

**DC-400A Digital DC Fuel Quantity Test Set****USER INSTRUCTION MANUAL****M/N: DC-400A, P/N: 101-00850***Doc. P/N: 56-101-00850**Revision C**November 7, 2014*

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## **CONTACT INFORMATION**

Users are requested to notify the manufacturer of any discrepancy, omission, or error found in this manual. Inquiries should include specific questions and reference the publication title, number, chapter, page, figure, paragraph, and effective date.

Please send comments to:

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## **ATTENTION**

Although every effort has been made to provide the end user of this equipment with the most current and accurate information, it may be necessary to revise this manual in the future. Please be sure to complete and return the enclosed **OWNER WARRANTY REGISTRATION CARD** to Barfield in order to validate the warranty and to ensure that you will receive updated information when published. You **MUST** have your name and address on file at Barfield as a registered user of this equipment, to be able to obtain the service covered by the warranty.

Visit the company website, <http://barfieldinc.com/>, for publication updates.

Please send the Registration Card to:

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## **DISCLAIMER**

BARFIELD, INC., neither a vendor nor supplier of fuel quantity indicating systems or an airframe manufacturer, has no control over testing and calibration values and procedures. The Aircraft Maintenance Manual shall be the first source of information regarding testing and calibration values and procedures, taking precedence over this manual. A variant between actual values and procedures and those recommended in this manual may exist. However, the information presented here is correct to the best of our knowledge at time of publication and is presented for reference only.

## REVISION RECORD

<b>REV.</b>	<b>ECO #</b>	<b>REV. DATE</b>	<b>DESCRIPTION OF CHANGE</b>
-	N/A	April 30, 1985	Initial Release
B	260-00729	February 23, 2010	Updated Company logo, contact information, and List of Approved Repair Facilities. Pages were renumbered.
C	260-01049	November 7, 2014	Updated Barfield logo

## **LIST OF APPROVED REPAIR FACILITIES**

The manufacturer of this equipment does not recommend the user to attempt any maintenance or repair. In case of malfunction, contact the manufacturer, to obtain the list of approved repair facilities worldwide, ensuring that this equipment will be serviced using proper procedures and certified instruments. A Return Maintenance Authorization (RMA) number will be assigned during this call, to keep track of the shipment and the service.

### **BARFIELD PRODUCT SUPPORT DIVISION**

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## INTRODUCTION

### 1. PUBLICATION BREAKDOWN

This User Instruction Manual establishes the standards of operation for the DC-400A Digital DC Fuel Quantity Test Set, P/N 101-00850. Its purpose is to provide sufficient information, for the personnel unfamiliar with this unit, to understand it, identify its parts, and operate it in accordance with proper procedures, operating techniques, precautions and limitations.

This manual is published in modular form, so this basic manual provides information to operate only the DC-400A Test Set. Each individual aircraft fuel quantity system will require its own particular Adapter Module (See Page 5, Fig. 4), with the manual for each Module published as a supplement to this basic manual. Until the moment when this Manual was released, Barfield had developed Adapter Modules for the aircraft models listed below. Please contact Barfield's Customer Service Department, or visit Barfield's internet website, to verify if any new Module for the DC-400A has been developed.

**BAe:** Models Jetstream 32 and Jetstream 41

**Bell Helicopter:** Models 412SP and 412EP

**Canadair:** Models CL600, CL601, CL604, CL605

**Dehavilland:** Model DHC8

**Embraer:** Model EMB-120

**Hawker Beechcraft:** Models King Air, C-99, 1900, Beech Jet 400, 125-800, 125-1000

**Piper:** Models Cheyenne IIIA, Cheyenne IV, Malibu Meridian

**Saab-Fairchild:** Model SF-340

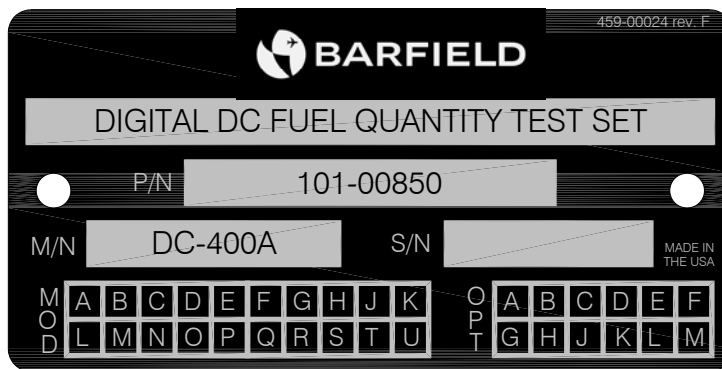
**Swearingen:** Model SJ30-2

## 2. INFORMATION PROVIDED WITH THE UNIT

Besides this User Instruction Manual, the Tester is delivered with the four information items described below.

