | 93.00.63 and up                       |
| 1                                   | 6 | - LearJet 35                                   | 93.00.63 and up                       |
| 1                                   | 7 | - LearJet 55                                   | 93.00.63 and up                       |
| 1                                   | 8 | - Sabreliner 60 (SSEC Only)                    | 93.00.63 and up                       |
| 1                                   | 9 | - Lockheed Jetstar II                          | 93.00.63 and up                       |
| 1                                   | A | - Antonov (AN 12)                              | 93.00.85 and up                       |
| 1                                   | B | - Antonov (AN 24)                              | 93.00.85 and up                       |
| 1                                   | C | - Antonov (AN 26)                              | 93.00.85 and up                       |
| 1                                   | D | - Antonov (AN 30)                              | 93.00.85 and up                       |
| 1                                   | E | - Yakovlev (YAK 40)                            | 93.00.85 and up                       |

---

**INSTALLATION MANUAL****FUEL/AIR DATA COMPUTER**

Rev: T

P/N 962820-1(A), 962820-2(A), 962820-3(A)

Page: 9-16

---

**Stage 3 Loopback configuration:**

Switch 1 is set to 3 to indicate that the stage 3 loopback is being performed.

**SWITCH 2, K-FACTOR TABLE SELECTION:**

For F/ADC 962820-1(A) and 962820-2(A) only.

- 0 - Standard K-FACTOR Matrix 0 - (Table 2 in this manual)
- 1 - Alternate K-FACTOR Matrix 1- (Table 3 in this manual)
- 2-F - (DO NOT USE)

**SWITCH 3, FUEL FLOW DELAY TIME**

- 0 - No Delay
- 1 - 5 Second Delay
- 2 - 10 Second Delay
- 3 - 15 Second Delay
- 4 - 20 Second Delay
- 5 - 25 Second Delay
- 6 - 30 Second Delay
- 7 - 35 Second Delay
- 8 - 40 Second Delay
- 9 - 45 Second Delay
- A-F - (DO NOT USE)

---

**INSTALLATION MANUAL****FUEL/AIR DATA COMPUTER**

Rev: T

P/N 962820-1(A), 962820-2(A), 962820-3(A)

Page: 9-17

---

**Stage 4 Loopback configuration:**

Switch 1 is set to 4 to indicate that the stage 4 loopback is being performed. Refer to the OAT probe calibration certificate for the Ta, Tb, Tc calibration code selection.

**SWITCH 2, OAT Ta CALIBRATION CODE SELECTION:**

0-F - Refer to calibration certificate for “A” code selection 0 to F.

**SWITCH 3, OAT Tb CALIBRATION CODE SELECTION**

0-F - Refer to calibration certificate for “B” code selection 0 to F.

**SWITCH 4, OAT Tc CALIBRATION CODE SELECTION**

0-F - Refer to calibration certificate for “C” code selection 0 to F.

Note: Switch 2, 3, and 4 are set to position 0 (zero), if the OAT probe does not have a calibration code marking, (i.e. A=0, B=0, C=0).

---

**INSTALLATION MANUAL****FUEL/AIR DATA COMPUTER**

Rev: T

P/N 962820-1(A), 962820-2(A), 962820-3(A)

Page: 9-18

---

**SELECT NO DELAY**

Only under special circumstances should a fuel flow delay time other than “No Delay” be selected. Read the following paragraphs for a description of these special circumstances.

On a few aircraft installations which have digital fuel flow and use a very low K factor (858 pulses per gallon), there has been a problem with the Air data reporting a large jump in fuel used as well as a corresponding decrease in fuel remaining at engine startup. This is not considered to be a Shadin Air data problem, but rather has been defined as an aircraft problem involving noise on the digital fuel flow signal.

A solution for this problem is to use the Air data fuel flow delay feature. This feature suppresses the fuel flow (and its affect on fuel used and remaining) for a startup delay time each time the engine starts. Fuel flow delay time is selectable in the Air data loopback mode, with selections of 0, 5, 10, 15, 20, 25, 30, 35, 40, and 45 seconds delay available.

If a fuel flow delay is needed, start by reconfiguring the ADC to use a large delay (i.e. 45 seconds). If the large fuel flow mitigated the problem, try reducing the delay until the problem returns. Then use the least amount of fuel flow delay that suppresses the problem.

When a fuel flow delay time is selected the Air data checks for fuel flow below 15 pph. If the fuel flow is below 15 pph, the Air data considers the engine to be off and returns a fuel flow of 0. Then as soon as the fuel flow exceeds 15 pph, the Air data continues to return a fuel flow of 0 until the delay time has expired. In a twin engine, the Air data zeroes both fuel flows during the startup delay for each engine.

**SPECIAL OPTIONS**

Only under special circumstance should SPECIAL OPTION 1 be selected. Read the following paragraphs for a description of the special circumstance.

Because the IAS range on the Air data computer is valid from 20 to 350 knots ARINC 429 labels 206 and 210 are transmitted with NCD status and stop being transmitted almost simultaneously if the IAS is less than 20 knots. In order to interface with certain avionics equipment which exhibit warnings if a valid IAS or TAS label is not received, SPECIAL OPTION 1 was implemented.

When the Air data computer is configured with SPECIAL OPTION 1 the Arinc 429 labels 206 and 210 are transmitted with OK status and a value of zero knots if the actual IAS is less than 20 knots.

---

**INSTALLATION MANUAL****FUEL/AIR DATA COMPUTER**

Rev: T

P/N 962820-1(A), 962820-2(A), 962820-3(A)

Page: 10-1

---

**10.0 SETTING THE K FACTOR**

The process of setting the K Factor is needed to match the F/ADC to the aircraft fuel flow system characteristics. To set the K Factor into the F/ADC you must first determine whether it is an Analog, Digital or Sine Fuel Flow unit.

| <u>P/N</u>  | <u>FUEL FLOW TYPE</u> |
|-------------|-----------------------|
| 962820-1(A) | Digital               |
| 962820-2(A) | Sine Wave             |
| 962820-3(A) | Analog                |

Use the switch settings from the appropriate table to set the K Factor.

For Digital or Sine units (P/N (s) 962820-1(A) and -2(A)) use the Digital K Factor Settings Tables.

Switch 1 & 2 selects the left K Factor

Switch 3 & 4 selects the right K Factor

Due to possible fuel flow system peculiarities, switch 1 & 2 and switch 3 & 4 do not necessarily need to be set to the same setting. For a one engine system, use switches 1 & 2.

For Analog units (P/N 962820-3(A)) use the Analog K Factor Settings Table.

Switch 1 & 2 selects the main engine K Factor

Switch 3 & 4 selects the offset.

The offset is simply the value represented by switches 3 & 4 in the Analog K Factor Settings Table below. For example, if you wanted an offset of 0, the switch settings would be 0,0. If you wanted an offset of 416, the switch settings would be 0, 1. If you wanted an offset of 1094, the switch settings would be 0, 4.

Configuration is now complete.

**INSTALLATION MANUAL****FUEL/AIR DATA COMPUTER**

Rev: T

P/N 962820-1(A), 962820-2(A), 962820-3(A)

Page: 10-2

**Analog K Factor Settings Table**

| <b>Standalone Air data MKII Analog Fuel Flow Chart</b> |                                    |            |            |            |            |                 |               |
|--------------------------------------------------------|------------------------------------|------------|------------|------------|------------|-----------------|---------------|
| <u>Manufacturer</u>                                    | <u>Model</u>                       | <u>SW1</u> | <u>SW2</u> | <u>SW3</u> | <u>SW4</u> | <u>K-Factor</u> | <u>Offset</u> |
| Beech                                                  | KingAir B200                       | 0          | 0          | 0          | 1          | 77000           | 416           |
| Beech                                                  | KingAir A100                       | 0          | 1          | 0          | 2          | 26150           | 875           |
| Beech                                                  | KingAir C90                        | 0          | 1          | 0          | 2          | 26150           | 875           |
| Beech                                                  | KingAir F90                        | 0          | 0          | 0          | 1          | 77000           | 416           |
| Beech                                                  | KingAir C90A                       | 0          | 0          | 0          | 1          | 77000           | 416           |
| Beech                                                  | KingAir 200                        | 0          | 0          | 0          | 1          | 77000           | 416           |
| Beech                                                  | BeechJet                           | 0          | 2          | 0          | 0          | 11540           | 0             |
| Beech                                                  | KingAir B100                       | 0          | 3          | 0          | 2          | 26150           | 875           |
| Beech                                                  | Beech 600                          | 0          | 4          | 0          | 0          | 38460           | 0             |
| Beech                                                  | Beech 750                          | 0          | 5          | 0          | 0          | 30770           | 0             |
| Beech                                                  | Beech 800                          | 0          | 6          | 0          | 0          | 28850           | 0             |
| Cessna                                                 | Citation, Ametek Gauge 02C208E     | 0          | C          | 0          | 0          | 16270           | 0             |
| Cessna                                                 | Citation, Simmons Gauge 393002-009 | 1          | C          | 0          | 0          | 14300           | 0             |
| Cessna                                                 | Citation II/SII                    | 0          | C          | 0          | 0          | 16270           | 0             |
| Cessna                                                 | Citation III                       | 0          | D          | 0          | 4          | 9620            | 1094          |
| Cessna                                                 | Model 525                          | 0          | E          | 0          | 0          | 21980           | 0             |
| Piper                                                  | Cheyenne III                       | 1          | 9          | 0          | 0          | 41960           | 0             |
| Piper                                                  | Cheyenne IV                        | 1          | 1          | 0          | 0          | 46150           | 0             |
| LearJet                                                | LearJet                            | 0          | 7          | 0          | 0          | 15380           | 0             |
| LearJet                                                | Model 36 (5V)                      | 0          | 2          | 0          | 0          | 11540           | 0             |
| LearJet                                                | Model 36 (10V)                     | 0          | 8          | 0          | 0          | 23080           | 0             |
| Boeing                                                 | Boeing-737-300                     | 0          | 9          | 0          | 3          | 1790            | 0             |
| British Aero                                           | BAE ATP                            | 0          | 7          | 0          | 0          | 15380           | 0             |
| British Aero                                           | BAE-125-800                        | 0          | A          | 0          | 0          | 8240            | 378           |
| British Aero                                           | HS-125                             | 0          | B          | 0          | 0          | 10490           | 0             |
| Canadian                                               | CL600                              | 0          | F          | 0          | 0          | 6590            | 0             |
| Canadian                                               | CL601                              | 1          | 0          | 0          | 0          | 5130            | 0             |
| Dornier                                                | DO-228                             | 1          | 1          | 0          | 0          | 46150           | 0             |
| Daussault                                              | FALCON 10                          | 0          | 2          | 0          | 0          | 11540           | 0             |
| Daussault                                              | FALCON 20                          | 1          | 2          | 0          | 0          | 7690            | 0             |
| Daussault                                              | TFE-371                            | 1          | 2          | 0          | 0          | 7690            | 0             |
| Swearngen                                              | MERLIN                             | 0          | 4          | 0          | 0          | 38460           | 0             |
| Gulfstream                                             | GULFSTREAM II                      | 1          | 3          | 0          | 0          | 2880            | 0             |
| Gulfstream                                             | GULFSTREAM III                     | 1          | 4          | 0          | 0          | 2310            | 0             |
| Aerospatiale                                           | PUMA                               | 1          | 5          | 0          | 0          | 76920           | 0             |
| DHC                                                    | DHC DASH 8                         | 1          | 6          | 0          | 0          | 19230           | 0             |
| IAI                                                    | ASTRA 1125                         | 1          | 7          | 0          | 5          | 9230            | 2188          |
| IAI                                                    | WESTWIND 1124                      | 1          | 8          | 0          | 0          | 10490           | 0             |
| Sikorsky                                               | S-76A                              | 1          | 1          | 0          | 0          | 46150           | 0             |
| Sikorsky                                               | S-76B                              | 0          | 6          | 0          | 0          | 28850           | 0             |
| Sabre                                                  | SABRE 65                           | 1          | 7          | 0          | 5          | 9230            | 2188          |

**Table 1**

**INSTALLATION MANUAL****FUEL/AIR DATA COMPUTER**

Rev: T

P/N 962820-1(A), 962820-2(A), 962820-3(A)

Page: 10-3

**Matrix 0 - Digital K Factor Settings**

| <u>PPG</u> | <u>SW1</u> | <u>SW2</u> | <u>PPG</u> | <u>SW1</u> | <u>SW2</u> | <u>PPG</u> | <u>SW1</u> | <u>SW2</u> |
|------------|------------|------------|------------|------------|------------|------------|------------|------------|
| 860        | D          | D          | 8800       | 5          | 0          | 15300      | E          | F          |
| 5000       | 6          | B          | 9000       | 5          | 1          | 18000      | 3          | 0          |
| 5050       | 6          | C          | 9200       | 5          | 2          | 18200      | 3          | 1          |
| 5100       | 6          | D          | 9400       | 5          | 3          | 18400      | 2          | 2          |
| 5150       | 6          | E          | 9600       | 5          | 4          | 18600      | 3          | 3          |
| 5200       | 6          | F          | 9800       | 5          | 5          | 18800      | 3          | 4          |
| 5250       | 7          | 0          | 10000      | 5          | 6          | 19000      | 3          | 5          |
| 5300       | 7          | 1          | 10100      | 5          | 7          | 19200      | 3          | 6          |
| 5600       | 6          | 0          | 10200      | 5          | 8          | 19400      | 3          | 7          |
| 5650       | 6          | 1          | 10300      | 5          | A          | 19600      | 3          | 8          |
| 5700       | 6          | 2          | 10400      | 5          | B          | 19800      | 3          | 9          |
| 5750       | 6          | 3          | 10500      | 5          | C          | 20000      | 3          | A          |
| 5800       | 6          | 4          | 10600      | 5          | D          | 20200      | 3          | B          |
| 5850       | 6          | 5          | 10700      | 5          | E          | 20400      | 3          | C          |
| 5900       | 6          | 6          | 10800      | 5          | F          | 20600      | 3          | D          |
| 5950       | 6          | 7          | 10900      | D          | 6          | 20800      | 3          | E          |
| 6000       | 6          | 8          | 11000      | D          | 7          | 21000      | 3          | F          |
| 6380       | C          | B          | 11100      | D          | 8          | 21200      | 4          | 0          |
| 6400       | C          | C          | 11200      | D          | 9          | 21400      | 4          | 1          |
| 6420       | C          | D          | 11300      | D          | A          | 21600      | 4          | 2          |
| 6440       | C          | E          | 11400      | D          | B          | 21800      | 4          | 3          |
| 6460       | C          | F          | 11500      | D          | C          | 22000      | 4          | 4          |
| 6480       | D          | 0          | 14500      | D          | E          | 22200      | 4          | 5          |
| 6500       | D          | 1          | 14600      | D          | F          | 22400      | 4          | 6          |
| 6520       | D          | 2          | 14700      | E          | 9          | 22600      | 4          | 7          |
| 6540       | D          | 3          | 14800      | E          | A          | 22800      | 4          | 8          |
| 6560       | D          | 4          | 14900      | E          | B          | 23000      | 4          | 9          |
| 6580       | D          | 5          | 15000      | E          | C          | 23200      | 4          | A          |
| 6660       | 6          | A          | 15100      | E          | D          | 23400      | 4          | B          |
| 7640       | 5          | 9          | 15200      | E          | E          | 23600      | 4          | C          |

**Table 2**



**INSTALLATION MANUAL****FUEL/AIR DATA COMPUTER**

Rev: T

P/N 962820-1(A), 962820-2(A), 962820-3(A)

Page: 10-4

**Matrix 0 - Digital K Factor Settings**  
**(Continued)**

| <u>PPG</u> | <u>SW1</u> | <u>SW2</u> | <u>PPG</u> | <u>SW1</u> | <u>SW2</u> | <u>PPG</u> | <u>SW1</u> | <u>SW2</u> |
|------------|------------|------------|------------|------------|------------|------------|------------|------------|
| 23800      | 4          | D          | 29800      | F          | B          | 40000      | 9          | 4          |
| 24000      | 4          | E          | 30000      | F          | C          | 40200      | 9          | 5          |
| 24200      | 4          | F          | 30200      | F          | D          | 40400      | 9          | 6          |
| 24400      | B          | A          | 30400      | F          | E          | 40600      | 9          | 7          |
| 24600      | B          | B          | 33800      | 6          | 9          | 40800      | 9          | D          |
| 24800      | B          | C          | 37000      | B          | 9          | 41000      | 9          | E          |
| 25000      | B          | D          | 37200      | B          | 8          | 41200      | 9          | F          |
| 25200      | B          | E          | 37400      | B          | 7          | 41400      | 1          | 0          |
| 25400      | B          | F          | 37600      | B          | 6          | 41600      | 1          | 1          |
| 25600      | C          | 0          | 37800      | B          | 5          | 41800      | 1          | 2          |
| 25800      | C          | 1          | 38000      | 8          | 0          | 42000      | 1          | 3          |
| 26000      | C          | 2          | 38100      | 8          | 1          | 42200      | 1          | 4          |
| 26200      | C          | 4          | 38200      | 8          | 2          | 42400      | 1          | 5          |
| 26400      | C          | 5          | 38300      | 8          | 3          | 42600      | 1          | 6          |
| 26600      | C          | 6          | 38400      | 8          | 4          | 42800      | 1          | 7          |
| 26800      | C          | 7          | 38500      | 8          | 5          | 43000      | 1          | 8          |
| 27000      | C          | 8          | 38600      | 8          | 6          | 43200      | 1          | 9          |
| 27200      | C          | 9          | 38700      | 8          | 7          | 43400      | 1          | A          |
| 27400      | C          | A          | 38800      | 8          | 8          | 43600      | 1          | B          |
| 27600      | F          | 0          | 38900      | 8          | 9          | 43800      | 1          | C          |
| 27800      | F          | 1          | 39000      | 8          | A          | 44000      | 1          | D          |
| 28000      | F          | 2          | 39100      | 8          | B          | 44200      | 1          | E          |
| 28200      | F          | 3          | 39200      | 8          | C          | 44400      | 1          | F          |
| 28400      | F          | 4          | 39300      | 8          | D          | 44600      | 2          | 0          |
| 28600      | F          | 5          | 39400      | 8          | E          | 44800      | 2          | 1          |
| 28800      | F          | 6          | 39500      | 8          | F          | 45000      | 2          | 2          |
| 29000      | F          | 7          | 39600      | 9          | 0          | 45200      | 2          | 3          |
| 29200      | F          | 8          | 39700      | 9          | 1          | 45400      | 2          | 4          |
| 29400      | F          | 9          | 39800      | 9          | 2          | 45600      | 2          | 5          |
| 29600      | F          | A          | 39900      | 9          | 3          | 45800      | 2          | 6          |

**Table 2 continued**

**INSTALLATION MANUAL****FUEL/AIR DATA COMPUTER**

Rev: T

P/N 962820-1(A), 962820-2(A), 962820-3(A)

Page: 10-5

**Matrix 0 - Digital K Factor Settings**  
**(Continued)**

| <u>PPG</u> | <u>SW1</u> | <u>SW2</u> | <u>PPG</u> | <u>SW1</u> | <u>SW2</u> | <u>PPG</u> | <u>SW1</u> | <u>SW2</u> |
|------------|------------|------------|------------|------------|------------|------------|------------|------------|
| 46000      | 2          | 7          | 57700      | A          | 7          | 93000      | 7          | 2          |
| 46200      | 2          | 8          | 57800      | A          | 8          | 94000      | 7          | 3          |
| 46400      | 2          | 9          | 57900      | A          | 9          | 95000      | 7          | 4          |
| 46600      | 2          | A          | 58000      | A          | A          | 96000      | 7          | 5          |
| 46800      | 2          | B          | 58100      | A          | B          | 97000      | 7          | 6          |
| 47000      | 2          | C          | 58200      | A          | C          | 98000      | 7          | 7          |
| 47200      | 2          | D          | 58300      | A          | D          | 99000      | 7          | 8          |
| 47400      | 2          | E          | 58400      | A          | E          | 100000     | 7          | 9          |
| 47600      | 2          | F          | 58500      | A          | F          | 101000     | 7          | A          |
| 49000      | 9          | 8          | 58600      | B          | 0          | 102000     | 7          | B          |
| 49100      | 9          | 9          | 58700      | B          | 1          | 103000     | 7          | C          |
| 49200      | 9          | A          | 58800      | B          | 2          | 104000     | 7          | D          |
| 49300      | 9          | B          | 58900      | B          | 3          | 105000     | 7          | E          |
| 49400      | 9          | C          | 60000      | B          | 4          | 106000     | 7          | F          |
| 49500      | E          | 2          | 77000      | 0          | 0          |            |            |            |
| 49700      | E          | 3          | 78000      | 0          | 1          |            |            |            |
| 50000      | E          | 4          | 79000      | 0          | 2          |            |            |            |
| 50200      | E          | 5          | 80000      | 0          | 3          |            |            |            |
| 50400      | E          | 6          | 81000      | 0          | 4          |            |            |            |
| 50500      | E          | 7          | 82000      | 0          | 5          |            |            |            |
| 50800      | E          | 8          | 83000      | 0          | 6          |            |            |            |
| 55500      | C          | 3          | 84000      | 0          | 7          |            |            |            |
| 55550      | F          | F          | 85000      | 0          | 8          |            |            |            |
| 57000      | A          | 0          | 86000      | 0          | 9          |            |            |            |
| 57100      | A          | 1          | 87000      | 0          | A          |            |            |            |
| 57200      | A          | 2          | 88000      | 0          | B          |            |            |            |
| 57300      | A          | 3          | 89000      | 0          | C          |            |            |            |
| 57400      | A          | 4          | 90000      | 0          | D          |            |            |            |
| 57500      | A          | 5          | 91000      | 0          | E          |            |            |            |
| 57600      | A          | 6          | 92000      | 0          | F          |            |            |            |

**Table 2 continued**

**INSTALLATION MANUAL****FUEL/AIR DATA COMPUTER**

Rev: T

P/N 962820-1(A), 962820-2(A), 962820-3(A)

Page: 10-6

**Matrix 1 - Alternate Digital K-Factor Setting Table (software version 93.00.61+)**

| PPG  | SW1 | SW2 | PPG   | SW1 | SW2 | PPG   | SW1 | SW2 |
|------|-----|-----|-------|-----|-----|-------|-----|-----|
| 200  | 1   | 0   | 1940  | 8   | 0   | 16100 | 4   | E   |
| 400  | 1   | 1   | 2000  | 3   | D   | 16300 | 4   | F   |
| 440  | 1   | 2   | 2200  | 3   | E   | 16500 | 5   | 0   |
| 490  | 1   | 3   | 2400  | 3   | F   | 16600 | 5   | 1   |
| 510  | 1   | 4   | 2600  | 4   | 0   | 16800 | 5   | 2   |
| 520  | 1   | 5   | 2800  | 4   | 1   | 17000 | 5   | 3   |
| 530  | 1   | 6   | 3000  | 4   | 2   | 17200 | 5   | 4   |
| 540  | 1   | 7   | 3200  | 4   | 3   | 17400 | 5   | 5   |
| 550  | 1   | 8   | 3400  | 4   | 4   | 17600 | 5   | 6   |
| 560  | 1   | 9   | 3600  | 4   | 5   | 17800 | 5   | 7   |
| 570  | 1   | A   | 3610  | 0   | 0   | 30600 | 6   | 3   |
| 580  | 1   | B   | 3650  | 0   | 1   | 30800 | 6   | 4   |
| 590  | 1   | C   | 3690  | 0   | 2   | 31000 | 6   | 5   |
| 600  | 1   | D   | 3730  | 0   | 3   | 31200 | 6   | 6   |
| 610  | 1   | E   | 3760  | 0   | 4   | 31400 | 6   | 7   |
| 620  | 1   | F   | 3800  | 0   | 5   | 31600 | 6   | 8   |
| 630  | 2   | 0   | 3800  | 4   | 6   | 31800 | 6   | 9   |
| 640  | 2   | 1   | 3840  | 0   | 6   | 32000 | 6   | A   |
| 650  | 2   | 2   | 3880  | 0   | 7   | 32200 | 6   | B   |
| 660  | 2   | 3   | 3920  | 0   | 8   | 32400 | 6   | C   |
| 670  | 2   | 4   | 3960  | 0   | 9   | 32600 | 6   | D   |
| 680  | 2   | 5   | 4000  | 0   | A   | 32800 | 6   | E   |
| 690  | 2   | 6   | 4000  | 4   | 7   | 33000 | 6   | F   |
| 700  | 2   | 7   | 4040  | 0   | B   | 33200 | 7   | 0   |
| 710  | 2   | 8   | 4080  | 0   | C   | 33400 | 7   | 1   |
| 720  | 2   | 9   | 4120  | 0   | D   | 33600 | 7   | 2   |
| 730  | 2   | A   | 4160  | 0   | E   | 34000 | 7   | 3   |
| 740  | 2   | B   | 4200  | 0   | F   | 34200 | 7   | 4   |
| 750  | 2   | C   | 4200  | 4   | 8   | 34400 | 7   | 5   |
| 760  | 2   | D   | 4400  | 4   | 9   | 34600 | 7   | 6   |
| 770  | 2   | E   | 4700  | 4   | A   | 34800 | 7   | 7   |
| 780  | 2   | F   | 11700 | 5   | 8   | 35000 | 7   | 8   |
| 790  | 3   | 0   | 11900 | 5   | 9   | 35200 | 7   | 9   |
| 800  | 3   | 1   | 12100 | 5   | A   | 35400 | 7   | A   |
| 810  | 3   | 2   | 12400 | 5   | B   | 35600 | 7   | B   |
| 820  | 3   | 3   | 12600 | 5   | C   | 35800 | 7   | C   |
| 840  | 3   | 4   | 12800 | 5   | D   | 36000 | 7   | D   |
| 850  | 3   | 5   | 13000 | 5   | E   | 36400 | 7   | E   |
| 880  | 3   | 6   | 13500 | 5   | F   | 36800 | 7   | F   |
| 900  | 3   | 7   | 14000 | 6   | 0   |       |     |     |
| 1000 | 3   | 8   | 14200 | 6   | 1   |       |     |     |
| 1200 | 3   | 9   | 14400 | 6   | 2   |       |     |     |
| 1400 | 3   | A   | 15500 | 4   | B   |       |     |     |
| 1600 | 3   | B   | 15700 | 4   | C   |       |     |     |
| 1800 | 3   | C   | 15900 | 4   | D   |       |     |     |

**Table 3**

**INSTALLATION MANUAL**

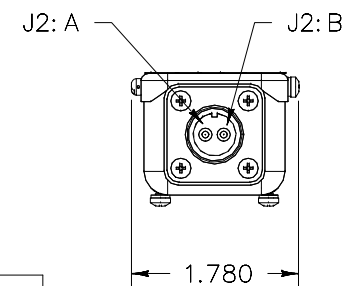
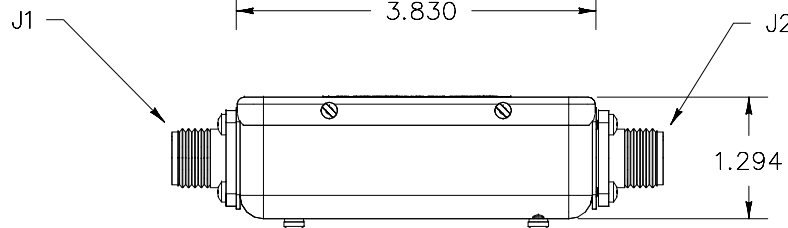
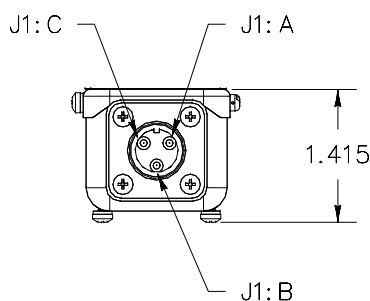
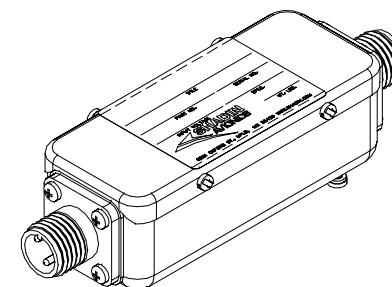
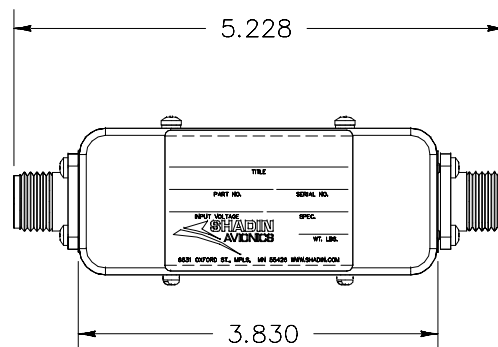
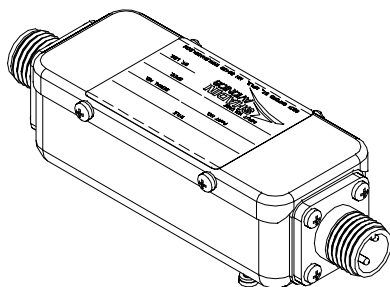
**FUEL/AIR DATA COMPUTER**

**P/N 962820-1(A), 962820-2(A), 962820-3(A)**

---

**SECTION 11.0**

**INSTALLATION DRAWINGS AND  
INSTALL KIT PARTS LISTS**



| CONNECTIVITY TABLE |                       |                     |
|--------------------|-----------------------|---------------------|
| PIN                | J1                    | J2                  |
| A                  | FUEL FLOW POWER INPUT | AC FUEL FLOW SIGNAL |
| B                  | FUEL FLOW SIGNAL      | AC FUEL FLOW SIGNAL |
| C                  | FUEL FLOW GROUND      | N/A                 |

# NOTES:

1. ALL DIMENSIONS FOR REFERENCE ONLY.

| 1003/001 | B    | 3/3/10  | HWL | HWL   | UPDATED LABEL TO SHOW CURRENT COMPANY LOGO |
|----------|------|---------|-----|-------|--------------------------------------------|
| 0211/004 | A    | 3/3/03  | PAB | BAL   | ADDED DIMENSIONS & ISOMETRIC VIEW; REDRAWN |
| 9508/053 | —    | 8/30/95 | DDF | SES   | BASELINE RELEASE                           |
| ECO #    | REV. | DATE    | BY  | APP'D | DESCRIPTION                                |

3D CAD FILE AVAIL: YES

SCALE: 1 : 2

|                            |
|----------------------------|
| DRAWING DATE<br>6/8/95     |
| DRAFTER<br>DDF             |
| APPROVED<br>SES            |
| FILE NAME<br>631201B.J.DWG |
| DIRECTORY<br>631201        |
| SHEET 1 OF 1               |



DRAWING NO.  
4005-642

SIZE  
A

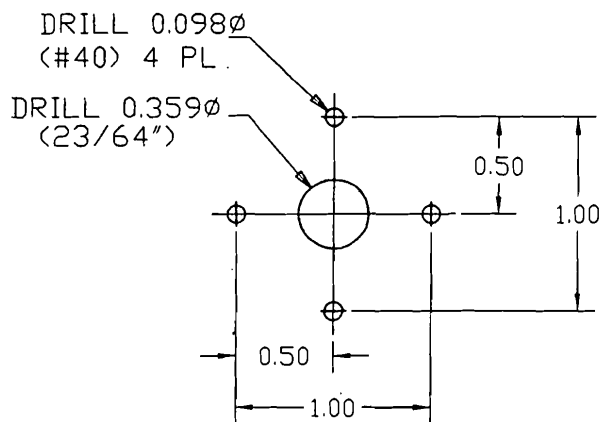
INSTALLATION, SINE  
WAVE TO SQUARE  
WAVE CONVERTER

P/N 631201

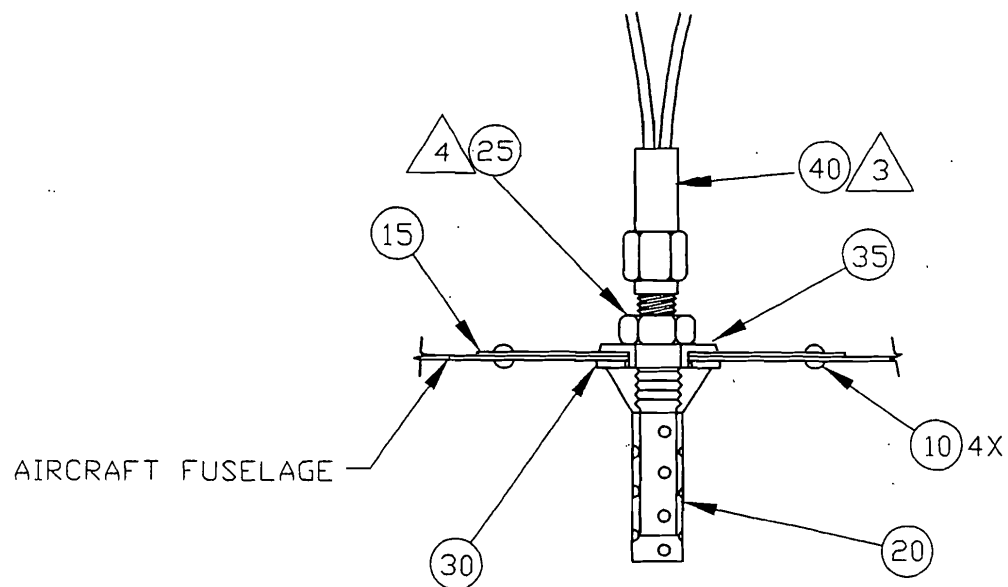
REV  
B

1. REFERENCE P/N 681201-1 OAT PROBE  
ASSEMBLY KIT
2. AVOID INSTALLING OAT PROBE  
IN OR NEAR:  
PROP AIRSTREAM  
ENGINE EXHAUST FLOW PATH  
CABIN HEATERS EXHAUST FLOW PATH  
TRANSMITTING ANTENNAS (DME, TXP, COMM.)  
DARK PAINTED AREAS

4 TORQUE NUT, FN 25, TO 1.3 IN-LBS (MAX)

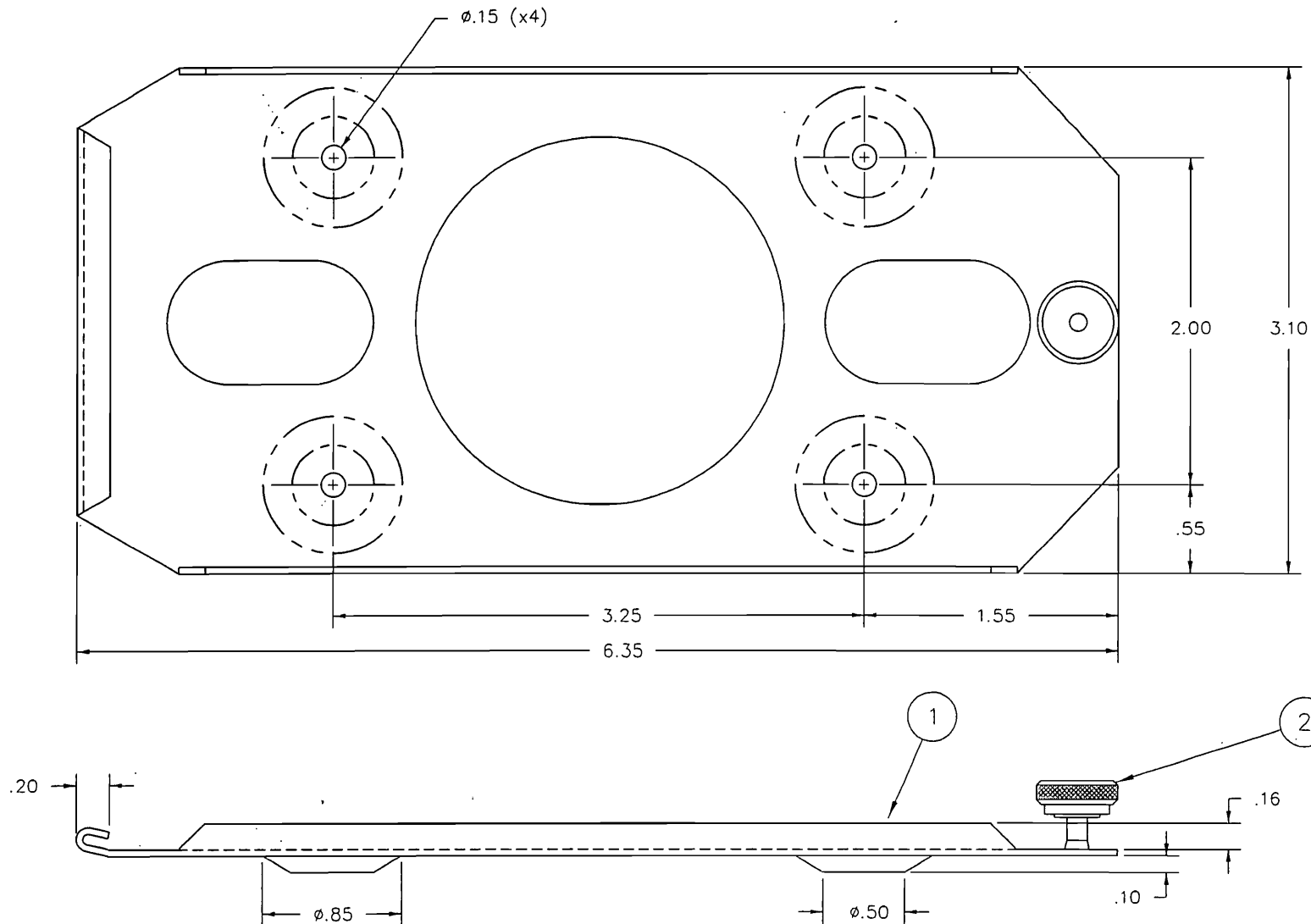


DETAIL A  
MOUNTING HOLE DETAIL



|                                                                                                                                                                                                                                                                                 |  |  |  |  |                                                                         |  |                                                                      |  |                                                                                |  |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|--|--|-------------------------------------------------------------------------|--|----------------------------------------------------------------------|--|--------------------------------------------------------------------------------|--|
| 6501/032 C 2-11-75 PAB <del>W</del> UPDATED TITLE BLOCK & NOTE 4; ADDED "KIT" TO TITLE<br>0111/001 B 11/14/01 PAB KCL STANDARDIZED DWG FORMAT TO MIMIC DWG NO. 4012-177<br>0002/036 A 3/11/96 VMP PG CONVERT TO CAD; ADD NOTES 1 AND 3<br>N/A - 4/8/91 DAP SES BASELINE RELEASE |  |  |  |  | UNLESS OTHERWISE NOTED<br>DIMENSIONS ARE IN INCHES<br>TOLERANCES: ±0.01 |  | DRAWING DATE<br>4/8/91<br>DRAFTER<br>DAP<br>APPROVED<br>SES          |  | <b>SHADIN</b> MINNEAPOLIS, MN 55426<br>INSTALLATION,<br>OAT PROBE ASSEMBLY KIT |  |
| ECO # REV. DATE BY APP'D DESCRIPTION                                                                                                                                                                                                                                            |  |  |  |  | FINISH: N/A<br>MATERIAL: N/A<br>SCALE: NONE                             |  | FILE NAME<br>681201-1.CLDWG<br>DIRECTORY<br>681201-1<br>SHEET 1 OF 1 |  | DRAWING NO.<br>4028-005<br>SIZE A<br>P/N681201-1<br>REV C                      |  |

| LIST OF MATERIAL |     |          |               |
|------------------|-----|----------|---------------|
| F/N              | QTY | PART NO. | DESCRIPTION   |
| 1                | 1   | 542801A  | MOUNTING TRAY |
| 2                | 1   | 512014-1 | KNURLED KNOB  |