- A. An identification label, similar to Figure 1, and attached to the case of the Test Set, provides the following information:

	Manufacturer Name	
	Designation of Equipment	
	Part Number	
Model Number		Serial Number
Modifications Installed		Options Installed



**Figure 1 Identification Label**

- B. The Owner's Warranty Registration card (Figure 2), is to be completed by the owner and returned to Barfield, Inc. within **ten (10) days** of purchase to ensure automatic update of printed matter and validation of warranty.

**OWNER WARRANTY REGISTRATION**

RETURNING THIS CARD COMPLETED ENABLES US TO KEEP YOU  
AUTOMATICALLY INFORMED OF TECHNICAL UPDATES and VALIDATES YOUR WARRANTY.

NAME \_\_\_\_\_ TITLE \_\_\_\_\_

DEPARTMENT \_\_\_\_\_

COMPANY \_\_\_\_\_

ADDRESS \_\_\_\_\_

CITY \_\_\_\_\_ STATE \_\_\_\_\_ ZIP \_\_\_\_\_

P/N \_\_\_\_\_ S/N \_\_\_\_\_ MODEL # \_\_\_\_\_

PURCHASED FROM \_\_\_\_\_ DATE \_\_\_\_\_

AIRLINE  REPAIR STATION  OEM

OTHER \_\_\_\_\_

INFORMATION GIVEN ON THIS BARFIELD, INC. WARRANTY CARD IS AND WILL REMAIN  
STRICTLY CONFIDENTIAL AND WILL NOT BE SHARED. OW-28 REV / 04.00

**Figure 2 Owner Warranty Registration Card**

- C. The Limited Warranty Statement, (Figure 3), which lists the manufacturer's obligation to the original purchaser.
- D. Each new or re-certified unit is delivered with a Certificate that shows the date when the unit was tested by the manufacturer, its serial number, and when the next certification is due. This certificate confirms that the unit performed according to its design specifications.

### **3. RECERTIFICATION**

Barfield DC-400A Digital DC Fuel Quantity Test Set, P/N 101-00850, has a one-year recertification requirement. Qualified technicians in a shop equipped with the necessary tooling, facilities, and Barfield-approved procedures must perform the maintenance required by this unit.

### LIMITED ONE YEAR WARRANTY

BARFIELD INC. ("BARFIELD") warrants only to the original Purchaser of this product from BARFIELD or an authorized distributor that this product will be free from defects in material and workmanship under normal use and service for one year after date of purchase. BARFIELD reserves the right, before having any obligation under this limited warranty, to inspect the damaged BARFIELD product, and all costs of shipping the BARFIELD product to BARFIELD for inspection shall be borne solely by the Purchaser. In order to recover under this limited warranty, Purchaser must make claim to BARFIELD within 60 days of occurrence, and must present acceptable proof of original ownership (such as a purchase order, invoice, warranty card registration, or other documentation BARFIELD deems acceptable) for the product. BARFIELD, at its option, shall repair or replace the defective unit covered by this warranty. Please retain the dated sales receipt as evidence of the original purchaser's date of purchase. You will need it for any warranty service. In order to keep this limited warranty in effect, the product must have been handled and used as prescribed in the instructions accompanying this product. This limited warranty does not cover any damage due to accident, misuse, abuse or negligence. This limited warranty is non-transferable and does not apply to any purchaser who bought the product from a reseller or distributor not authorized by BARFIELD, including but not limited to purchases from internet sites. This warranty does not affect any other legal rights you may have by operation of law. Contact BARFIELD at [www.Barfieldinc.com](http://www.Barfieldinc.com) or customer service at (305) 894-5506 for warranty service procedures.

### DISCLAIMER OF WARRANTY

EXCEPT FOR THE LIMITED WARRANTY PROVIDED HEREIN, TO THE EXTENT PERMITTED BY LAW, BARFIELD DISCLAIMS ALL WARRANTIES, EXPRESS OR IMPLIED, INCLUDING ALL WARRANTIES OF MERCHANTABILITY AND/OR FITNESS FOR A PARTICULAR PURPOSE. TO THE EXTENT THAT ANY IMPLIED WARRANTIES MAY NONETHELESS EXIST BY OPERATION OF LAW, ANY SUCH WARRANTIES ARE LIMITED TO THE DURATION OF THIS WARRANTY. SOME STATES/PROVINCES DO NOT ALLOW LIMITATIONS ON HOW LONG AN IMPLIED WARRANTY LASTS, SO THE ABOVE LIMITATIONS MAY NOT APPLY TO YOU.