# MOUNTING HARDWARE REQUIRED: QTY

|                       |   |
|-----------------------|---|
| (AN526-632-8) SCREWS  | 4 |
| (AN960-6) LOCKWASHERS | 4 |
| (AN364-632) NUTS      | 4 |

|                                                                                                                                   |  |                            |                                |  |
|-----------------------------------------------------------------------------------------------------------------------------------|--|----------------------------|--------------------------------|--|
| UNLESS OTHERWISE NOTED<br>DIMENSIONS ARE IN INCHES<br>TOLERANCES: X.X - ±0.1<br>X/X ± 1/64 X.XX - ±0.01<br>X - ±1' X.XXX - ±0.005 |  | DRAWING DATE<br>10/12/94   | SHADIN MINNEAPOLIS, MN 55426   |  |
| FINISH: N/A                                                                                                                       |  | DRAFTER<br>DAP             | INSTALLATION,<br>MOUNTING TRAY |  |
| MATERIAL: N/A                                                                                                                     |  | APPROVED<br>SES            |                                |  |
|                                                                                                                                   |  | FILE NAME<br>542801ABJ.DWG | DRAWING NO.                    |  |
|                                                                                                                                   |  | DIRECTORY<br>542801A       | SIZE                           |  |
|                                                                                                                                   |  |                            | 4028-411                       |  |
|                                                                                                                                   |  |                            | P/N 542801A                    |  |
|                                                                                                                                   |  |                            | REV                            |  |
|                                                                                                                                   |  |                            | B                              |  |

| ECO #    | REV. | DATE     | BY  | APP'D | DESCRIPTION              |
|----------|------|----------|-----|-------|--------------------------|
| 9912/020 | B    | 12/30/99 | LJM | KCL   | ADDED P/N TO TITLE BLOCK |
| 9902/020 | A    | 3/2/99   | CMG | PG    | UPDATED TRAY USED        |
| -        | -    | 10/12/94 | DAP | SES   | BASELINE RELEASE         |

3D CAD FILE AVAIL: YES

SCALE: 1 : 1

SHEET 1 OF 1

# NOTES

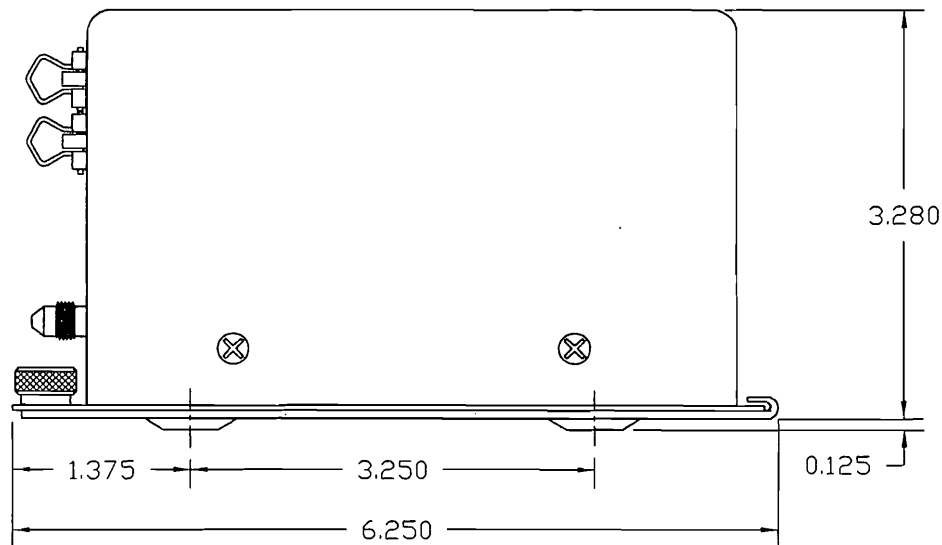
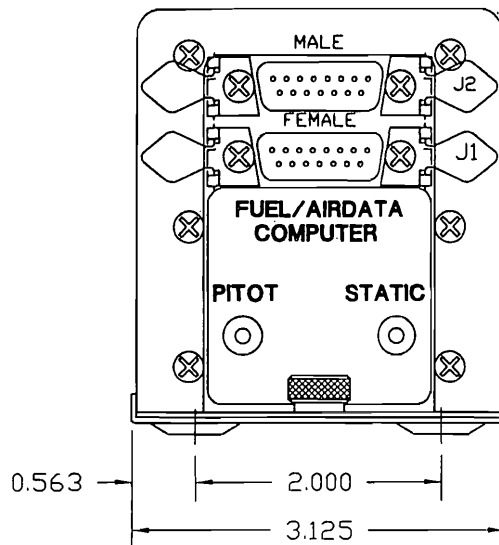
1. USE RS-232 OR RS-422, BUT NOT BOTH.
2. ALL DIMENSIONS ARE REFERENCE ONLY.

## J1 PINOUT

1. FUEL FLOW, RIGHT - POWER
2. FUEL FLOW, RIGHT - SIGNAL
3. FUEL FLOW RIGHT - GROUND
4. HEADING Y
5. HEADING X
6. 26V 400Hz, H
7. 26V 400Hz, Z, C
8. NC
9. FUEL FLOW, LEFT - POWER
10. FUEL FLOW, LEFT - SIGNAL
11. FUEL FLOW LEFT - GROUND
12. NC
13. NC
14. DAT - (Signal)
15. DAT + (+5V)

## J2 PINOUT

1. 12 - 28v DC POWER INPUT
2. NC
3. RX+, RS-422
4. RX-, RS-422
5. RX, RS-232
6. TX, RS-232
7. NC
8. NC
9. GROUND
10. NC
11. TX+, RS-422
12. TX-, RS-422
13. NC
14. SIGNAL GND
15. NC



## MATING CONNECTORS:

- P2
- 230050 - CONN, SHELL, FEMALE
  - 230055 - CONN, PINS, FEMALE
  - 230038 - CONN, HOOD, 15 PIN

- P1
- 230051 - CONN, SHELL, MALE
  - 230054 - CONN, PINS, MALE
  - 230038 - CONN, HOOD, 15 PIN

|          |      |         |     |       |                  |
|----------|------|---------|-----|-------|------------------|
| 9506/011 | -    | 8/31/93 | VMP | SES   | BASELINE RELEASE |
| ECO #    | REV. | DATE    | BY  | APP'D | DESCRIPTION      |

SCALE: NONE

|                             |                                           |           |                 |          |
|-----------------------------|-------------------------------------------|-----------|-----------------|----------|
| DRAWING DATE<br>2/16/93     | SHADIN MINNEAPOLIS, MN 55426              |           |                 |          |
| DRAFTER<br>VMP              | INSTALLATION, ADC200<br>FREQ/LEVEL INT FF |           |                 |          |
| APPROVED<br>SES             |                                           |           |                 |          |
| FILE NAME<br>962820-1-J.DWG |                                           |           |                 |          |
| DIRECTORY<br>962820         | DRAWING NO.<br>4028-604                   | SIZE<br>A | P/N<br>962820-1 | REV<br>- |
| SHEET 1 OF 1                |                                           |           |                 |          |



# NOTES

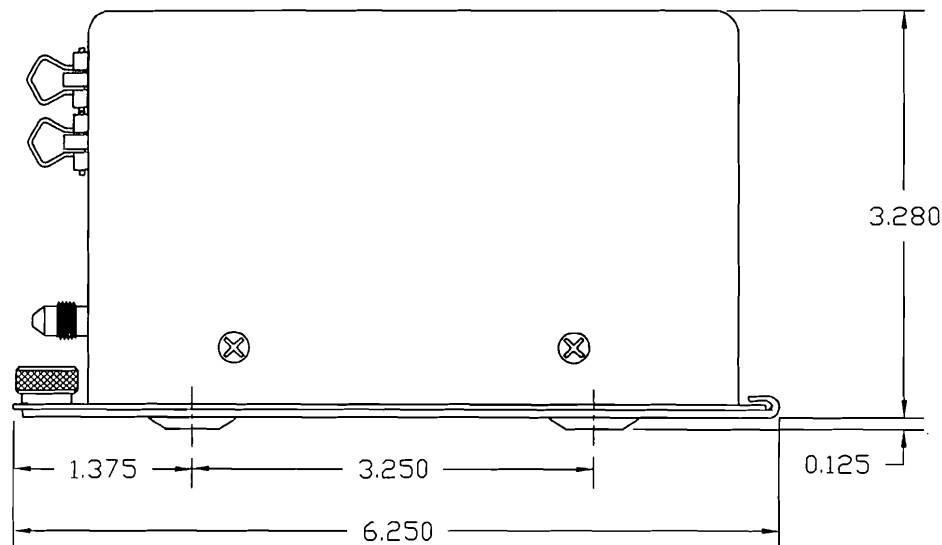
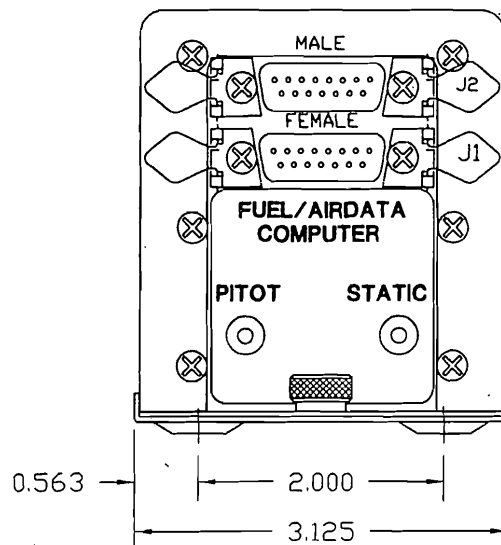
1. USE RS-232 OR RS-422, BUT NOT BOTH.
2. ALL DIMENSIONS ARE REFERENCE ONLY.

## J1 PINOUT

1. FUEL FLOW, RIGHT - (-)
2. FUEL FLOW, RIGHT - (+)
3. FUEL FLOW RIGHT - GROUND
4. HEADING Y
5. HEADING X
6. 26V 400Hz, H
7. 26V 400Hz, Z, C
8. NC
9. FUEL FLOW, LEFT - (-)
10. FUEL FLOW, LEFT - (+)
11. FUEL FLOW LEFT - GROUND
12. NC
13. NC
14. DAT - (Signal)
15. DAT + (+5V)

## J2 PINOUT

1. 12 - 28v DC POWER INPUT
2. NC
3. RX+, RS-422
4. RX-, RS-422
5. RX, RS-232
6. TX, RS-232
7. NC
8. NC
9. GROUND
10. NC
11. TX+, RS-422
12. TX-, RS-422
13. NC
14. SIGNAL GND
15. NC



## MATING CONNECTORS:

- P2
- 230050 - CONN, SHELL, FEMALE
  - 230055 - CONN, PINS, FEMALE
  - 230038 - CONN, HOOD, 15 PIN
- P1
- 230051 - CONN, SHELL, MALE
  - 230054 - CONN, PINS, MALE
  - 230038 - CONN, HOOD, 15 PIN

|             |      |         |     |       |                  |                             |                              |  |              |      |          |     |
|-------------|------|---------|-----|-------|------------------|-----------------------------|------------------------------|--|--------------|------|----------|-----|
| 9506/011    | -    | 8/31/95 | WMP | SES   | BASELINE RELEASE | DRAWING DATE<br>2/16/95     | SHADIN MINNEAPOLIS, MN 55426 |  | DRAWING NO.  | SIZE | P/N      | REV |
| ECO #       | REV. | DATE    | BY  | APP'D | DESCRIPTION      | FILE NAME<br>962820-2-J.DWG | INSTALLATION, ADC200         |  | 4028-605     | A    | 962820-2 | -   |
| SCALE: NONE |      |         |     |       |                  | DIRECTORY<br>962820         | SINEWAVE FF                  |  | SHEET 1 OF 1 |      |          |     |

# NOTES

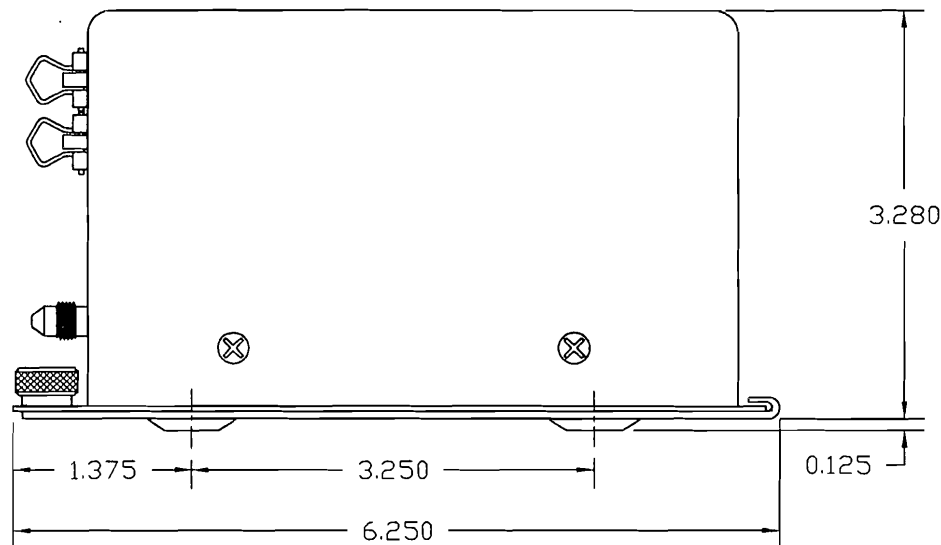
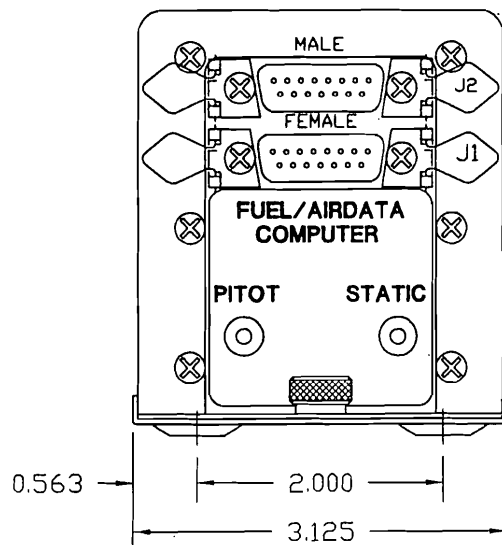
1. USE RS-232 OR RS-422, BUT NOT BOTH.
2. ALL DIMENSIONS ARE REFERENCE ONLY.

## J1 PINOUT

1. FUEL FLOW, RIGHT - (-)
2. FUEL FLOW, RIGHT - (+)
3. FUEL FLOW RIGHT - GROUND
4. HEADING Y
5. HEADING X
6. 26V 400Hz, H
7. 26V 400Hz, Z, C
8. NC
9. FUEL FLOW, LEFT - (-)
10. FUEL FLOW, LEFT - (+)
11. FUEL FLOW LEFT - GROUND
12. NC
13. NC
14. DAT - (Signal)
15. DAT + (+5V)

## J2 PINOUT

1. 12 - 28v DC POWER INPUT
2. NC
3. RX+, RS-422
4. RX-, RS-422
5. RX, RS-232
6. TX, RS-232
7. NC
8. NC
9. GROUND
10. NC
11. TX+, RS-422
12. TX-, RS-422
13. NC
14. SIGNAL GND
15. NC



## MATING CONNECTORS:

### P2

- 230050 - CONN, SHELL, FEMALE
- 230055 - CONN, PINS, FEMALE
- 230038 - CONN, HOOD, 15 PIN

### P1

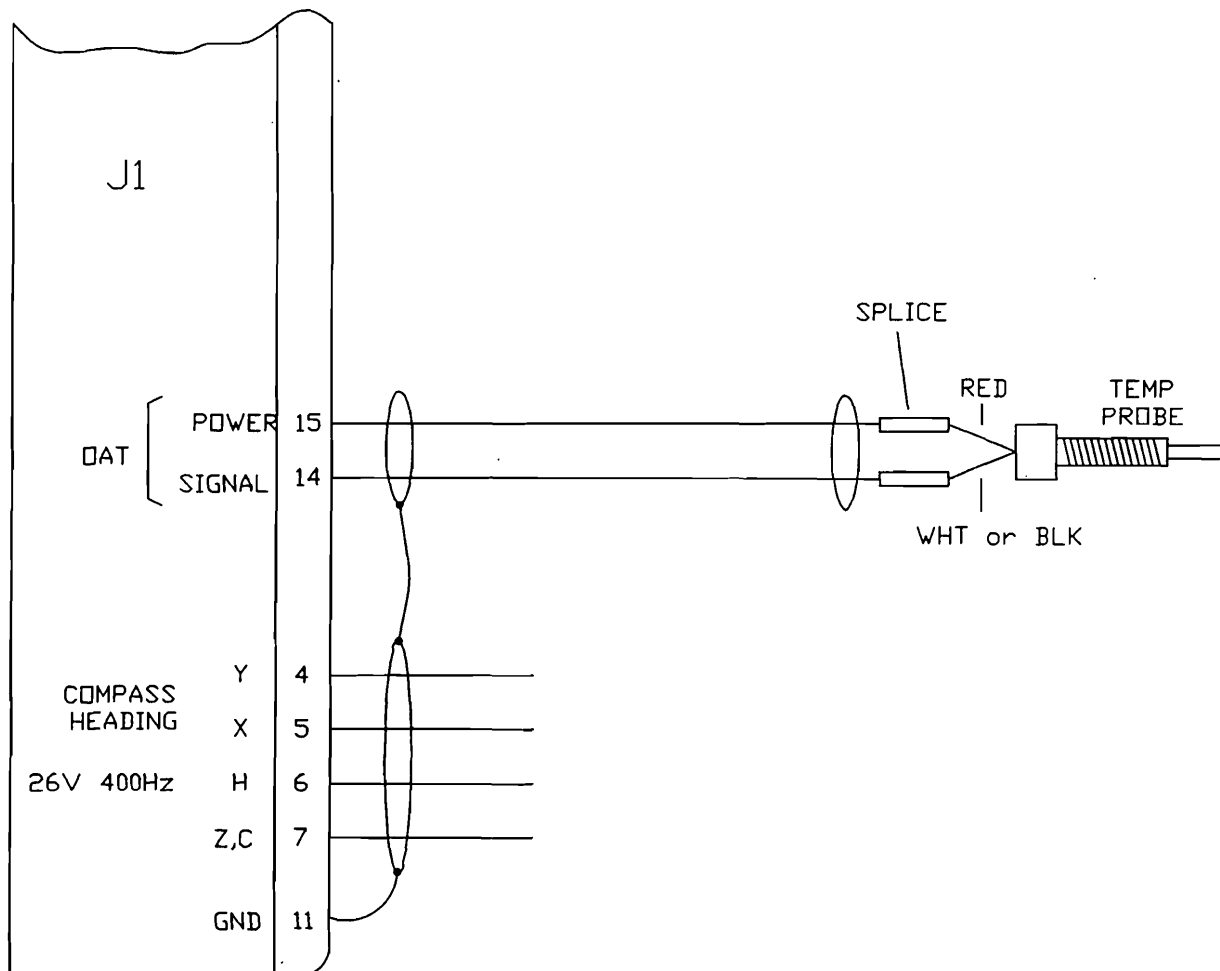
- 230051 - CONN, SHELL, MALE
- 230054 - CONN, PINS, MALE
- 230038 - CONN, HOOD, 15 PIN

|                             |                               |      |              |
|-----------------------------|-------------------------------|------|--------------|
| DRAWING DATE<br>2/16/95     | SHADIN MINNEAPOLIS, MN 55426  |      |              |
| DRAFTER<br>WMP              | INSTALLATION, ADC200<br>DC FF |      |              |
| APPROVED<br>SES             |                               |      |              |
| FILE NAME<br>962820-3-J.DWG | DRAWING NO.                   | SIZE | REV          |
| DIRECTORY<br>962820         | 4028-606                      | A    | P/N 962820-3 |
| SHEET 1 OF 1                |                               |      |              |

|          |      |         |     |       |                  |
|----------|------|---------|-----|-------|------------------|
| 9506/011 | -    | 8/31/95 | WMP | SES   | BASELINE RELEASE |
| ECO #    | REV. | DATE    | BY  | APP'D | DESCRIPTION      |

SCALE: NONE

ADC200  
962810-X  
962820-X

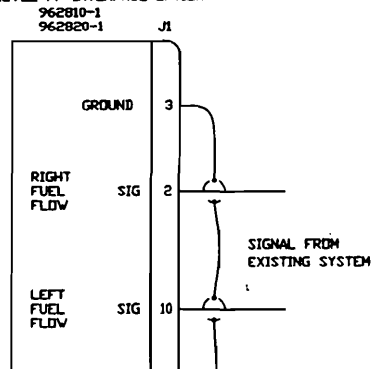


|                              |                                                                                 |      |     |
|------------------------------|---------------------------------------------------------------------------------|------|-----|
| DRAWING DATE<br>12/6/94      | <b>SHADIN</b> MINNEAPOLIS, MN 55426                                             |      |     |
| DRAFTER WMP                  | INSTALLATION WIRING, FUEL AIRDATA<br>COMPUTER (ADC200) TO DAT/HEADING<br>SYSTEM |      |     |
| APPROVED<br>SES              |                                                                                 |      |     |
| FILE NAME<br>4028-607A.J.DWG | DRAWING NO.                                                                     | SIZE | REV |
| DIRECTORY<br>4028            | 4028-607                                                                        | A    | P/N |
| SHEET 1 OF 1                 |                                                                                 |      |     |

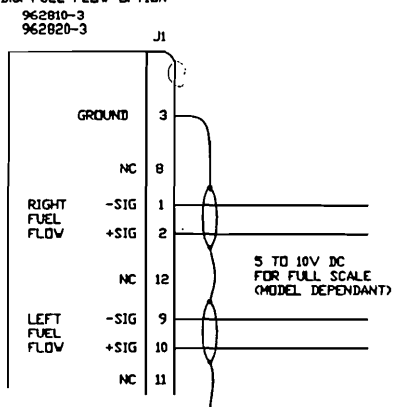
|          |      |         |     |       |                  |
|----------|------|---------|-----|-------|------------------|
| 9509/015 | A    | 9/13/95 | WMP | SES   | ADD GND          |
| 9506/011 | -    | 8/31/95 | WMP | SES   | BASELINE RELEASE |
| ECO #    | REV. | DATE    | BY  | APP'D | DESCRIPTION      |

SCALE: NONE

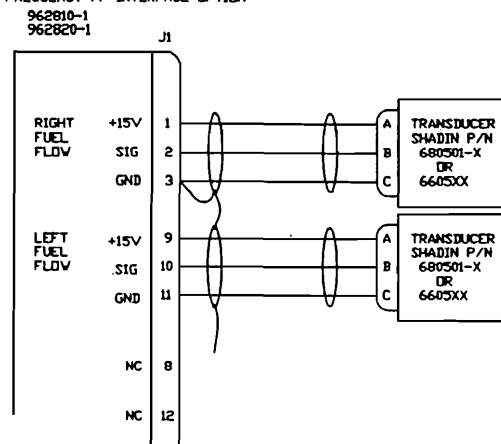
# LEVEL FF INTERFACE OPTION



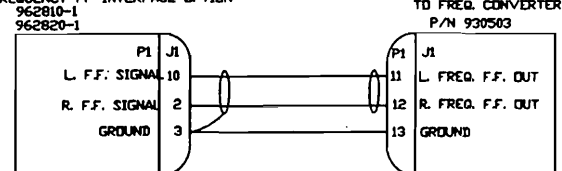
# D.C. FUEL FLOW OPTION



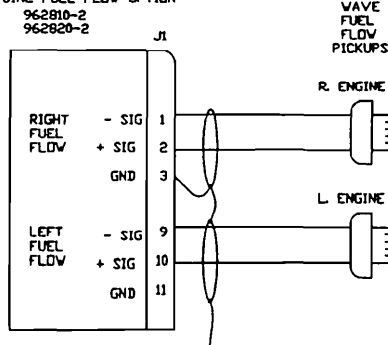
# FREQUENCY FF INTERFACE OPTION



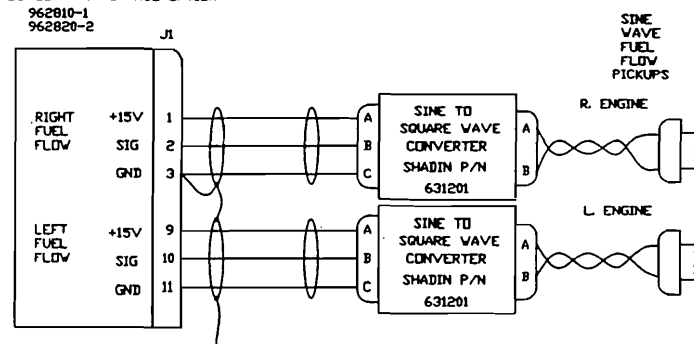
# FREQUENCY FF INTERFACE OPTION



# SINE FUEL FLOW OPTION



# LEVEL FF INTERFACE OPTION



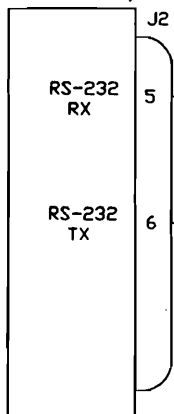
| 9509/015 | A    | 9/13/95 | WMP | SES   | CORRECT P/N ON LEVEL FF INTERFACE OPTION |
|----------|------|---------|-----|-------|------------------------------------------|
| 9506/011 | -    | 8/31/95 | WMP | SES   | BASELINE RELEASE                         |
| ECO #    | REV. | DATE    | BY  | APP'D | DESCRIPTION                              |

SCALE: NONE

|              |                 |
|--------------|-----------------|
| DRAWING DATE | 12/6/94         |
| DRAFTER      | WMP             |
| APPROVED     | SES             |
| FILE NAME    | 4028-608A.J.DWG |
| DIRECTORY    | 4028            |
| SHEET        | 1 OF 1          |

|                                                                    |          |
|--------------------------------------------------------------------|----------|
| SHADIN MINNEAPOLIS, MN 55426                                       |          |
| INSTALLATION WIRING, FUEL/AIRDATA COMPUTER (ADC200) TO FUEL SYSTEM |          |
| DRAWING NO.                                                        | 4028-608 |
| SIZE                                                               | A        |
| P/N                                                                |          |
| REV                                                                | A        |

962810-X  
962820-X  
962830-X } X = 1, 2, 3



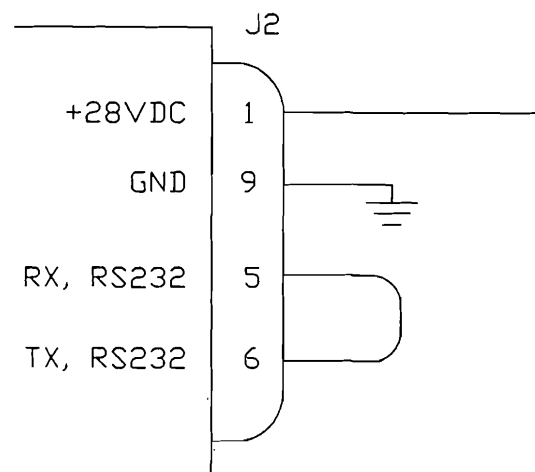
|           |                    |                                    |                          |                                                                   |             |                            |                |                 |                                     |                 |                          |                                        |                                          |          |                   |
|-----------|--------------------|------------------------------------|--------------------------|-------------------------------------------------------------------|-------------|----------------------------|----------------|-----------------|-------------------------------------|-----------------|--------------------------|----------------------------------------|------------------------------------------|----------|-------------------|
| CNX<br>80 | GARMIN<br>430, 530 | BENDIX/<br>KING<br>KLN90<br>KLN90B | BENDIX/<br>KING<br>KLN89 | GARMIN<br>150, 155,<br>155XL,<br>165,<br>250, 250XL<br>300, 300XL | LNS<br>6000 | BENDIX/<br>KING<br>KLN 900 | FOSTER<br>7000 | IIMORROW<br>360 | IIMORROW<br>NMS2001                 | IIMORROW<br>820 | IIMORROW<br>GX 50,<br>60 | ARNAV<br>FMS7000,<br>R5000<br>STAR5000 | MAGELLAN<br>SKYNAV<br>5000<br><br>A    B |          | IIMORROW<br>GX 55 |
| TX<br>22  | TX<br>56           | TX<br>13                           | TX<br>2                  | TX<br>24                                                          | TX<br>25    | TX<br>6                    | TX<br>A        | TX<br>8/1       | TX<br>(SOFTWARE<br>SELECT)<br>19/37 | TX<br>6         | TX<br>5                  | TX<br>3                                | TX<br>12                                 | TX<br>25 | TX<br>6           |
| RX<br>21  | RX<br>57           | RX<br>36                           | RX<br>1                  | RX<br>17                                                          | RX<br>26    | RX<br>38                   | RX<br>R        | RX<br>20/14     | RX<br>21/38                         | RX<br>7         | RX<br>4                  | RX<br>4                                | RX<br>11                                 | RX<br>23 | RX<br>7           |

|          |      |         |     |       |                        |
|----------|------|---------|-----|-------|------------------------|
| 0501/006 | C    | 1/17/05 | PAB | ZAL   | ADDED CNX 80           |
| 0211/047 | B    | 2/7/03  | PAB | BAL   | DEL PIN 9; ADDED GND   |
| 0009/006 | A    | 9/6/00  | PAB | EDJ   | ADD GARMIN 430/530 GPS |
| 9803/025 | -    | 3/26/98 | SRB | KCL   | BASELINE RELEASE       |
| ECO #    | REV. | DATE    | BY  | APP'D | DESCRIPTION            |

NOT TO SCALE

|                              |                                      |           |
|------------------------------|--------------------------------------|-----------|
| DRAWING DATE<br>3/25/98      | <b>SHADIN</b> MINNEAPOLIS, MN 55426  |           |
| DRAFTER<br>SRB               | INSTALLATION WIRING, F/ADC-200, 2000 |           |
| APPROVED<br>PAB              | TO NAV RECEIVERS W/RS-232            |           |
| FILE NAME<br>4028-943C.J.DWG | DRAWING NO.<br>4028-943              | SIZE<br>A |
| DIRECTORY<br>4028            | P/N                                  | REV<br>C  |

SHEET 1 OF 1



**NOTES:**

1. CONSULT INSTALLATION MANUAL FOR F/ADC PROGRAMMING INSTRUCTIONS.
2. MATING CONNECTOR: 15 PIN FEMALE D-SUB (SHADIN PN 230050C) OR EQUIVALENT

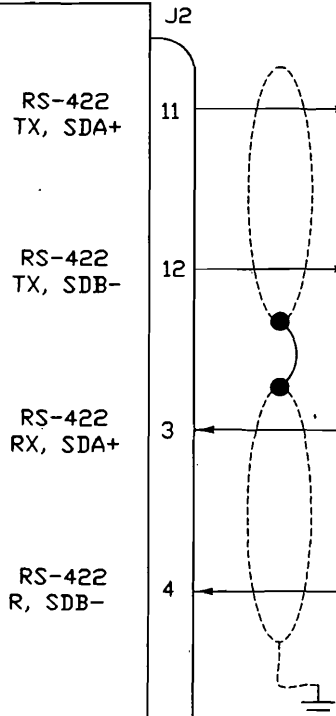
| 0509/028 | C    | 9/19/05 | PAB | 2A    | CORRECTED PIN OUT J2:5 & 6, EDITED NOTE 2 |
|----------|------|---------|-----|-------|-------------------------------------------|
| 0501/032 | B    | 2/14/05 | PAB | VMP   | UPDATED TITLE BLOCK                       |
| 9809/022 | A    | 9/28/98 | DLR | KCL   | CORRECTED PIN OUT                         |
| 9803/025 | -    | 3-26-98 | SRB | KCL   | BASELINE RELEASE                          |
| ECO #    | REV. | DATE    | BY  | APP'D | DESCRIPTION                               |

NOT TO SCALE

|                              |                                                                                  |           |     |          |
|------------------------------|----------------------------------------------------------------------------------|-----------|-----|----------|
| DRAWING DATE<br>3/25/98      | SHADIN MINNEAPOLIS, MN 55426                                                     |           |     |          |
| DRAFTER<br>SRB               | INSTALLATION WIRING, LOOP<br>BACK HARNESS FOR F/ADC200, 2000, D-SUB<br>CONNECTOR |           |     |          |
| APPROVED<br>KCL              |                                                                                  |           |     |          |
| FILE NAME<br>4028-944C.J.DWG |                                                                                  |           |     |          |
| DIRECTORY<br>4028            | DRAWING NO.<br>4028-944                                                          | SIZE<br>A | P/N | REV<br>C |
| SHEET 1 OF 1                 |                                                                                  |           |     |          |

962810-X }  
 962820-X } X = 1, 2, 3  
 962830-X }

| TRIMBLE | TRIMBLE | NORTSTAR |
|---------|---------|----------|
| 1000,   | 2100,   | M1A      |
| 2000,   | 2101,   | M2       |
| 3000    | 3100    | M3       |
|         |         | 60/600   |



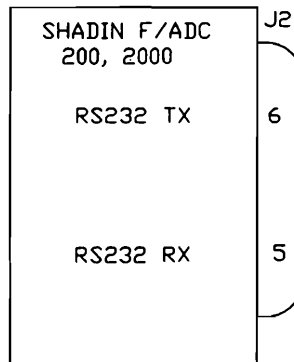
|          |          |          |
|----------|----------|----------|
| RX, SDA+ | RX, SDA+ | N/A      |
| 16       | 7        |          |
| RX, SDB- | RX, SDB- | N/A      |
| 4        | 8        |          |
| TX, SDA+ | TX, SDA+ | TX, SDA+ |
| 15       | 37       | 11       |
| TX, SDB- | TX, SDB- | TX, SDB- |
| 3        | 5        | 6        |

|                              |  |                                     |          |
|------------------------------|--|-------------------------------------|----------|
| DRAWING DATE<br>3/23/98      |  | <b>SHADIN</b> MINNEAPOLIS, MN 55426 |          |
| DRAFTER<br>SRB               |  | INSTALLATION WIRING, F/ADC200, 2000 |          |
| APPROVED<br>KCL              |  | TO NAV RECEIVERS W/RS-422, RS-485   |          |
| FILE NAME<br>4028-946A.J.DWG |  | DRAWING NO.                         |          |
| DIRECTOR<br>4028             |  | 4028-946                            |          |
| SHEET 1 OF 1                 |  | SIZE<br>A                           | REV<br>A |

| ECO #    | REV. | DATE    | BY  | APP'D | DESCRIPTION          |
|----------|------|---------|-----|-------|----------------------|
| 0211/047 | A    | 3/11/03 | PAB | BAL   | DEL PIN 9, ADDED GND |
| 9803/025 | -    | 3/26/98 | SRB | KCL   | BASELINE RELEASE     |

NOT TO SCALE

# BENDIX/KING



| KLN90,A,B | KLN89 | KLN900 |
|-----------|-------|--------|
| P901      | P891  | P9002  |
| 36        | 1     | 38     |
| 13        | 2     | 6      |

| SHADIN FUEL FLOW METER |                        |                       |                         |
|------------------------|------------------------|-----------------------|-------------------------|
| DIGIFLO<br>P/N 91053XT | DIGIFLO<br>P/N 91053XP | MINIFLO<br>P/N 91204X | MICROFLO<br>91204XT-38D |
| J                      | 5                      | 6                     | 6                       |
| H                      | 12                     | 9                     | 9                       |

## NOTES:

1. CONFIGURE SHADIN F/ADC 200 I/O FOR FLOWMETER/BENDIX C.
2. CONFIGURE SHADIN F/ADC 2000 I/O FOR FLOWMETER/BENDIX C OR FLOWMETER/BENDIX D IF USING THE BAROMETRIC INTERFACE.
3. CONFIGURE SHADIN FUEL FLOW METER I/O FOR ON/AIRDATA.
4. FUEL FLOW TRANSDUCER SIGNAL(S) ARE CONNECTED TO THE SHADIN FUEL FLOW METER. NO FUEL SIGNAL CONNECTION TO THE ADC.
5. MINIMUM SOFTWARE LEVEL:  
 DIGIFLO 60.10.77  
 MINIFLO 60.01.77  
 MICROFLO 60.08.77  
 ADC 200/2000 93.XX.77

|                             |                                      |           |          |
|-----------------------------|--------------------------------------|-----------|----------|
| DRAWING DATE<br>3/25/98     | <b>SHADIN</b> MINNEAPOLIS, MN 55426  |           |          |
| DRAFTER<br>SRB              | INSTALLATION WIRING, F/ADC200, 2000, |           |          |
| APPROVED<br>KCL             | SHADIN FUEL FLOW INDICATORS TO       |           |          |
| FILE NAME<br>4028-947AJ.DWG | BENDIX/KING NAV. RECEIVER.           |           |          |
| DIRECTORY<br>4028           | DRAWING NO.<br>4028-947              | SIZE<br>A | REV<br>A |
| SHEET 1 OF 1                | P/N                                  |           |          |

| 0211/047 | A    | 3/11/03 | PAB | BAL   | ADDED NOTES 4 & 5; ADDED FUEL FLOW METER SW VERSIONS |
|----------|------|---------|-----|-------|------------------------------------------------------|
| 9803/025 | -    | 3/26/98 | SRB | KCL   | BASELINE RELEASE                                     |
| ECO #    | REV. | DATE    | BY  | APP'D | DESCRIPTION                                          |

NOT TO SCALE



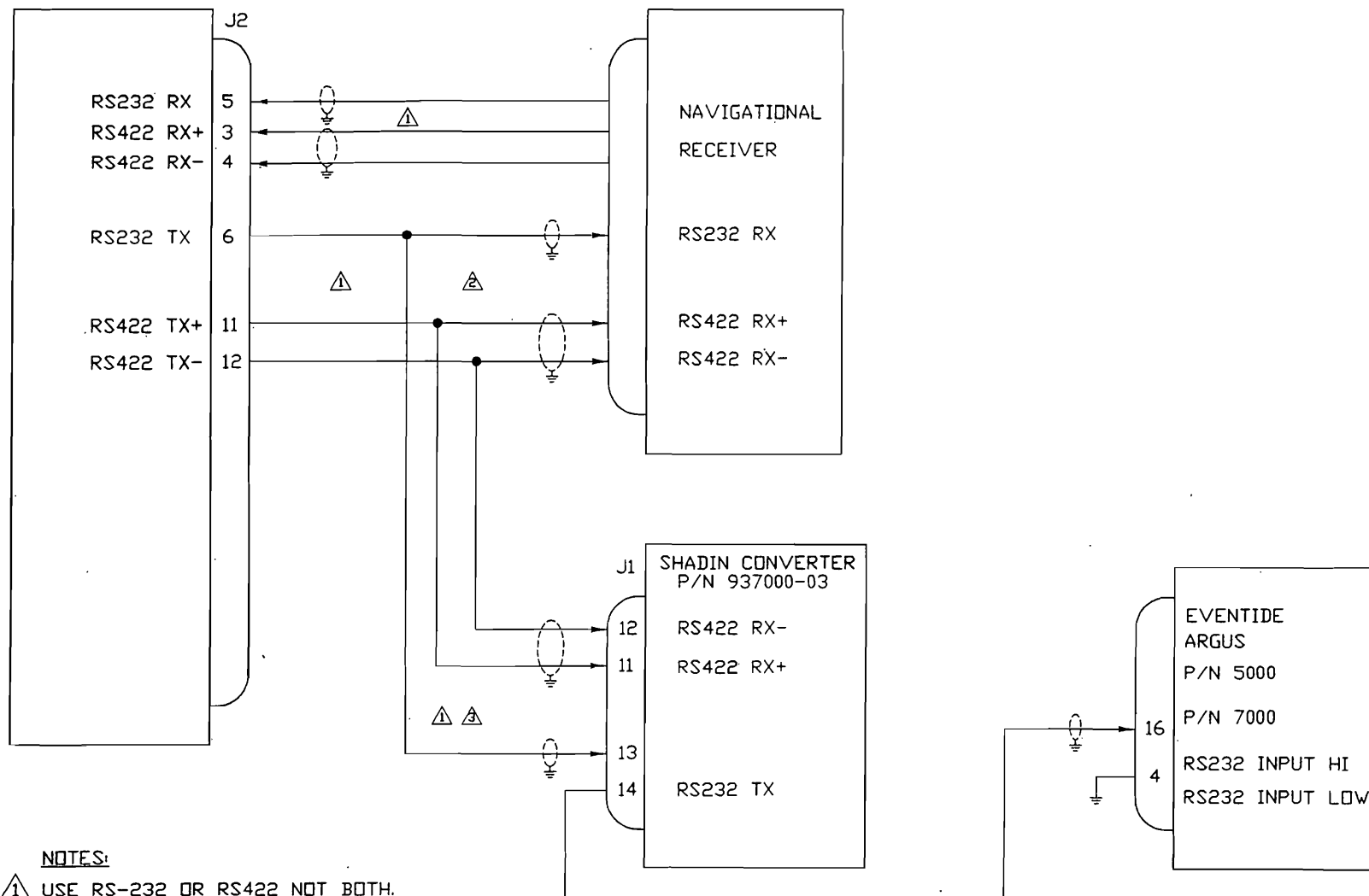
F/A, 2000

P/N 962810-X

P/N 962820-X

P/N 962830-X

X = 1, 2, 3



# NOTES:

- 1 USE RS-232 OR RS422 NOT BOTH.
- 2 CONNECT SHADIN CONVERTER P/N 937000-03 IN PARALLEL WITH NAVIGATIONAL RECEIVERS SERIAL DATA INPUT.
- 3 CONSULT DRAWING NUMBER 4070-005 FOR WIRING AND STRAPPING INFORMATION.