### LIMITATION OF LIABILITY

REPAIR OR REPLACEMENT OF THIS PRODUCT, AS PROVIDED HEREIN, IS YOUR EXCLUSIVE REMEDY. BARFIELD SHALL NOT BE LIABLE FOR ANY SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES, INCLUDING, BUT NOT LIMITED TO, LOST REVENUES, LOST PROFITS, LOSS OF USE OF SOFTWARE, LOSS OR RECOVERY OF DATA, RENTAL OF REPLACEMENT EQUIPMENT, DOWNTIME, DAMAGE TO PROPERTY, AND THIRD-PARTY CLAIMS, ARISING OUT OF ANY THEORY OF RECOVERY, INCLUDING WARRANTY, CONTRACT, STATUTORY OR TORT. NOTWITHSTANDING THE TERM OF ANY LIMITED WARRANTY OR ANY WARRANTY IMPLIED BY LAW, OR IN THE EVENT THAT ANY LIMITED WARRANTY FAILS OF ITS ESSENTIAL PURPOSE, IN NO EVENT WILL BARFIELD'S ENTIRE LIABILITY EXCEED THE PURCHASE PRICE OF THIS PRODUCT. SOME STATES/PROVINCES DO NOT ALLOW THE EXCLUSION OR LIMITATION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES, SO THE ABOVE LIMITATION OR EXCLUSION MAYNOT APPLY TO YOU. THIS WARRANTY GIVES YOU SPECIFIC LEGAL RIGHTS AND YOU MAY ALSO HAVE OTHER RIGHTS THAT VARY FROM STATE TO STATE AND PROVINCE TO PROVINCE.

#### **BARFIELD INC.**

4101 NW 29th Street  
Miami, Florida 33142, USA

Form 7.5.3-13  
Dated 09/01/2014, Rev. 1



**Figure 3 Limited Warranty Statement**





## **2. CHARACTERISTICS**

- Completely self-contained DC Fuel Quantity Test Set.
- Capability to test all components and wiring in the Aircraft's DC fuel quantity system.
- Interchangeable Adapter Modules, dedicated to specific Aircraft.
- Capability to bench check Aircraft fuel quantity system components.
- 4 ½ digit LCD (Liquid-Crystal-Display), display character height: 0.4 in. (10 mm).
- Power supply: 12 volts, with eight 1.5V AA batteries.
- State of the art low battery drain circuitry.
- Human engineered for maximum ease of operation and maintenance.
- Compact, lightweight, completely portable, rugged all metal, weather-proof carrying case with removable cover.
- LCD prompt for low battery condition.
- Short circuit protected LO-Z; overload caution presented on the LCD.
- Temperature operating range: 32 °F – 122 °F (0 °C – 50 °C)

## **3. DIMENSIONS AND WEIGHT**

- Length: 12.2 in. (31.0 Cm)
- Width: 10.4 in. (26.4 Cm)
- Height: 5.3 in. (13.5 Cm)
- Weight: 7.0 lbs. (3.2 Kg)

## **4. PHYSICAL DESCRIPTION OF MAJOR COMPONENTS**

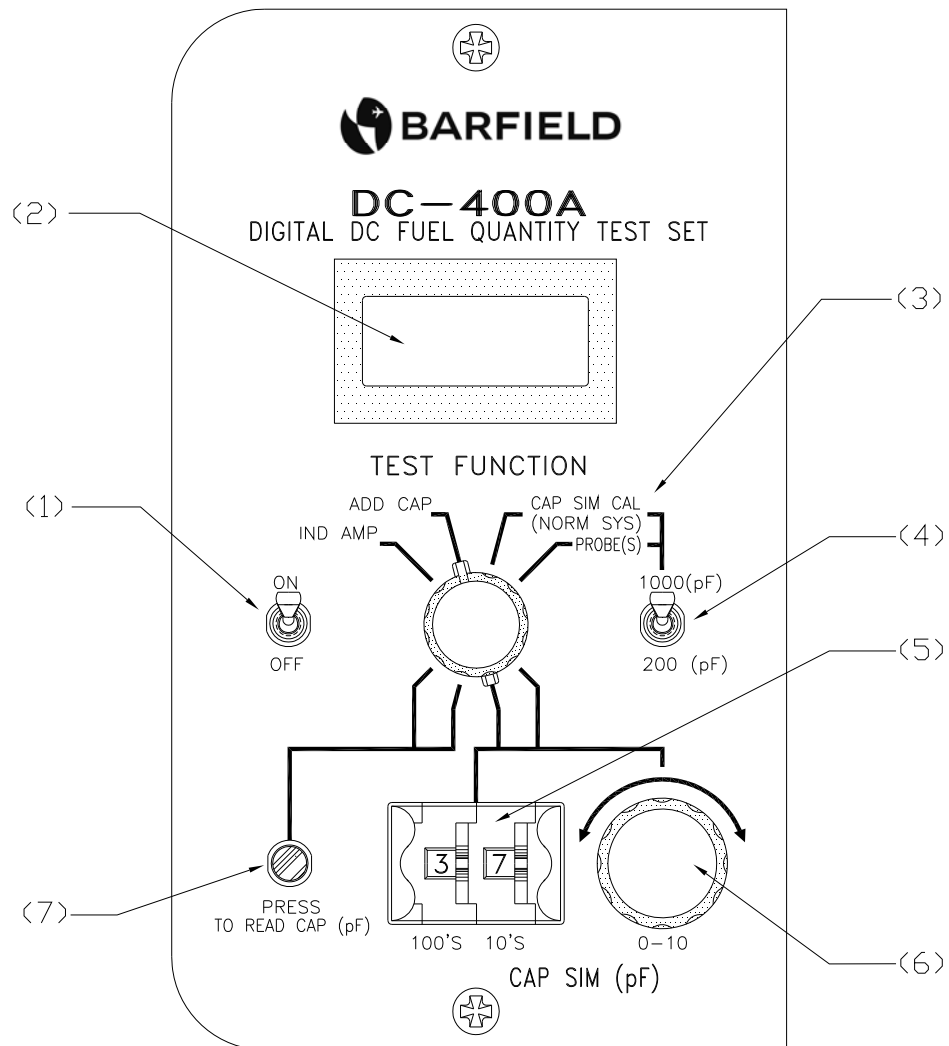
### **A. CARRYING CASE**

Fabricated from drawn aluminum for maximum strength, with flanges in the upper and lower halves. The case has supports for securing the Adapter Module, and provides; on the left-hand side, space for the DC-400A, and on the right-hand side, space for an Adapter Module and a well for storage of its integral interfacing harnesses.

## B. FRONT PANEL

The front panel (Figure 5) is provided with:

- (1) An ON/OFF power switch.
- (2) A 4 ½ digit display.
- (3) A four position TEST FUNCTION switch.
- (4) A 200 (pF)/1000 (pF) selector switch.
- (5) Two thumbwheel switches, one for 100'S and one for 10'S, of CAP SIM (pF).
- (6) A CAP SIM 0-10 pF trimmer control knob, for CAPacitance SIMulator.
- (7) A PRESS TO READ CAPacitance (pF) switch



**Figure 5 DC-400A Front Panel**

### C. LCD PRESENTATION

The LCD displays picofarads, volts, Siemens (conductance), pounds, millivolts, microamperes, or ohms as determined by the specific Adapter Module connected and configuration of the DC-400A and Module switching. Each of these units will be discussed separately in Chapter 2, Operation, and in the Adapter Module manual.

In addition, any time the ON/OFF switch is placed in the ON position the 12 volt source is being monitored. Whenever voltage is below operational requirements the operator will be signaled by the appearance of the contraction LO BAT in upper left-hand corner of the LCD.

## 5. PERFORMANCE DATA

**Table 1 PERFORMANCE DATA**

FUNCTION	RANGE	ACCURACY	EXCITATION
Monitor Display	0-19999	± 0.1 % of Range ± 2 Digits	Ratiometric $\frac{E_{in}}{E_{ref}} \times 10000$
Capacitance Measurement	0 – 199.99 pF in 0.01 pF Increments  0 – 1000.0 pF in 0.1 pF Increments	± 0.1 % of Range ± 2 Counts	20 V rms @ 6.25 kHz
Capacitance Simulator	0 – 400 pF Infinite Resolution	± 0.1 % of Range ± 2 Counts	N/A