|                            |                                                                            |      |     |
|----------------------------|----------------------------------------------------------------------------|------|-----|
| DRAWING DATE<br>3/25/98    | <b>SHADIN</b> MINNEAPOLIS, MN 55426                                        |      |     |
| DRAFTER<br>SRB             | INSTALLATION WIRING, F/ADC200, 2000 AND SHADIN CONVERTER TO EVENTIDE ARGUS |      |     |
| APPROVED<br>KCL            |                                                                            |      |     |
| FILE NAME<br>4028-948A.DWG | DRAWING NO.                                                                | SIZE | REV |
| DIRECTORY<br>4028          | 4028-948                                                                   | A    | P/N |
| SHEET 1 OF 1               |                                                                            |      |     |

|          |      |         |     |       |                     |
|----------|------|---------|-----|-------|---------------------|
| 0501/032 | A    | 2-11-05 | PAB | 22    | UPDATED TITLE BLOCK |
| 9803/025 | -    | 3/26/98 | SRB | KCL   | BASELINE RELEASE    |
| ECO #    | REV. | DATE    | BY  | APP'D | DESCRIPTION         |

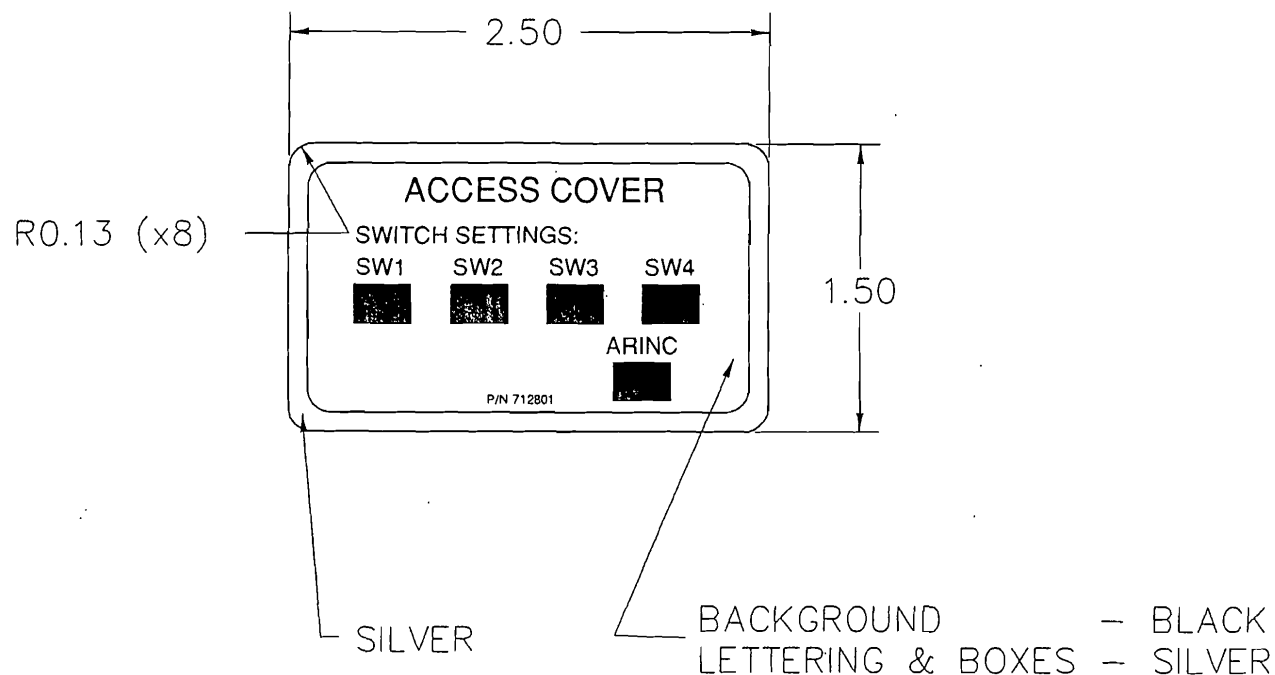
NOT TO SCALE

# MANUFACTURING NOTES:

1. MATCH FONT STYLE AND SIZES. ALL OTHER DIMENSIONS AS SHOWN.
2. SWITCH SETTING BOX DIMENSIONS ARE AS FOLLOWS:  
 WIDTH = .295  
 HEIGHT = .200

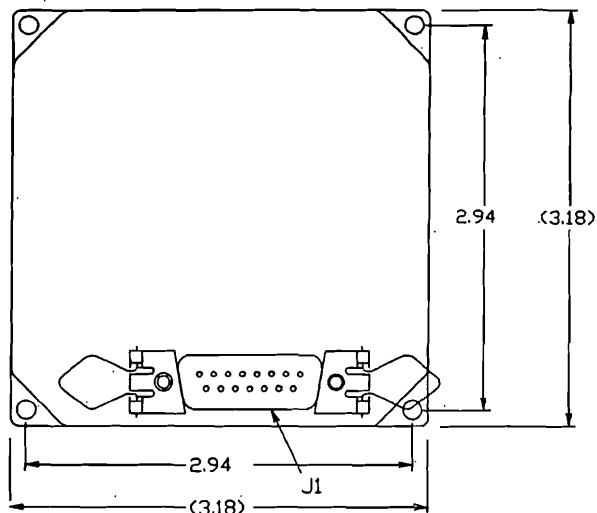
# APPLICATION NOTES:

- A. IF CONFIGURATION IS NECESSARY PRINT SWITCH SETTINGS IN SPACE PROVIDED. PRINT "N/A" WHEN SWITCHES ARE NOT USED.  
 (MANUFACTURER IGNORE)



|          |      |         |     |       |                     |
|----------|------|---------|-----|-------|---------------------|
| 0501/032 | A    | 8-11-05 | PAB | KCL   | UPDATED TITLE BLOCK |
| 0812/002 | -    | 12/3/98 | PAB | KCL   | BASELINE RELEASE    |
| ECO #    | REV. | DATE    | BY  | APP'D | DESCRIPTION         |

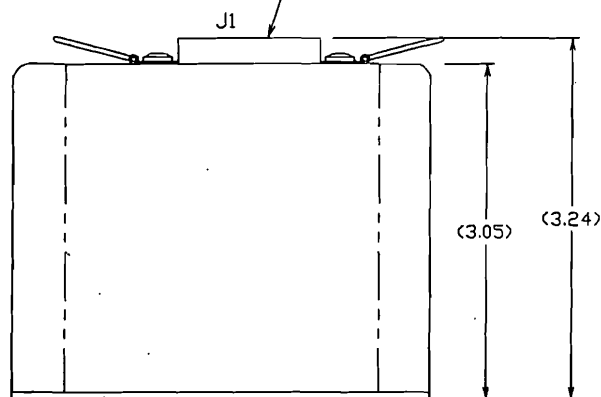
|                                                                                                                |                         |                                    |                         |           |           |
|----------------------------------------------------------------------------------------------------------------|-------------------------|------------------------------------|-------------------------|-----------|-----------|
| UNLESS OTHERWISE NOTED<br>DIMENSIONS ARE IN INCHES<br>TOLERANCES: X.X - ±0.1<br>X.XX - ±0.01<br>X.XXX - ±0.005 | DRAWING DATE<br>12/2/98 | SHADIN MINNEAPOLIS, MN 55426       |                         |           |           |
|                                                                                                                | DRAFTER<br>PAB          | LABEL, ADC200/2000<br>ACCESS COVER |                         |           |           |
|                                                                                                                | APPROVED<br>KCL         |                                    |                         |           |           |
|                                                                                                                | FINISH:<br>N/A          | FILE NAME<br>712801A.DWG           | DRAWING NO.<br>4028-A80 | SIZE<br>A | P/N712801 |
| MATERIAL:<br>3M 7983                                                                                           | DIRECTORY<br>71XXXX     |                                    |                         |           |           |
| SCALE: FULL                                                                                                    | SHEET 1 OF 1            |                                    |                         |           |           |



#### MATING CONNECTOR:

SHADIN P/N 230036, 17-DA15S

SHADIN P/N 230038, HOOD: # DA-24658 15 PIN MALE CONNECTOR



#### SELECTOR TABLE

|                                         |
|-----------------------------------------|
| RS232 RX : TIE J1:7 TO J1:1             |
| RS422 RX : DEFAULT (NO JUMPER REQ'D)    |
| SINGLE ENGINE : J1:7 TO J1:2            |
| TWIN ENGINE : DEFAULT (NO JUMPER REQ'D) |

WEIGHT: 8 oz.  
POWER CONSUMPTION:  
210 ma. @ 28v DC

1. THE CONVERTER CAN BE MOUNTED IN ANY ORIENTATION
2. 4" SPACING IS REQUIRED ABOVE CONNECTOR
3. NO COOLING IS REQUIRED
4. THE CONVERTER CAN BE INSTALLED IN A PRESSURIZED OR NON-PRESSURIZED AREA, PROVIDING TEMPERATURE DOES NOT DROP BELOW -20°C
5. 1 AMP CIRCUIT BREAKER IS REQUIRED
6. NO SHOCK MOUNT REQUIRED
7. USE HARDWARE PROVIDED IN INSTALL KIT P/N IK9337 TO ASSEMBLE MATING CONNECTOR.

#### CONNECTOR KEY

| PIN | FUNCTION                     |                                                        |
|-----|------------------------------|--------------------------------------------------------|
| 1   | RS232 OR RS422 SELECT        | SEE<br>SELECTOR<br>TABLE                               |
| 2   | TWIN OR SINGLE ENGINE SELECT |                                                        |
| 3   | N.C.                         |                                                        |
| 4   | N.C.                         |                                                        |
| 5   | N.C.                         |                                                        |
| 6   | N.C.                         | FROM SHADIN ADC<br>(USE RS-232 OR RS-422,<br>NOT BOTH) |
| 7   | SELECT POWER (OUTPUT)        |                                                        |
| 8   | +14 TO 28 V DC POWER IN      |                                                        |
| 9   | N.C.                         |                                                        |
| 10  | SIGNAL GROUND                |                                                        |
| 11  | RS422 RX+                    | FROM SHADIN ADC<br>(USE RS-232 OR RS-422,<br>NOT BOTH) |
| 12  | RS422 RX-                    |                                                        |
| 13  | RS232 RX                     |                                                        |
| 14  | RS232 TX, TO ARGUS 5000/7000 |                                                        |
| 15  | POWER GND                    |                                                        |

|          |      |          |     |       |                                                                      |
|----------|------|----------|-----|-------|----------------------------------------------------------------------|
| 0501/032 | B    | 11-05    | PAB | PG    | UPDATED TITLE BLOCK; "CONVERTER" WAS "TXMTR"                         |
| 9801/025 | A    | 10/12/98 | DMD | PG    | ADDED NOTE 7, CORRECTED HEIGHT, PROVIDED SHADIN P/N FOR MATING CONN. |
| 9707/023 | -    | 7/15/97  | PAB | PG    | BASELINE RELEASE                                                     |
| ECO #    | REV. | DATE     | BY  | APP'D | DESCRIPTION                                                          |

|                                                                                              |                         |                                                      |                         |           |          |
|----------------------------------------------------------------------------------------------|-------------------------|------------------------------------------------------|-------------------------|-----------|----------|
| UNLESS OTHERWISE NOTED<br>DIMENSIONS ARE IN INCHES<br>TOLERANCES: X.X = ±0.1<br>X.XX = ±0.01 | DRAWING DATE<br>7/14/97 | SHADIN MINNEAPOLIS, MN 55426                         |                         |           |          |
| FINISH: N/A                                                                                  | DRAWN BY<br>PAB         | INSTALLATION, SERIAL TO<br>ARGUS 5000/7000 CONVERTER |                         |           |          |
| MATERIAL: N/A                                                                                | APPROVED<br>PG          | FILE NAME<br>937000-038.DWG                          | DRAWING NO.<br>4070-005 | SIZE<br>A | REV<br>B |
| SCALE: NONE                                                                                  | DIRECTORY<br>937000-03  | SHEET<br>TOP 1                                       | P/N 937000-03           |           |          |

Report: 4032D  
ECO Date: April 4, 2007  
Rev: H  
Sec.: IX  
Page 1 of 1

Shadin Avionics  
Filename: 681201-1HP.doc  
DIRECTORY: 681201-1

ECO #: 0704/002  
Release date: 4-6-07  
Approved: *SK*

PARTS LIST

Drawing #: 4028-005 Rev C

Part #: 681201-1  
Description: OAT PROBE ASSEMBLY KIT

| <u>FN</u> | <u>P/N</u> | <u>QTY.</u> | <u>DESCRIPTION</u>              | <u>MFG.</u> | <u>MFG.#</u> | <u>DESIGNATION</u> | <u>COMMENTS</u> |
|-----------|------------|-------------|---------------------------------|-------------|--------------|--------------------|-----------------|
| 10        | 511201     | 4           | RIVET, AN4703-4 or MS20470AD3-4 |             |              |                    |                 |
| 15        | 543216     | 1           | OAT STIFFENER RING              | SHA         | 4032-082     |                    |                 |
| 20        | 670503     | 1           | SHIELD, Temp Sensor Assy        | SHA         | 4005-265     |                    |                 |
| 25        | 670504     | 1           | NUT, Temp Sensor                | SHA         | 4005-266     |                    |                 |
| 30        | 670505     | 1           | WASHER, Flat OAT                | SHA         | 4005-303     |                    |                 |
| 35        | 670506     | 1           | WASHER, Shoulder OAT            | SHA         | 4005-304     |                    |                 |
| 40        | 681201     | 1           | OAT PROBE                       | SHA         | 4005-794     |                    |                 |

10 items

Report: 4028  
 ECO Date: April 4, 2007  
 Rev: D  
 Sec.: IX  
 Page 1 of 1

Shadin Avionics  
 FILE NAME: IK9628DP.DOC  
 DIRECTORY: Install Kits

ECO # 0704/002  
 Release date: 4-6-07  
 Approved: ZK

# PARTS LIST

Part #: IK9628

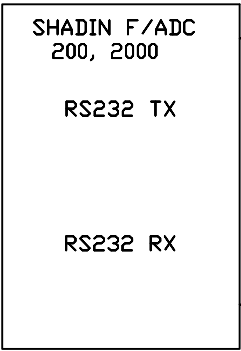
Drawing #s: N/A

Description: INSTALL KIT, F/ADC 200

| <u>FN</u> | <u>P/N</u> | <u>QTY.</u> | <u>DESCRIPTION</u>                      | <u>MFG.</u> | <u>MFG.#</u>               | <u>DESIGNATION</u> | <u>COMMENTS</u> |
|-----------|------------|-------------|-----------------------------------------|-------------|----------------------------|--------------------|-----------------|
| 5         | 230019H-1  | 4           | SPRING LATCH CLIP                       | SHA         | 4028-074                   |                    |                 |
| 10        | 230050C    | 1           | CONN, 15Pin, D-Sub, F Crimp, w/Contacts | POS         | M24308/2-2 (RD15F10000-50) | P1                 |                 |
| 15        | 230051C    | 1           | CONN, 15 Pin, D-Sub M Crimp, w/Contacts | POS         | M24308/4-2 (RD15M10000-50) | P2                 |                 |
| 20        | 230038     | 2           | CONN, Hood 15 Pin D Sub                 | CIN         | DA-24658                   |                    |                 |
| 22        | 239001     | 1           | TOOL, Insertion/Extraction              | DAN         | M81969/1-02                |                    |                 |
| 25        | 511002     | 4           | SCREW, 4-40 x 1/4"L, Phil Pan HD SS     | MCM         | 91772A106                  |                    |                 |
| 30        | 512007     | 4           | NUT, 4-40 3/16 x 1/16 SS                | AFT         | HNSP188 04C000             |                    |                 |
| 35        | 512014-1   | 1           | KNURLED KNOB                            | SHA         | 4028-132                   |                    |                 |
| 40        | 541001     | 4           | WASHER, #4 Split Lock SS                | MCM         | 92147A005                  |                    |                 |
| 45        | 542801A    | 1           | MOUNTING TRAY                           | SHA         | 4028-B05                   |                    |                 |

23 items

GARMIN



| GARMIN 430 | GARMIN 530 |
|------------|------------|
| P4001      | P5001      |
| 57         | 57         |
| 56         | 56         |

| SHADIN FUEL FLOW METER |                        |                       |                         |
|------------------------|------------------------|-----------------------|-------------------------|
| DIGIFLO<br>P/N 91053XT | DIGIFLO<br>P/N 91053XP | MINIFLO<br>P/N 91204X | MICROFLO<br>91204XT-38D |
| J                      | 5                      | 6                     | 6                       |
| H                      | 12                     | 9                     | 9                       |

NOTES:

1. CONFIGURE SHADIN F/ADC 200/2000 I/O FOR FLOWMETER/GARMIN G.
2. CONFIGURE SHADIN FUEL FLOW METER I/O FOR ON/AIRDATA.
3. CONFIGURE GARMIN 430/530 I/O FOR CHANNEL 1 TO SHADIN FADC/AVIATION.
4. MINIMUM SOFTWARE LEVEL

|              |          |
|--------------|----------|
| ADC 200/2000 | 93.XX.77 |
| GARMIN 430   | 2.17     |
| GARMIN 530   | 2.02     |
| DIGIFLO-L    | 60.10.84 |
| MINIFLO-L    | 60.01.83 |
| MICROFLO-L   | 60.08.86 |
5. FUEL FLOW TRANSDUCER SIGNAL(S) ARE CONNECTED TO THE SHADIN FUEL FLOW METER. NO FUEL SIGNAL CONNECTED TO THE ADC.

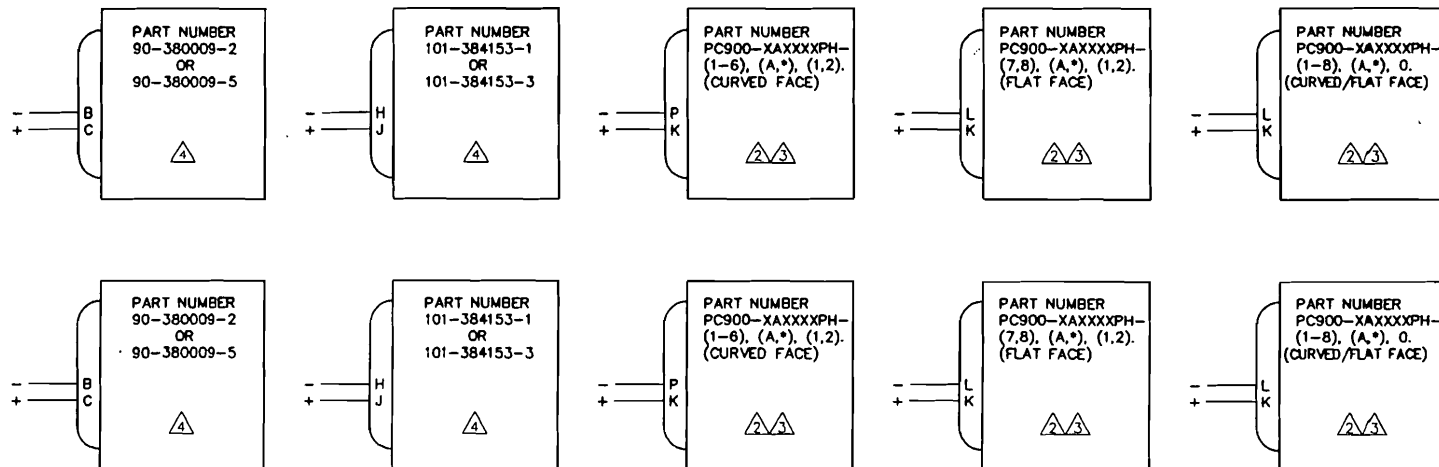
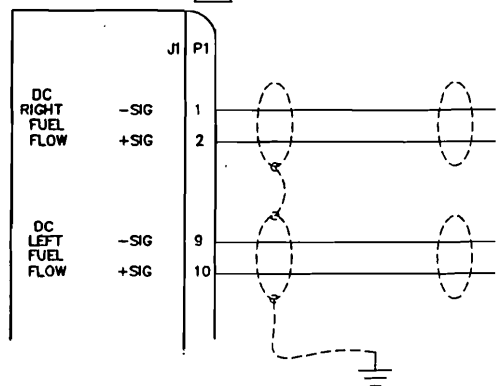
|          |      |         |     |       |                                                                           |
|----------|------|---------|-----|-------|---------------------------------------------------------------------------|
| 1104/005 | B    | 4/29/11 | HWL | ZK    | CHANGED SOFTWARE LEVEL IN NOTE 4                                          |
| 0211/047 | A    | 3/11/03 | PAB | BAL   | CHANGED TABLE TO NOTE 4; ADDED NOTE 5; UPDATED SW VERSIONS OF FLOW METERS |
| 0008/028 | -    | 9/12/00 | PAB | EDJ   | BASELINE RELEASE                                                          |
| ECO #    | REV. | DATE    | BY  | APP'D | DESCRIPTION                                                               |

|                             |
|-----------------------------|
| DRAWING DATE<br>8/21/00     |
| DRAFTER<br>PAB              |
| APPROVED<br>EDJ             |
| FILE NAME<br>4028-B94BJ.DWG |
| DIRECTORY<br>4028           |

|                                                                                       |
|---------------------------------------------------------------------------------------|
|  |
| MINNEAPOLIS, MN 55426                                                                 |
| DRAWING NO.<br>4028-B94                                                               |
| SIZE<br>A                                                                             |

|                                                                                             |          |
|---------------------------------------------------------------------------------------------|----------|
| INSTALLATION WIRING,<br>F/ADC200, 2000, SHADIN<br>FUEL FLOW INDICATORS<br>TO GARMIN 430/530 |          |
| P/N                                                                                         | REV<br>B |

ADC 200/2000  
D-SUB CONNECTOR



#### NOTES:

1. THIS SCHEMATIC IS USED FOR KNOWN BEECH KING AIR MODELS. SOME INDICATORS ARE NOT LISTED BUT MAY BE INTERFACED. CALL SHADIN TECH SUPPORT IF YOU DO NOT SEE THE PART NUMBER OF YOUR INDICATOR LISTED. INDICATOR PART NUMBERS POSSESSING A PREFIX OF "PC900-" ARE XOTECHNOLOGIES TYPE INDICATORS. THE LAST DIGIT REPRESENTS THE INDICATOR AUXILIARY RATE OUTPUT (1 NUMBER). SHADIN SUPPORTS THE "-1" MODELS ONLY.