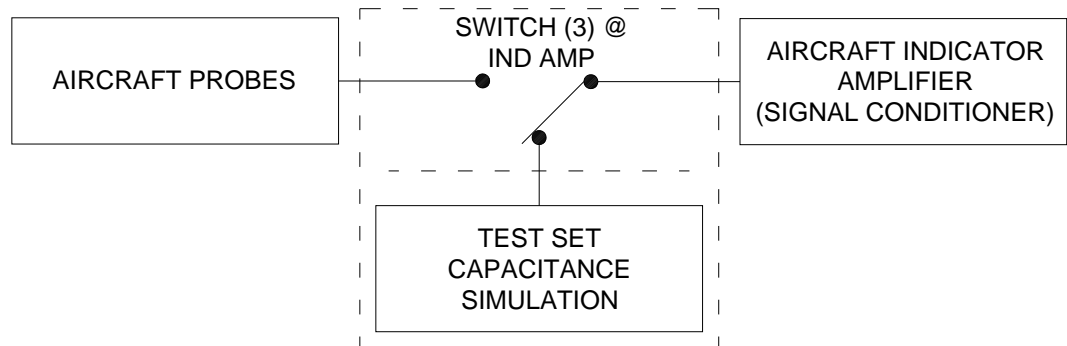
## 6. SWITCHING FUNCTIONS (refer to Figure 5 for identification of switches)

- A. The ON/OFF switch (1) when moved to the ON position supplies 12 volts for all functions of the DC-400A.



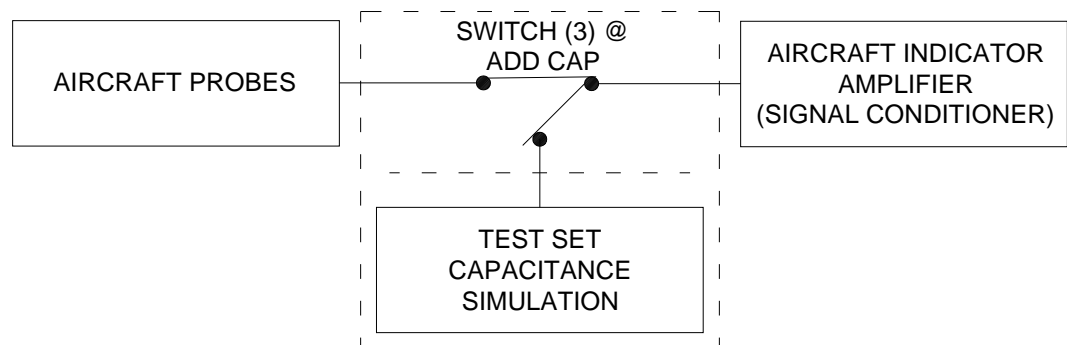
B. The TEST FUNCTION selector (3) permits the operator to select:

- (1) IND AMP (INDicator AMPLifier) position, which electrically disconnects the Aircraft's fuel tank(s) probe(s) from the fuel quantity system's amplifier/signal conditioner / indicator while, at the same time, electrically connecting the amplifier / signal conditioner/indicator to the DC-400A's CAPacitance SIMULATOR for empty/full check and or calibration in accordance with Aircraft or fuel quantity system manufacturer's procedures and specifications. The electric diagram of this test configuration is shown in Figure 6.



**Figure 6 Electric Diagram for IND AMP Test**

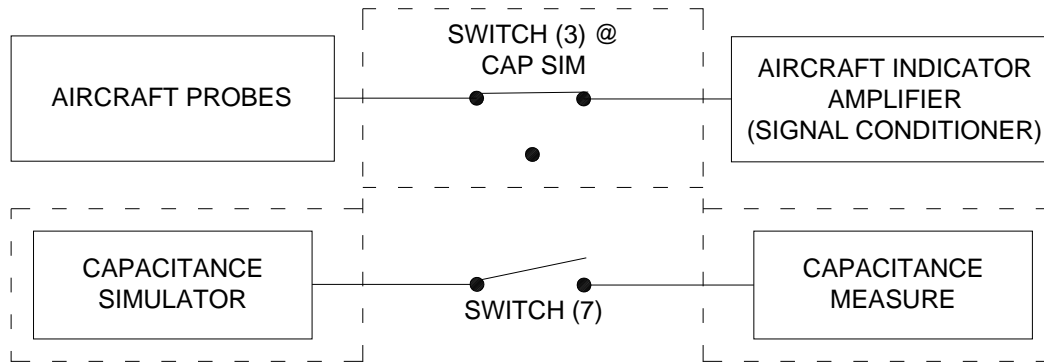
- (2) ADD CAP, (ADD CAPacitance) position, which electrically connects the Aircraft's fuel tank(s), probes(s) and Aircraft's indicator amplifier/signal conditioner in parallel with the DC-400A's capacitance simulator, allowing a predetermined amount of capacitance to be added to that measured from the probes, to give a total capacitance necessary to test the fuel quantity amplifier/signal conditioner/indicator at all levels above that of empty. The electric diagram of this test configuration is shown in Figure 7.



**Figure 7 Electric Diagram for ADD CAP Test**

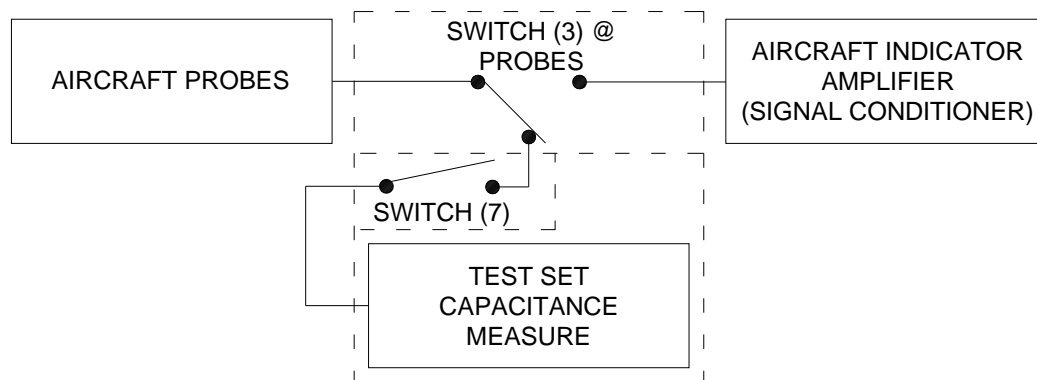
- (3) CAP SIM CAL, (CAPacitance SIMulator CALibration) position, which electrically isolates the DC-400A from the Aircraft's fuel quantity system, and enables calibration mode. Capacitance can then be selected and set by CAP SIM controls (5) and (6), with the 200 (pF) / 1000 (pF) selector (4) set appropriately. The value will appear on the LCD (2) when the PRESS TO READ CAP (pF) switch (7) is depressed. The electric diagram of this test configuration is shown in Figure 8.

Aircraft probes are connected to the Aircraft's amplifier/signal conditioner/indicator as in normal operation.



**Figure 8 Electric Diagram for CAP SIM CAL Test**

- (4) PROBE(S) position, which isolates those components and the Aircraft power from the Aircraft's system. The probe values can then be measured. These values will appear on the LCD (2) when the PRESS TO READ CAP (pF) switch (7) is depressed. The electric diagram of this test configuration is shown in Figure 9.



**Figure 9 Electric Diagram for PROBES Test**

- C. The 200 (pF) / 1000 (pF) selector switch (4), permits selection of either the 200 (pF) range, presented in 0.01 pF on the LCD (2), or 1000 (pF) range presented in 0.1 pF on the LCD.
- D. The 10's/100's (pF) thumbwheel assembly (5), allows setting approximate capacitance values for simulation.
- E. The 0-10 pF trimmer control knob (6), permits exact adjustment to predetermined capacitance values to be simulated.
- F. The PRESS TO READ CAP (pF) switch (7), when depressed displays capacitance values of the Aircraft's fuel quantity probes when TEST FUNCTION selector (3) is in PROBE(S) position, or the capacitance value set into the capacitance simulator when in this selector is in CAP SIM CAL position.

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## OPERATION

### 1. PREPARATION FOR USE

#### A. BATTERY INSTALLATION OR REPLACEMENT

**CAUTION:** WHILE REPLACING BATTERIES, ABSOLUTE CARE MUST BE EXERCISED TO PROTECT THE RIBBON CABLE THAT CONNECTS THE DC-400A TO THE ADAPTER MODULE, THE CABLE THAT CONNECTS THE BATTERY HOLDER WITH THE DC-400A, AND THEIR CONNECTORS.