2. XOTECHNOLOGIES INDICATOR P/N PC900-XAXXXPH-XX0 IS NOT SUPPORTED. THE AUXILIARY RATE OUTPUT OF THIS UNIT IS 0-1 mA. INDICATOR P/NS THAT END WITH A "-XX2" WILL ENCOUNTER A DEGRADATION IN PERFORMANCE DUE TO THE AUX. RATE OUTPUT OF 0-5.333 VDC. INDICATOR P/NS ENDING WITH AN "\*" ARE UNKNOWN.

3. THE FOLLOWING XOTECHNOLOGIES INDICATOR P/NS POSSESS A K-FACTOR KNOWN TO SHADIN:

#### ADC200/2000 SWITCH SETTINGS

| PART NUMBER      | K-FACTOR/OFFSET | AUX RATE OUTPUT | SW1 | SW2 | SW3 | SW4 |
|------------------|-----------------|-----------------|-----|-----|-----|-----|
| PC900-1A0600-XX1 | 38,460/0        | 0-5 VDC         | 0   | 4   | 0   | 0   |
| PC900-1A0750-XX1 | 30,770/0        | 0-5 VDC         | 0   | 5   | 0   | 0   |
| PC900-1A0800-XX1 | 28,850/0        | 0-5 VDC         | 0   | 6   | 0   | 0   |

4. THE FOLLOWING BEECH INDICATOR P/NS POSSESS A K-FACTOR KNOWN TO SHADIN:

#### ADC200/2000 SWITCH SETTINGS

| PART NUMBER  | K-FACTOR/OFFSET | SW1 | SW2 | SW3 | SW4 |
|--------------|-----------------|-----|-----|-----|-----|
| 90-380009-2  | 77,000/416      | 0   | 0   | 0   | 1   |
| 90-380009-5  | 77,000/416      | 0   | 0   | 0   | 1   |
| 101-384153-1 | 30,777/0        | 0   | 5   | 0   | 0   |
| 101-384153-3 | 30,777/0        | 0   | 5   | 0   | 0   |

5. THE J1 CONNECTOR OF THE ADC 200 AND ADC 2000 HAVE THE SAME FUEL FLOW PIN LOCATIONS.

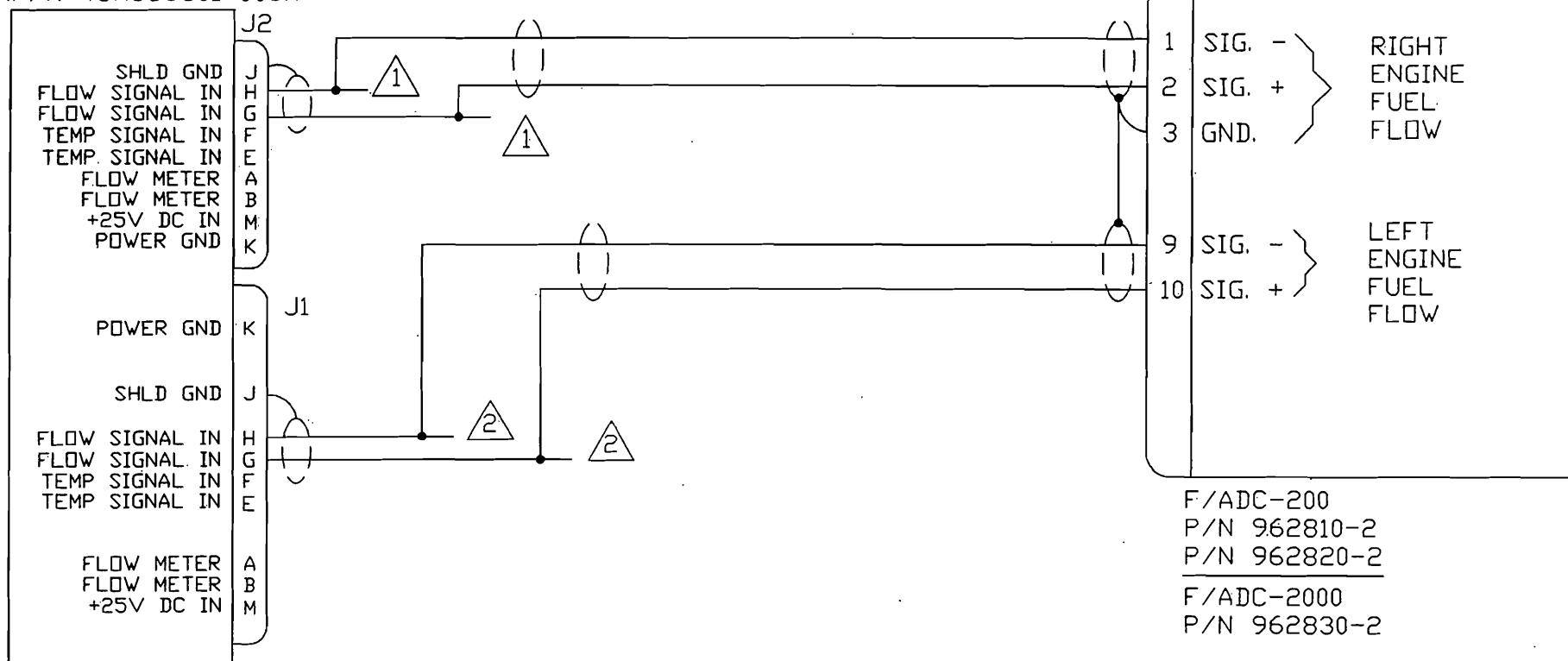
6. USE SHIELDED WIRE BUT GROUND ONLY ON ADC UNIT END TO PREVENT A GROUND LOOP.

|                        |  |                                                                                                       |          |
|------------------------|--|-------------------------------------------------------------------------------------------------------|----------|
| DRAWING DATE<br>6/9/97 |  | <b>SHADIN</b> MINNEAPOLIS, MN 55426                                                                   |          |
| DRAFTER<br>PAB         |  | INSTALLATION WIRING, F/ADC 200/2000 W/<br>ANALOG F.F. TO BEECH KING AIR INDICATORS<br>D-SUB CONNECTOR |          |
| APPROVED<br>KCL        |  | FILE NAME<br>4028-818B.DWG                                                                            |          |
| DIRECTOR<br>4028       |  | DRAWING NO.<br>4028-818                                                                               |          |
| SHEET 1 OF 1           |  | SIZE<br>A                                                                                             | REV<br>B |

| ECO #    | REV. | DATE    | BY  | APP'D | DESCRIPTION                                                      |
|----------|------|---------|-----|-------|------------------------------------------------------------------|
| 0211/047 | B    | 3/11/03 | PAB | BAL   | UPDATED NOTES 1-6; CORRECTED TITLE; GROUND SHIELDS               |
| 9803/022 | A    | 3/26/98 | SRB | KCL   | CHANGED NOTE 3 : 90-380009-5 FRO 26,150/416, REMOVE P/N 9628X0-3 |
| 9706/007 | -    | 6/13/97 | PAB | KCL   | BASELINE RELEASE                                                 |

SCALE: NONE

AIRCRAFT'S FUEL FLOW  
SIGNAL CONDITIONER  
(P/N 45AS86801-003).



NOTES

- 1 FROM RIGHT ENGINE FF TRANSMITTER.
- 2 FROM LEFT ENGINE FF TRANSMITTER.
- 3 F/ADC SWITCH SETTINGS

SIG COND. P/N  
45AS86801-003

K-FACTOR SW1 SW2 SW3 SW4  
5150 PPG 6 E 6 E

3

|                              |                                      |           |          |
|------------------------------|--------------------------------------|-----------|----------|
| DRAWING DATE<br>12/17/97     | SHADIN MINNEAPOLIS, MN 55426         |           |          |
| DRAFTER<br>DMD               | INSTALLATION WIRING, F/ADC 200, 2000 |           |          |
| APPROVED<br>KCL              | SINE FF TO MITSUBISHI MU-300 AND     |           |          |
| FILE NAME<br>4028-819B.J.DWG | MODEL 400 BEECHJET                   |           |          |
| DIRECTORY<br>4028            | DRAWING NO.<br>4028-819              | SIZE<br>A | REV<br>B |

|          |      |         |     |         |                                                   |
|----------|------|---------|-----|---------|---------------------------------------------------|
| 0501/032 | B    | 3-14-95 | PAB | 3-14-95 | UPDATED TITLE BLOCK                               |
| 9803/025 | A    | 3/26/98 | SRB | KCL     | CHANGE TITLE, CHANGE FILE NAME FROM 4028-819-.DWG |
| 9711/021 | -    | 1-8-98  | DMD | KCL     | BASELINE RELEASE                                  |
| ECO #    | REV. | DATE    | BY  | APP'D   | DESCRIPTION                                       |

DO NOT SCALE

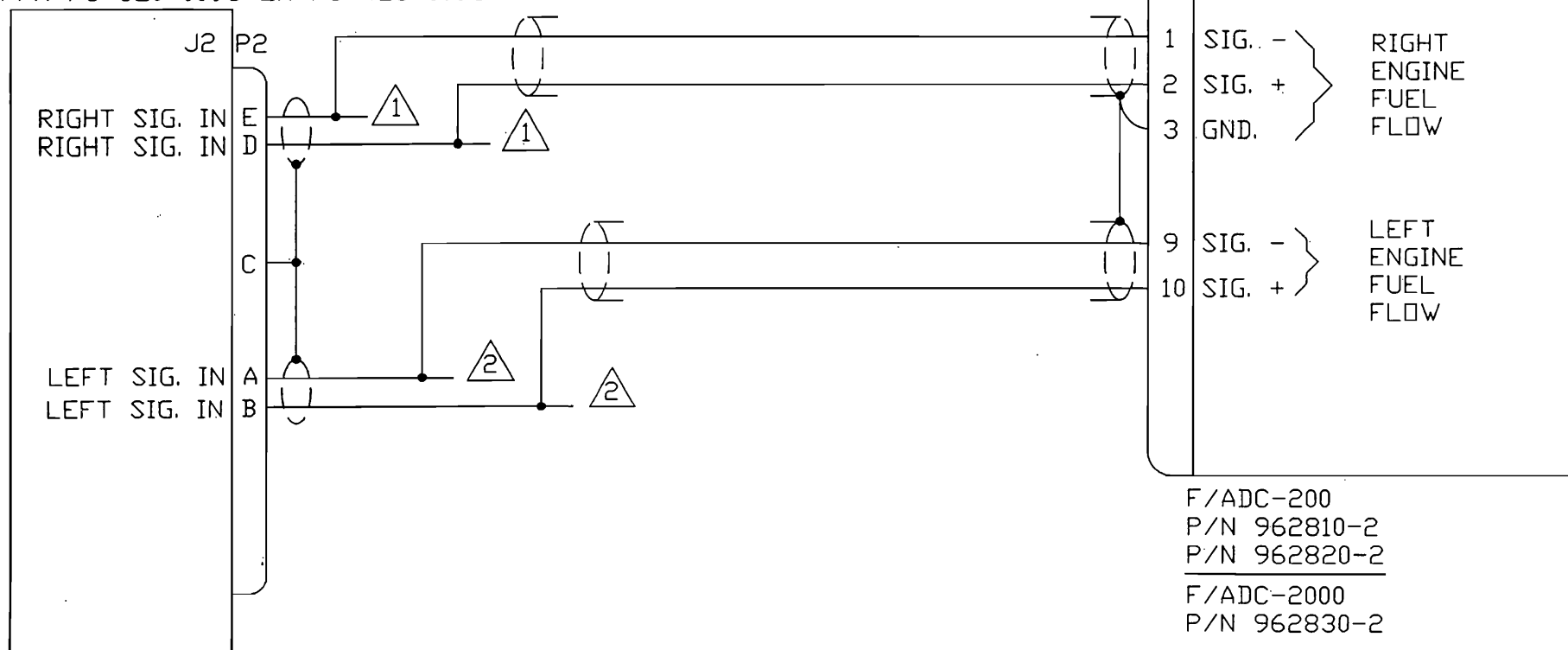
SHEET 1 OF 1



# NOTES

- 1 FROM RIGHT ENGINE FF TRANSMITTER.
- 2 FROM LEFT ENGINE FF TRANSMITTER.

SIGNAL COND.  
P/N PC-620-0098 OR PC-425-0098



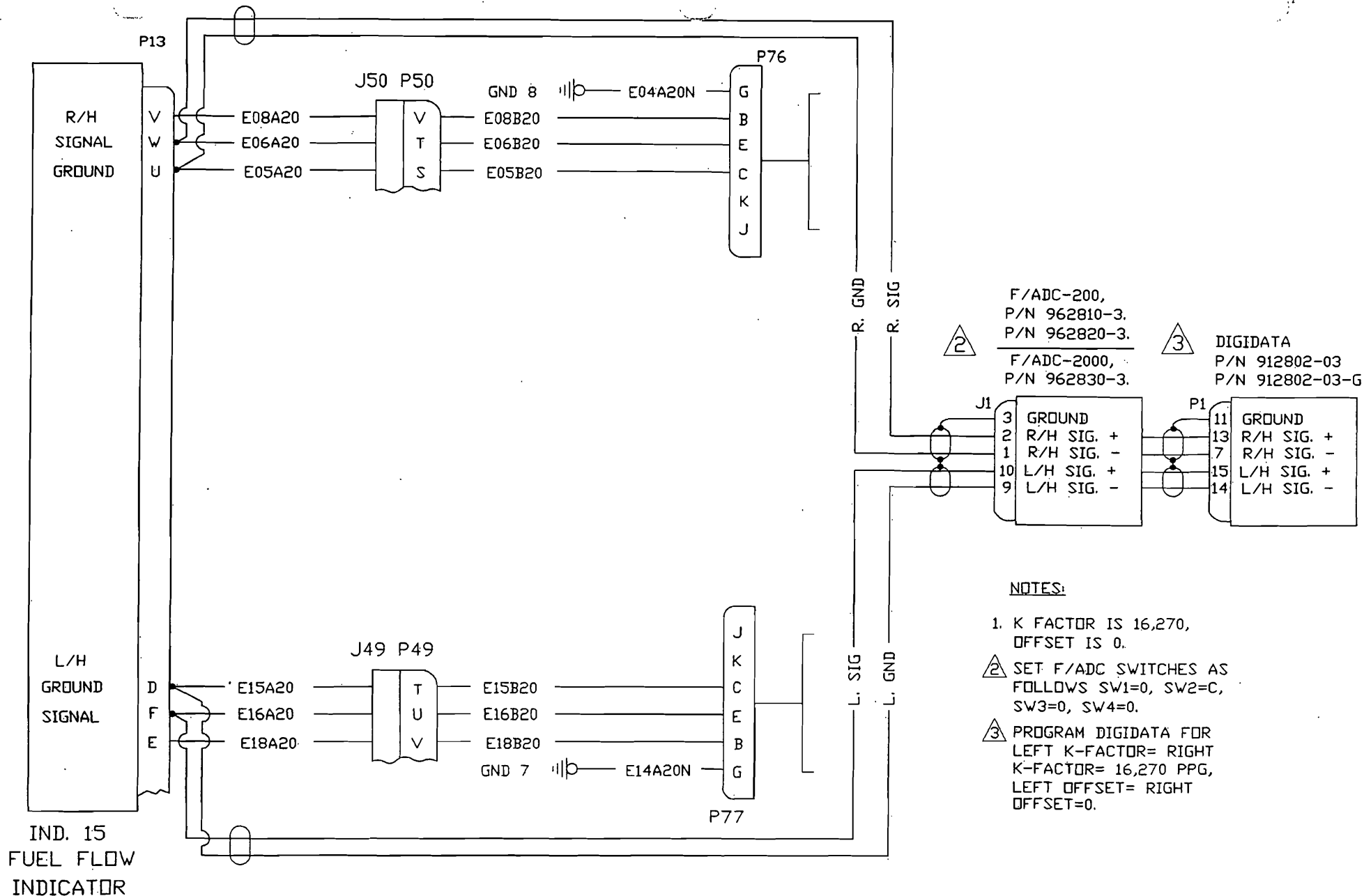
F/ADC-200  
P/N 962810-2  
P/N 962820-2  
F/ADC-2000  
P/N 962830-2

SIG COND. P/N K-FACTOR SW1 SW2 SW3 SW4  
PC-620-0098 33800 6 9 6 9

|          |      |         |     |       |                      |
|----------|------|---------|-----|-------|----------------------|
| 0501/032 | B    | 2/1/98  | PAB | PP    | UPDATED TITLE BLOCK  |
| 0007/031 | A    | 7/19/00 | PAB | RH    | ADD "OR PC-425-0098" |
| 9711/021 | -    | 1/8/98  | DMD | KCL   | BASELINE RELEASE     |
| ECO #    | REV. | DATE    | BY  | APP'D | DESCRIPTION          |