- (1) The DC-400A and the Adapter Module that is connected to it (Fig. 4, page 5), can be lifted together to install new batteries (this is easier than removing each equipment independently). In order to do this, of the two screws (#10 – 32 x 1/2") at the front panel of the Adapter, remove only one, which is the screw that is close to the edge of the case, leaving the screw that is between the Adapter and the DC-400A in place. Remove also both screws from the DC-400A front panel.
- (2) Lift both instruments together, **taking care to avoid stressing the cable** that connects the battery holder to the DC-400A.
- (3) Carefully support both instruments inside the lid of the case.
- (4) Remove the old batteries, and / or install new batteries, as needed, in the battery holder, observing polarity.
- (5) Carefully move both instruments together back to their normal location, and reinstall the screws that were removed.

#### B. INSTALLATION OR REPLACEMENT OF THE ADAPTER MODULE

- (1) If there is no Adapter Module (Fig. 4, page 5) connected to the DC-400A, skip the first three steps, and start this procedure at step 4. If an Adapter Module is in place, remove both retaining screws, which are located at the front panel of the Adapter.
- (2) **Carefully** raise the Adapter Module, and hold it to the right of the DC-400A and a few inches above it. **Avoid stressing the ribbon cable** that connects these two pieces of equipment.
- (3) Orient the Adapter Module to facilitate disconnecting the interconnection ribbon cable. Store the removed Module appropriately for future use.
- (4) Hold the Adapter Module to be installed in such a position, that the DC-400A ribbon cable can be connected to the mating Module connector.
- (5) **Carefully, to avoid stressing the interconnecting cable**, lower the Adapter Module to align with the DC-400A mating brackets, and move the Module to its operating location in the case (Fig. 4, page 5).
- (6) Install both screws (#10 – 32 x 1/2") at the front panel of the Adapter Module.

### C. INITIAL SETUP

What follows is a typical sequence. Operating instructions to be adopted for use with specific Aircraft systems and components are given in the appropriate Aircraft and / or system manuals, and also on the Barfield's Adapter Module manual for that Aircraft.

**WARNING:** FOLLOW AIRCRAFT MANUFACTURER'S PROCEDURES FOR THIS AND THE FOLLOWING TESTS.

- (1) Tank systems must be drained of ALL fuel, and DRY, for accurate probe capacitance measurements.
- (2) Aircraft fuel quantity systems power MUST be OFF before wiring harnesses or connectors are removed. Power MUST remain OFF until all connections are made as specified and the requirement for power is called out.
- (3) Locate the DC-400A System conveniently for the procedures that are to be carried out. Remove the interfacing harness(es) from the DC-400A case and arrange for interfacing.

## 2. PROBE(S) CAPACITANCE MEASUREMENT TEST PROCEDURE

- A. Interface the Adapter Module harness(es) to the Aircraft system as per instructions in the Aircraft and Adapter Module manuals.
- B. Configure the Adapter Module according to procedures specified in its manual.
- C. DC-400A configuration
  - (1) Rotate the TEST FUNCTION selector to PROBE(S).
  - (2) Place the 200 (pF)/1000 (pF) switch according to the required range or resolution.
  - (3) Turn ON/OFF switch to ON.
- D. For each probe capacitance measurement depress the PRESS TO READ CAP (pF) switch. Record the reading on the proper worksheet for comparison with the aircraft or system manufacturer's specifications. Release the PRESS TO READ CAP (pF) switch. Follow this procedure for each probe position.
- E. When each probe measurement has been recorded, turn ON/OFF switch to OFF.

## 3. PROBES(S) BENCH TEST

- A. Isolate the probe to be tested, and avoid physical contact with it during this test.
- B. Configure the Adapter Module according to procedures specified in its manual.

C. DC-400A configuration:

- (1) Rotate the TEST FUNCTION selector to PROBE(S).
- (2) Place the 200 (pF)/1000 (pF) switch appropriately.
- (3) Place ON/OFF switch to ON.

D. Depress and hold the PRESS TO READ CAP (pF) switch. Compare the reading with the aircraft or system manufacturer's specifications. Release the PRESS TO READ CAP (pF) switch.

E. When probe has been measured and compared, place the power switch to OFF.

#### **4. AMPLIFIER/SIGNAL CONDITIONER/INDICATOR TEST PROCEDURE**

A. Configure the Adapter Module according to procedures specified in its manual.

B. DC-400A configuration:

- (1) Rotate the TEST FUNCTION selector to CAP SIM CAL.
- (2) Place the 200 (pF)/1000 (pF) appropriately.
- (3) Place the CAP SIM (pF) 10's / 100's selectors to the values specified in that Adapter Module's manual.
- (4) Place the ON/OFF switch to ON.