DO NOT SCALE

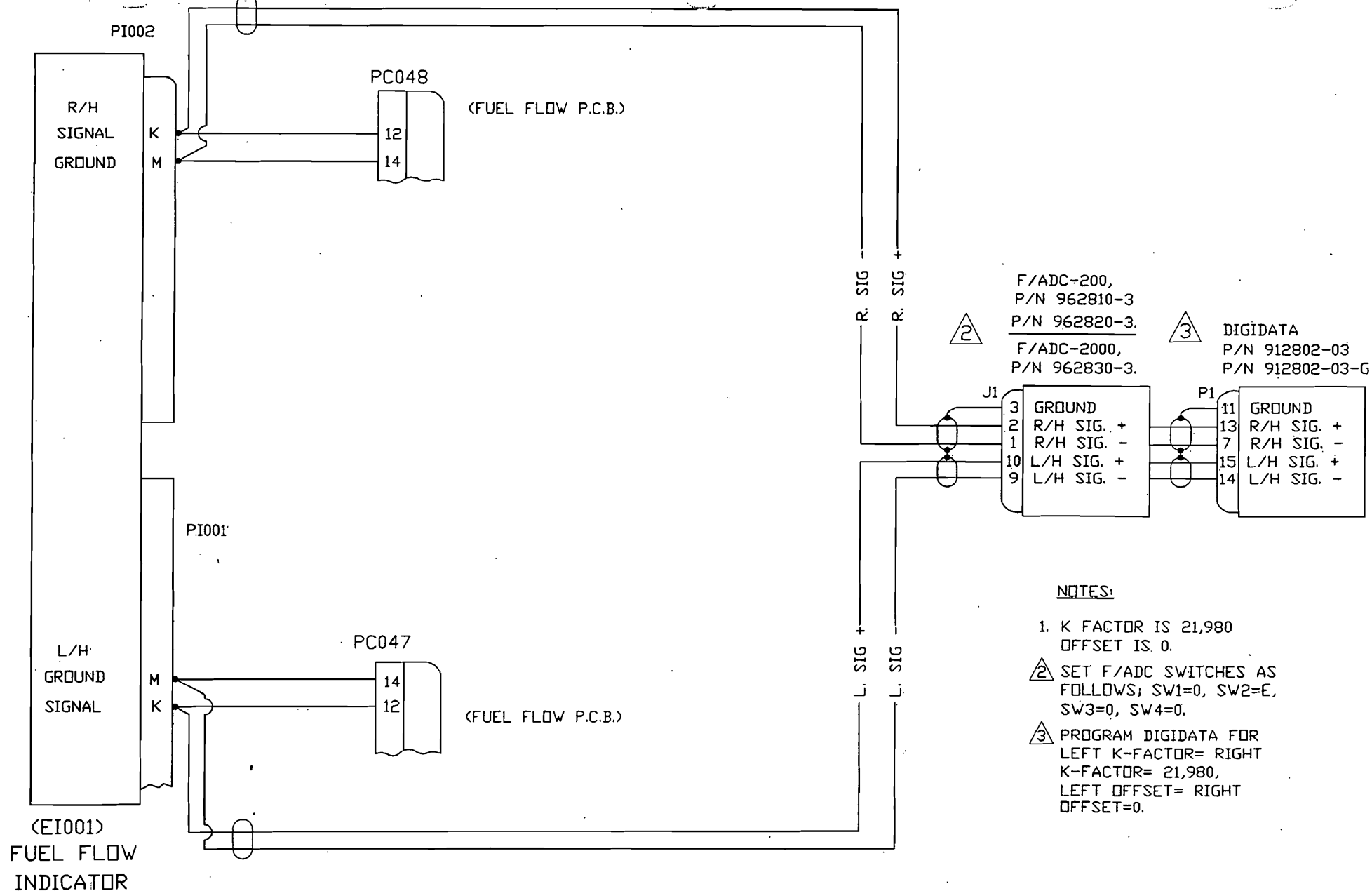
|                             |                               |           |          |
|-----------------------------|-------------------------------|-----------|----------|
| DRAWING DATE<br>12/17/97    | SHADIN MINNEAPOLIS, MN 55426  |           |          |
| DRAFTER<br>DMD              | INSTALLATION WIRING:          |           |          |
| APPROVED<br>KCL             | F/ADC-200(2000) TO MITSUBISHI |           |          |
| FILE NAME<br>4028-909BJ.DWG | MU-2 W/FOXBORO PC-620 SYSTEM  |           |          |
| DIRECTORY<br>4028           | DRAWING NO.<br>4028-909       | SIZE<br>A | REV<br>B |



|          |      |         |     |       |             |                     |
|----------|------|---------|-----|-------|-------------|---------------------|
| 0501/032 | A    | 3/26/98 | PAB | SRB   | KCL         | UPDATED TITLE BLOCK |
| 9803/025 | -    | 3/26/98 | SRB | KCL   | KCL         | BASELINE RELEASE    |
| ECO #    | REV. | DATE    | BY  | APP'D | DESCRIPTION |                     |

NOT TO SCALE

|                            |                                                                                |           |           |          |
|----------------------------|--------------------------------------------------------------------------------|-----------|-----------|----------|
| DRAWING DATE<br>3/24/98    | <i>SHADIN</i> MINNEAPOLIS, MN 55426                                            |           |           |          |
| DRAWN BY<br>SRB            | INSTALLATION WIRING, F/ADC200, 2000                                            |           |           |          |
| APPROVED<br>KCL            | OR DIGIDATA WITH DC FF TO<br>CESSNA CITATION 500, 501, 550,<br>S550, 551, 552. |           |           |          |
| FILE NAME<br>4028-936A.DWG | DRAWING NO.<br>4028-936                                                        | SIZE<br>A | P/N _____ |          |
| DIRECTORY<br>4028          |                                                                                |           |           | REV<br>A |
| SHEET 1 OF 1               |                                                                                |           |           |          |



# NOTES:

- K FACTOR IS 21,980  
OFFSET IS 0.
- SET F/ADC SWITCHES AS  
FOLLOWS; SW1=0, SW2=E,  
SW3=0, SW4=0.
- PROGRAM DIGIDATA FOR  
LEFT K-FACTOR= RIGHT  
K-FACTOR= 21,980,  
LEFT OFFSET= RIGHT  
OFFSET=0.

| ECO #    | REV. | DATE    | BY  | APP'D | DESCRIPTION         |
|----------|------|---------|-----|-------|---------------------|
| 0501/032 | A    | 1-19-83 | PAB |       | UPDATED TITLE BLOCK |
| 9803/025 | -    | 3/26/98 | SRB | KCL   | BASELINE RELEASE    |

|              |               |
|--------------|---------------|
| DRAWING DATE | 3/24/98       |
| DRAFTER      | SRB           |
| APPROVED     | KCL           |
| FILE NAME    | 4028-937A.DWG |
| DIRECTORY    | 4028          |

|                                                                                             |          |
|---------------------------------------------------------------------------------------------|----------|
| SHADIN MINNEAPOLIS, MN 55426                                                                |          |
| INSTALLATION WIRING, F/ADC200, 2000<br>DR DIGIDATA WITH DC FF TO<br>CESSNA CITATION 525 JET |          |
| DRAWING NO.                                                                                 | 4028-937 |
| SIZE                                                                                        | A        |
| P/N                                                                                         |          |
| REV                                                                                         | A        |

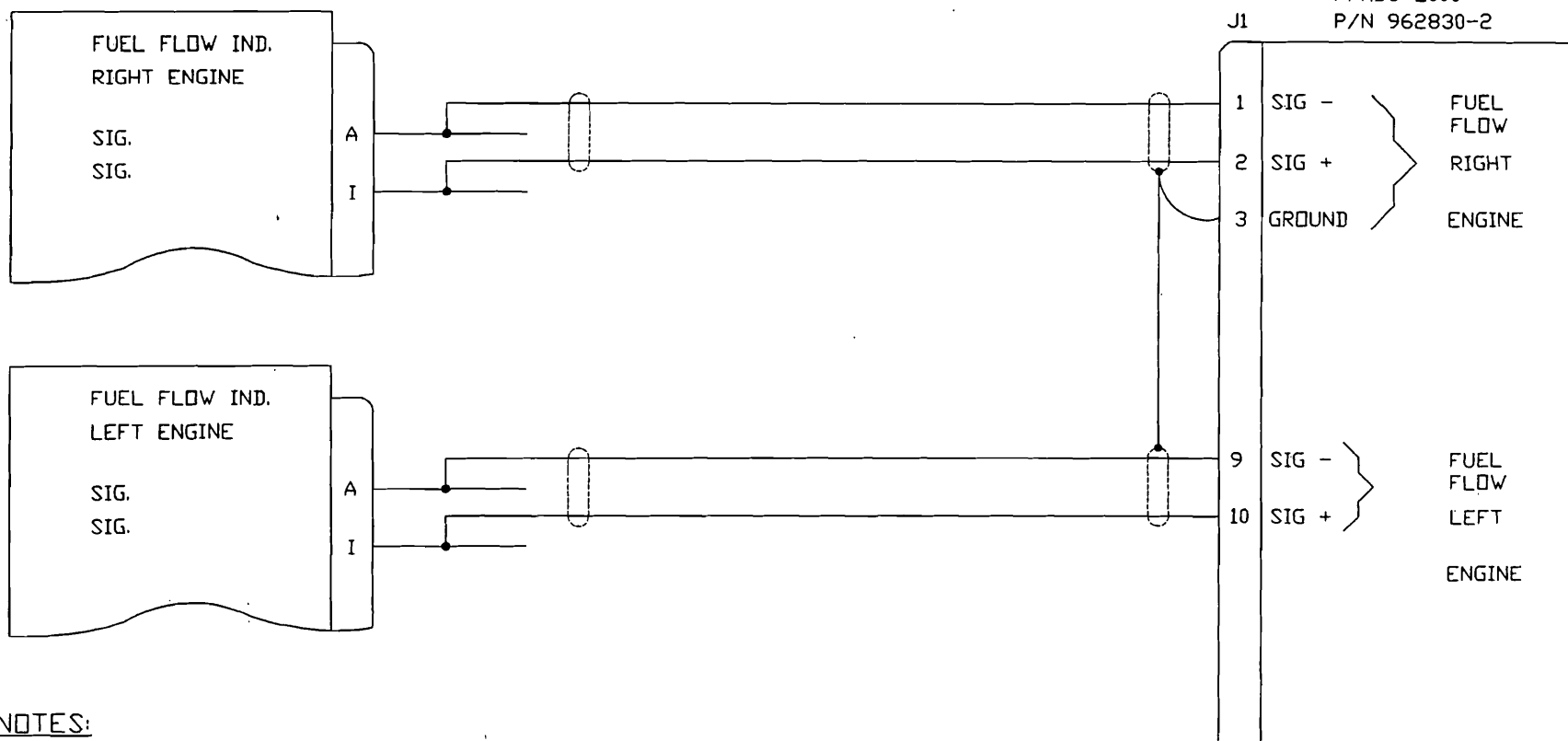
NOT TO SCALE

SHEET 1 OF 1



F/ADC-200  
P/N 962810-2  
P/N 962820-2

F/ADC-2000  
P/N 962830-2



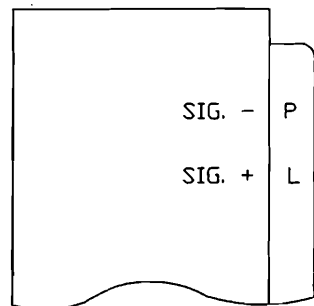
# NOTES:

- FOR AIRCRAFT WITH THE FOLLOWING INDICATORS/TRANSMITTERS;
  - INDICATOR PART NOS. 850590-1, 850590-507, DSF1549 OR D5154-9.
  - TRANSMITTER PART NOS. 850590-513, 850590-515, TFF2905-11 OR 151906-001.
- K-FACTOR IS 27.6 (27,600 PPG).
- SET F/ADC SWITCHES TO: SW1 = F, SW2 = 0, SW3 = F, SW4 = 0.

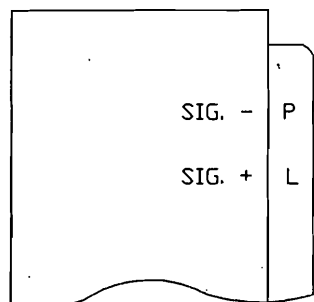
|          |      |         |     |       |                     |                             |                                                                                           |      |     |
|----------|------|---------|-----|-------|---------------------|-----------------------------|-------------------------------------------------------------------------------------------|------|-----|
| 0501/032 | A    | 2-18-05 | PAB | 2/27  | UPDATED TITLE BLOCK | DRAWING DATE<br>3/24/98     | SHADIN MINNEAPOLIS, MN 55426                                                              |      |     |
| 9803/025 | -    | 3/26/98 | SRB | KCL   | BASELINE RELEASE    | DRAFTER<br>SRB              | INSTALLATION WIRING, F/ADC-200, 2000<br>WITH SINE FF TO ROCKWELL COMMANDER<br>690 AND 695 |      |     |
| ECD #    | REV. | DATE    | BY  | APP'D | DESCRIPTION         | APPROVED<br>KCL             |                                                                                           |      |     |
|          |      |         |     |       |                     | FILE NAME<br>4028-939AJ.DWG | DRAWING NO.                                                                               | SIZE | REV |
|          |      |         |     |       |                     | DIRECTORY<br>4028           | 4028-939                                                                                  | A    | A   |
|          |      |         |     |       |                     | SHEET 1 OF 1                | P/N                                                                                       |      |     |

NOT TO SCALE

RIGHT ENGINE F/F IND. P080



LEFT ENGINE F/F IND. P079

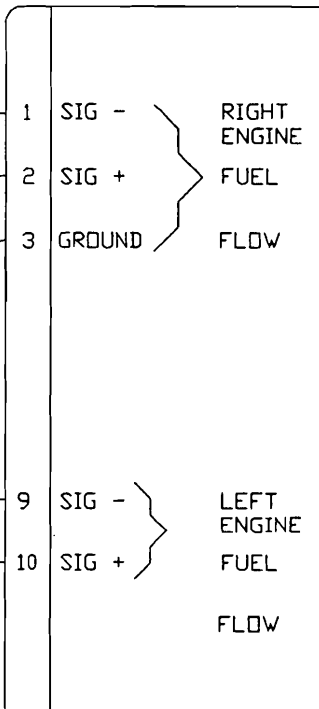


F/ADC-200  
P/N 962810-3  
P/N 962820-3

3

F/ADC-2000  
P/N 962830-3

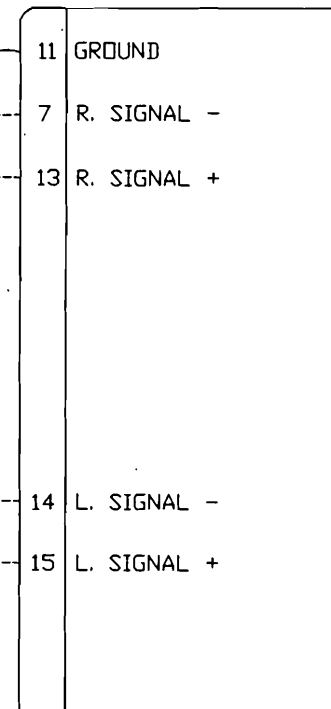
J1



4

DIGIDATA  
P/N 912802-03

P1



# NOTES:

1. FOR AIRCRAFT SERIAL NOS. RK-45, RK-49 AND AFTER WITH FUEL INDICATOR PART NO. PC900-3B2000-PH1.
2. K-FACTOR IS 11.54 (11,540 PPG), OFFSET IS 0.
3. SET F/ADC SWITCHES TO: SW1 = 0, SW2 = 2, SW3 = 0, SW4 = 0.
4. PROGRAM DIGIDATA FOR LEFT K-FACTOR = RIGHT K-FACTOR = 11,540 PPG, LEFT OFFSET = RIGHT OFFSET = 0.

|                            |                                                           |      |     |
|----------------------------|-----------------------------------------------------------|------|-----|
| DRAWING DATE<br>3/24/98    | SHADIN MINNEAPOLIS, MN 55426                              |      |     |
| DRAFTER<br>SRB             | INSTALLATION WIRING, F/ADC-200, 2000.                     |      |     |
| APPROVED<br>KCL            | OR DIGIDATA WITH DC FF TO RAYTHEON BEECHJET 400A AIRCRAFT |      |     |
| FILE NAME<br>4028-940A.DWG | DRAWING NO.                                               | SIZE | REV |
| DIRECTORY<br>4028          | 4028-940                                                  | A    | P/N |
| SHEET 1 OF 1               | A                                                         |      |     |

| ECO #    | REV. | DATE    | BY  | APP'D | DESCRIPTION         |
|----------|------|---------|-----|-------|---------------------|
| 0501/032 | A    | 2-14-98 | PAB |       | UPDATED TITLE BLOCK |
| 9803/025 | -    | 3/26/98 | SRB | KCL   | BASELINE RELEASE    |

NOT TO SCALE

F/ADC-200  
P/N 962810-3  
P/N 962820-3

F/ADC-2000  
P/N 962830-3

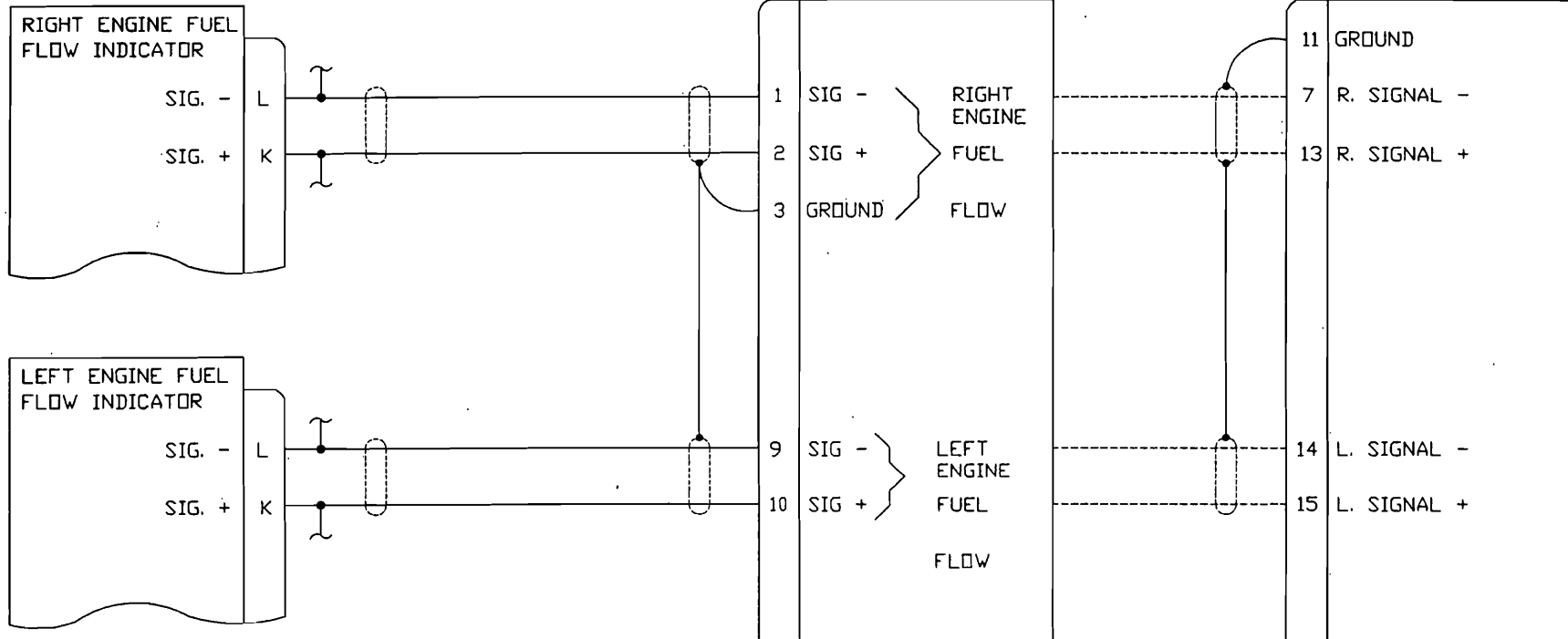
3

J1

4

P1

DIGIDATA  
P/N 912802-03



# NOTES:

1. FOR AIRCRAFT WITH THE FOLLOWING INDICATOR/TRANSMITTERS:
  - A. INDICATOR PART NO. (RAGEN) 1291-2
  - B. TRANSMITTER PART NO. (GULL) 151-909-001

2. K-FACTOR IS 10.49 (10,490 PPG), OFFSET IS 0.

3 SET AIRDATA SWITCHES AS FOLLOWS: SW1 = 1, SW2 = 8, SW3 = 0, SW4 = 0.

4 PROGRAM DIGIDATA FOR LEFT K-FACTOR = RIGHT K-FACTOR = 10,490 PPG, LEFT OFFSET = RIGHT OFFSET = 0.

|                             |                                      |           |          |
|-----------------------------|--------------------------------------|-----------|----------|
| DRAWING DATE<br>3/25/98     | <b>SHADIN</b> MINNEAPOLIS, MN 55426  |           |          |
| DRAWN BY<br>SRB             | INSTALLATION WIRING, F/ADC-200, 2000 |           |          |
| APPROVED<br>KCL             | OR DIGIDATA WITH DC FF TO WESTWIND   |           |          |
| FILE NAME<br>4028-941A.JDWG | 1124 MODELS                          |           |          |
| DIRECTORY<br>4028           | DRAWING NO.<br>4028-941              | SIZE<br>A | REV<br>A |