C. EMPTY CAPACITANCE TEST

- (1) Depress and hold the PRESS TO READ CAP (pF) switch while adjusting the CAP SIM 0-10 pF adjust knob to obtain the exact display as the values specified in that Adapter Module's manual.
- (2) Release the PRESS TO READ CAP (pF) switch.
- (3) Rotate the TEST FUNCTION selector to IND AMP.
- (4) Energize the Aircraft's fuel quantity system. The Aircraft's fuel quantity indicator should indicate empty. If not, where applicable, adjust to empty according to manufacturer's specifications.

D. FULL CAPACITANCE TEST

- (1) Rotate the TEST FUNCTION selector to CAP SIM CAL.
- (2) Place the 200 (pF)/1000 (pF) switch appropriately.
- (3) On the CAP SIM (pF) 10's / 100's thumbwheels select the values specified in that Adapter Module's manual.
- (4) Depress and hold the PRESS TO READ CAP (pF) switch while adjusting the CAP SIM 0-10 pF adjust knob to obtain the exact display as the values specified in that Adapter Module's manual.

- (5) Release the PRESS TO READ CAP (pF) switch.
- (6) Rotate the TEST FUNCTION selector to IND AMP. The Aircraft's fuel quantity indicator should indicate full. If not, where applicable, adjust to empty according to manufacturer's specifications.
- (7) Refer to the Aircraft's, system manufacturer's and appropriate Adapter Module manual for further amplifier / signal conditioner / indicator tests. Perform those following the same sequence of steps outlined so far in this section 4.
- (8) This completes the test procedure, when all values have been verified, place the DC-400A ON/OFF switch to OFF, OPEN appropriate fuel quantity circuit breakers, disconnect all test equipment and return the Aircraft to its original configuration.

#### E. BENCH TEST

- (1) Configure the Adapter Module according to procedures specified in its manual.  
**NOTE:** An external dc power supply is required for this test. Refer to the manual of the Adapter Module being used.
- (2) With the exception of the replacement of Aircraft power with the external dc power supply, Bench Tests are performed following the same sequence of steps outlined so far in this section 4.
- (3) When all tests are complete remove external dc power and place the DC-400A ON/OFF switch to OFF.

### 5. AIRCRAFT SYSTEM CALIBRATION

- A. Configure the Adapter Module according to procedures specified in its manual.
- B. DC-400A configuration:
  - (1) Rotate the TEST FUNCTION selector to CAP SIM CAL.
  - (2) Place the 200 (pF)/1000 (pF) switch appropriately.
  - (3) With the CAP SIM (pF) 10's/100's thumbwheels select the delta values specified in that Adapter Module's manual.
  - (4) Place the ON/OFF switch to ON.
  - (5) Depress and hold the PRESS TO READ CAP (pF) switch while adjusting the CAP SIM 0-10 pF adjust knob to obtain the exact values as those specified in that Adapter Module's manual.
  - (6) Release the PRESS TO READ CAP (pF) switch.
- C. Apply external power; close appropriate Aircraft circuit breaker(s) to amplifier / signal conditioner / indicator ONLY. The Aircraft's fuel quantity indicator should indicate empty. If not, where applicable, adjust to empty according to manufacturer's specifications.



- D. Rotate the TEST FUNCTION selector to ADD CAP. The Aircraft's fuel quantity indicator should indicate full. If not, where applicable, adjust to empty according to manufacturer's specifications.
- E. Rotate the TEST FUNCTION selector to CAP SIM CAL. Check the fuel quantity indicator for empty indication. If necessary, and where applicable, trim according to manufacturer's specifications.
- F. When all values have been verified, the test procedures are complete.
- G. Place the DC-400A ON / OFF switch to OFF, OPEN appropriate fuel quantity circuit breakers, disconnect all test equipment and return the Aircraft to its original configuration.

## **RECEIVING, SHIPPING, AND STORAGE**

### **1. RECEIVING**

No special unpacking procedures are necessary. It is recommended that the factory shipping container and packing materials be retained, for those occasions when the DC-400A needs to be re-shipped, such as for the annual recertification.

It is also recommended that, upon receipt, the Test Set and its carrying case be carefully inspected for damage. If damaged, immediately notify the carrier and the manufacturer.

### **2. SHIPPING**

Use standard delicate electronic equipment packaging procedures when packing the Test Set for reshipment.

### **3. STORAGE**

- A. Remove the batteries and store them separately.
- B. Place a four-ounce bag of desiccant inside the case.
- C. Close and latch the cover.
- D. Store in a cool dry place.