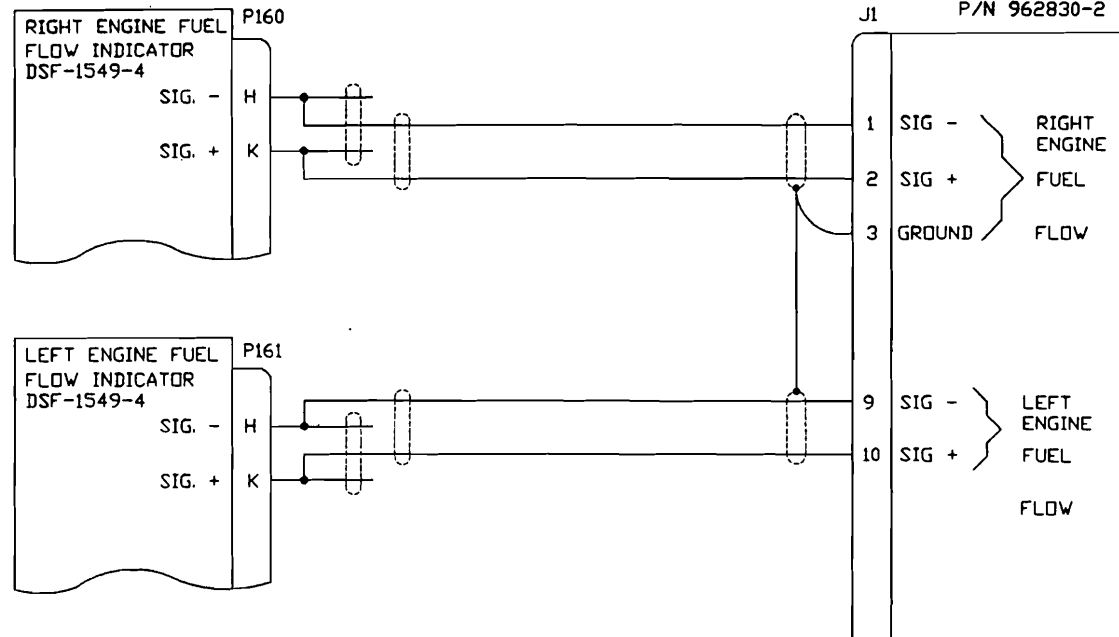
| ECO #    | REV. | DATE    | BY  | APP'D | DESCRIPTION         |
|----------|------|---------|-----|-------|---------------------|
| 0501/032 | A    | 2/11/05 | PAB |       | UPDATED TITLE BLOCK |
| 9803/025 | -    | 3/26/98 | SRB | KCL   | BASELINE RELEASE    |

NOT TO SCALE

SHEET 1 OF 1

F/ADC-200  
P/N 962810-2  
P/N 962820-2

F/ADC-2000  
P/N 962830-2



DSF-1549-2

DSF-1549-4

DSF-1549-5

|                                 |   |
|---------------------------------|---|
| FLOW TURBINE (FROM PROB)        | A |
| COMPENSATOR (ENVIRONMENT)       | B |
| SIGNAL GROUND                   | C |
| CASE GROUND                     | D |
| DC POWER INPUT (APPROX. 28 VDC) | E |
| TOTALIZER LOW (-)               | F |
| TOTALIZER OUTPUT (+)            | G |
| TEMP SENSOR                     | H |
| SIGNAL GROUND                   | I |
| DC GROUND                       | J |

|                           |   |
|---------------------------|---|
| 5V LIGHT RETURN           | A |
| 28 VDC POWER INPUT        | B |
| 28 VDC POWER RETURN       | C |
| CASE GROUND               | D |
| COMPENSATOR (ENVIRONMENT) | E |
| SIGNAL GROUND             | F |
| TOTALIZER GROUND          | G |
| SIGNAL GROUND             | H |
| TOTALIZER OUTPUT          | J |
| FLOW TURBINE (FROM PROB)  | K |
| TEMP SENSOR               | L |
| 5 VDC LIGHT (+)           | M |

|                                 |   |
|---------------------------------|---|
| FLOW TURBINE (FROM PROB)        | A |
| COMPENSATOR (ENVIRONMENT)       | B |
| GROUND                          | C |
| CASE GROUND                     | D |
| DC POWER INPUT (APPROX. 28 VDC) | E |
| SIGNAL GROUND                   | F |
| TOTALIZER OUTPUT                | G |
| TEMP SENSOR                     | H |
| DC GROUND                       | J |

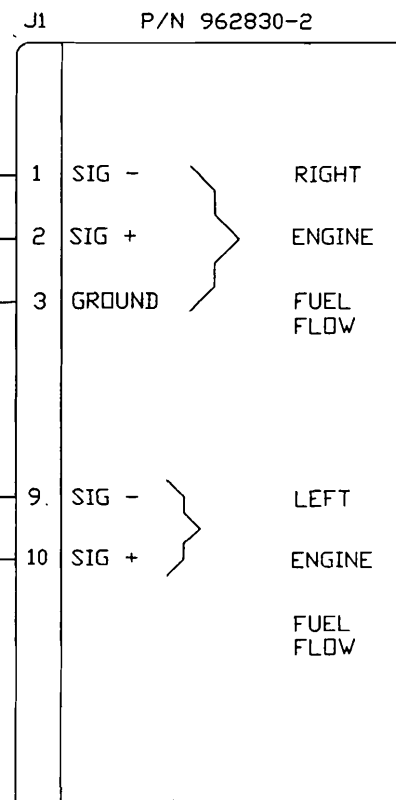
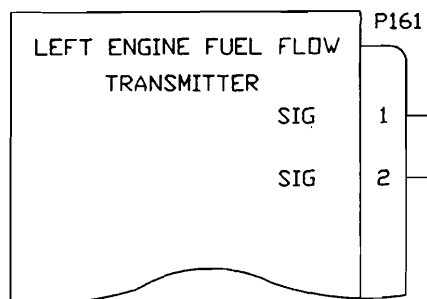
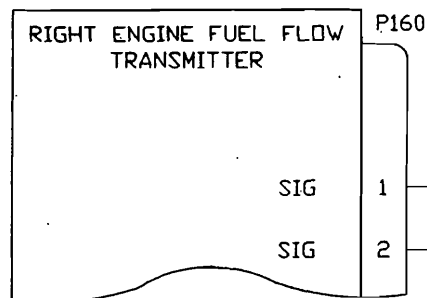
# NOTES:

- FOR AIRCRAFT WITH FUEL FLOW INDICATOR PART NOS. DSF-1549-2, -4, -5. SEE TABLE FOR INDICATOR PINOUTS.
- K-FACTOR IS 26.8 (26,800 PPG).
- SET AIRDATA SWITCHES AS FOLLOWS; SW1 = C, SW2 = 7, SW3 = C, SW4 = 7.

|              |               |                                      |          |
|--------------|---------------|--------------------------------------|----------|
| DRAWING DATE | 3/25/98       | SHADIN MINNEAPOLIS, MN 55426         |          |
| DRAFTER      | SSB           | INSTALLATION WIRING, F/ADC-200, 2000 |          |
| APPROVED     | KCL           | TO FAIRCHILD SA226 SERIES AIRCRAFT.  |          |
| FILE NAME    | 4028-942A.DWG | DRAWING NO.                          | 4028-942 |
| DIRECTORY    | 4028          | SIZE                                 | A        |
| SHEET 1 OF 1 |               | P/N                                  | ---      |
| NOT TO SCALE |               | REV                                  | A        |

|          |      |         |     |       |                            |
|----------|------|---------|-----|-------|----------------------------|
| 0501/006 | A    | 1/13/05 | PAB | CA    | CORRECTED PINOUTS & NOTE 1 |
| 9803/025 | -    | 3/26/98 | SRB | KCL   | BASELINE RELEASE           |
| ECO #    | REV. | DATE    | BY  | APP'D | DESCRIPTION                |





F/ADC-200  
P/N 962810-2  
P/N 962820-2

F/ADC-2000  
P/N 962830-2

# NOTES:

1. FOR AIRCRAFT WITH FAURE-HERMAN FUEL FLOW TRANSMITTERS, PART NO. TN(A)S-1024-118.
2. CONFIGURE THE F/ADC FOR THE ALTERNATE DIGITAL K-FACTOR TABLE: MATRIX 1. K-FACTOR IS 3.88 (3,880 PPG).
3. SET AIRDATA SWITCHES AS FOLLOWS: SW1 = 0, SW2 = 7, SW3 = 0, SW4 = 7.

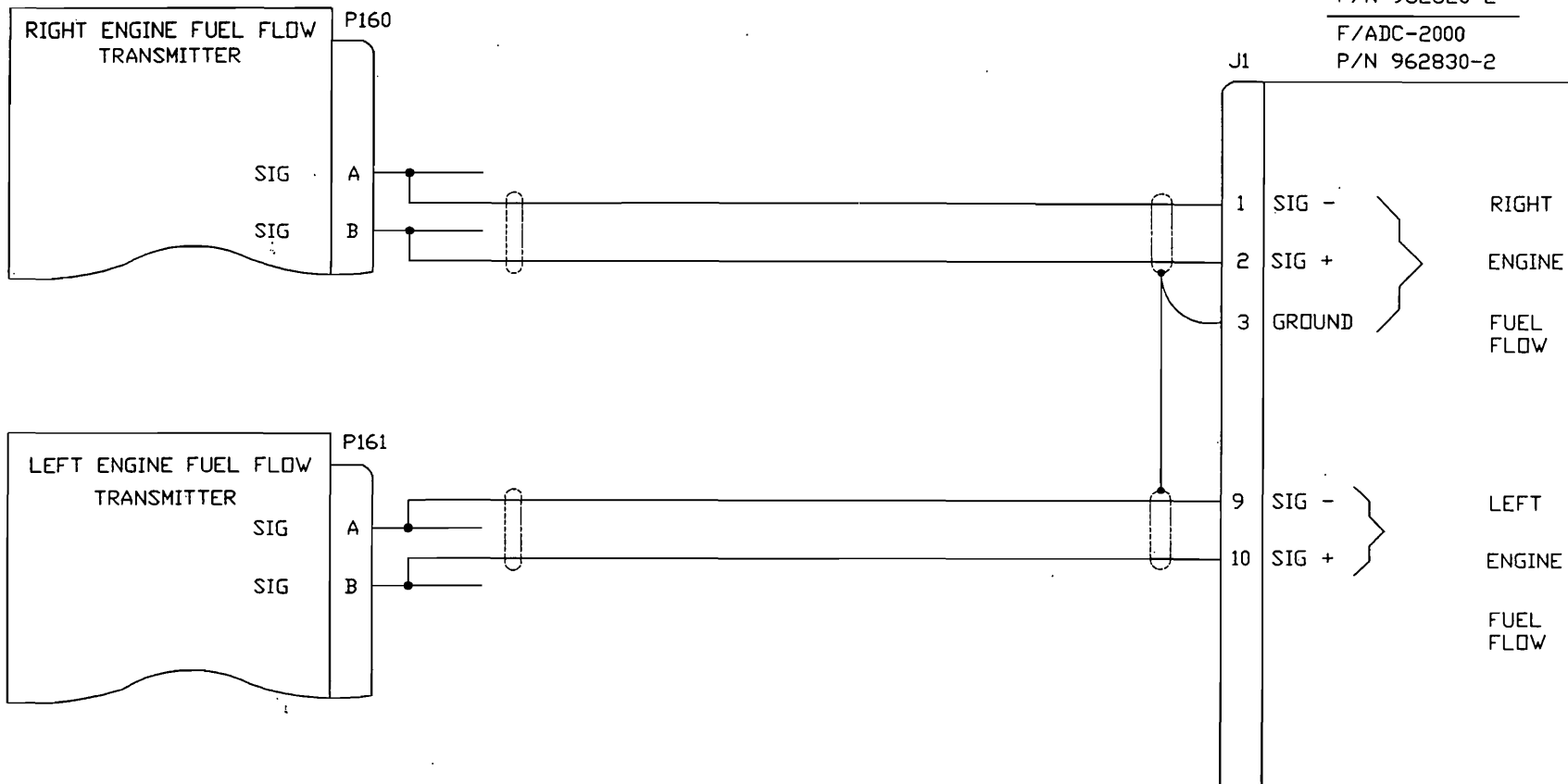
|                             |  |                                      |           |
|-----------------------------|--|--------------------------------------|-----------|
| DRAWING DATE<br>3/26/98     |  | SHADIN MINNEAPOLIS, MN 55426         |           |
| DRAFTER<br>SRB              |  | INSTALLATION WIRING, F/ADC-200, 2000 |           |
| APPROVED<br>KCL             |  | TO AEROSPATIALE AS365N2 DAUPHIN.     |           |
| FILE NAME<br>4028-949A.JDWG |  | DRAWING NO.<br>4028-949              | SIZE<br>A |
| DIRECTOR<br>4028            |  | P/N                                  | REV<br>A  |

| ECO #    | REV. | DATE    | BY  | APP'D       | DESCRIPTION         |
|----------|------|---------|-----|-------------|---------------------|
| 0501/032 | A    | 2-14-95 | PAB | [Signature] | UPDATED TITLE BLOCK |
| 9803/041 | -    | 3/26/98 | SRB | KCL         | BASELINE RELEASE    |

NOT TO SCALE

SHEET 1 OF 1

F/ADC-200  
P/N 962810-2  
P/N 962820-2  
F/ADC-2000  
P/N 962830-2



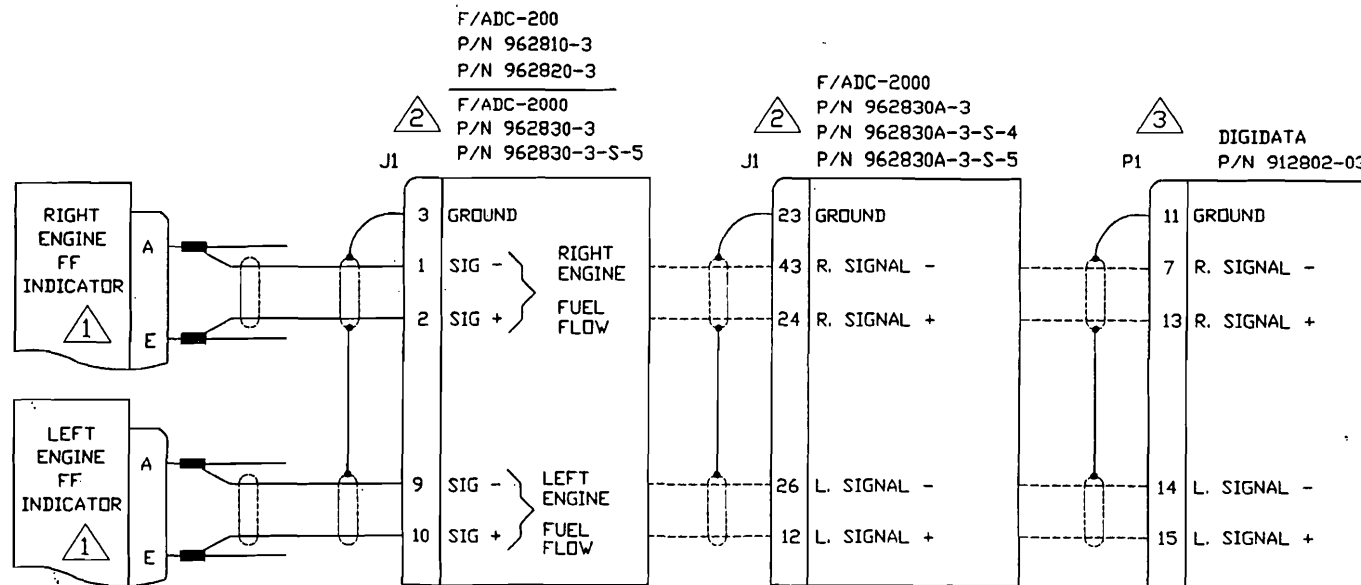
# NOTES:

1. FOR AIRCRAFT WITH FAURE-HERMAN FUEL FLOW TRANSMITTERS, PART NO. TN(A)S-512-231-1.
2. CONFIGURE THE F/ADC FOR THE ALTERNATE DIGITAL K-FACTOR TABLE: MATRIX 1. K-FACTOR IS 1.94 (1,940 PPG).
3. SET AIRDATA SWITCHES TO: SW1 = 8, SW2 = 0, SW3 = 8, SW4 = 0.

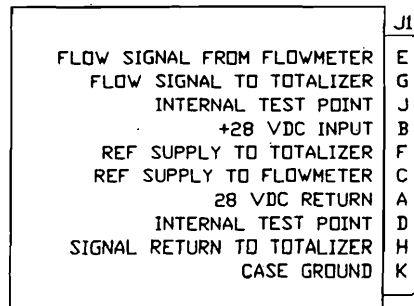
|                              |  |                                      |      |
|------------------------------|--|--------------------------------------|------|
| DRAWING DATE<br>3/26/98      |  | <b>SHADIN</b> MINNEAPOLIS, MN 55426  |      |
| DRAFTER<br>SRB               |  | INSTALLATION WIRING, F/ADC-200, 2000 |      |
| APPROVED<br>KCL              |  | TO AEROSPATIALE AS332 SUPER PUMA     |      |
| FILE NAME<br>4028-950A.J.DWG |  | DRAWING NO.                          | SIZE |
| DIRECTORY<br>4028            |  | 4028-950                             | P/N  |
| SHEET 1 OF 1                 |  | REV<br>A                             |      |

| ECO #    | REV. | DATE    | BY  | APP'D | DESCRIPTION         |
|----------|------|---------|-----|-------|---------------------|
| 0501/032 | A    | 3/26/98 | PAB | KCL   | UPDATED TITLE BLOCK |
| 9803/041 | -    | 3/26/98 | SRB | KCL   | BASELINE RELEASE    |

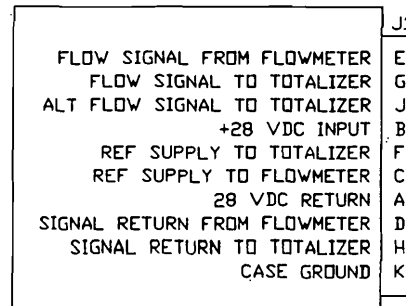
NOT TO SCALE



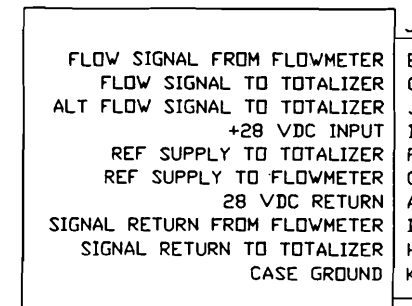
RAGEN P/N 3265013-0601



RAGEN P/N 3265013-0801



RAGEN P/N 3265013-1201



# NOTES:

1. FOR AIRCRAFT WITH THE FOLLOWING INDICATOR/TRANSMITTERS; SEE TABLE FOR INDICATOR WIRING.  
INDICATOR PART NO. (RAGEN) 3265013-0601 w/TRANSMITTER PART NO. (RAGEN) 3268011-0101.  
INDICATOR PART NO. (RAGEN) 3265013-0801 + 3265013-1201 w/TRANSMITTER PART NO. (RAGEN) TFF-2905-9 OR PIPER P/N 489-487.
2. SET AIRDATA SWITCHES AS FOLLOWS; SW1 = 1, SW2 = 1, SW3 = 0, SW4 = 0.
3. PROGRAM DIGIDATA FOR LEFT K-FACTOR = RIGHT K-FACTOR = 46,160  
PPG, LEFT OFFSET = RIGHT OFFSET = 0.

|          |      |         |     |       |                                                  |                             |                              |           |     |          |
|----------|------|---------|-----|-------|--------------------------------------------------|-----------------------------|------------------------------|-----------|-----|----------|
| 0501/006 | C    | 1/13/05 | PAB | 22    | ADD IND 3265013-0801, & RAGEN P/N TABLES         | APPROVED<br>KCL             | OR DIGIDATA WITH DC FF PIPER |           |     |          |
| 0001/016 | B    | 1/31/00 | LJM | EDJ   | ADD IND 3265013-1201, XMTR TFF-2905-9 TO NOTE 1. | FILE NAME<br>4028-A29CJ.DWG | CHEYENNE PA31T               |           |     |          |
| 9901/015 | A    | 1/20/99 | DMD | KCL   | ADD P/NS 962830A-3-S-5, 962830-3-S-5             | DIRECTORY<br>4028           | DRAWING NO.<br>4028-A29      | SIZE<br>A | P/N | REV<br>C |
| 9808/012 | -    | 8/7/98  | DMD | KCL   | BASELINE RELEASE                                 |                             |                              |           |     |          |
| ECD #    | REV. | DATE    | BY  | APP'D | DESCRIPTION                                      | NOT TO SCALE                | SHEET 1 OF 1                 |           |     |          |

NOT TO SCALE

SHEET 1 OF 1