INSTRUCTION MANUAL

for

DC-400A DIGITAL DC FUEL QUANTITY TEST SET

P/N 101-00850

Originally Issued April 30, 1985

OPERATION

Barfield
INSTRUMENT CORPORATION
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DC-400A
DIGITAL DC FUEL QUANTITY
TEST SET P/N 101-08850

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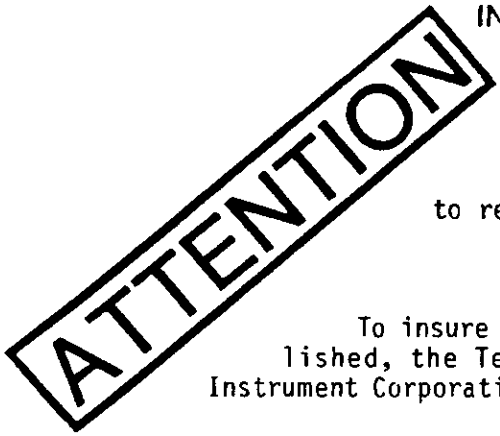

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INTRODUCTION

1. PUBLICATION BREAKDOWN

The publication dealing with the **DC-400A Digital DC Fuel Quantity Test Set,** P/N 101-00850, establishes the standards of operation. The publication has been prepared using the ATA Specification 101 as a guide.

Questions of interpretation should be submitted in writing to:

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Inquiries should define the specific question supported with the publication title, number, chapter, page, figure, paragraph, and effective date.

Changes, when approved, will be published as revisions to the basic publication and distributed to all registered owners of the **DC-400A Digital DC Fuel Quantity Test Set.**

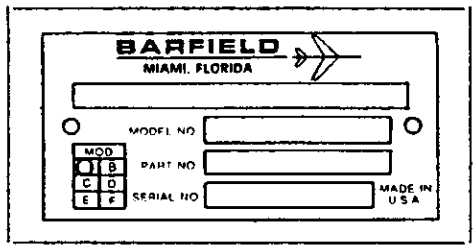
This publication has been developed to provide instructions for complete testing/calibrating the Fuel Quantity Systems on board the Aircraft using the **DC-400A** System.

2. IDENTIFICATION - MODIFICATION STATE

A. The identification label, (Fig. 1), located on the outside front of the carrying case, provides the following information:

Manufacturer's Name	
Designation of Equipment	
Equipment Model Number	MODEL NO.
Equipment Part Number	PART NO.
Equipment Serial Number	SERIAL NO.
Equipment Modification State	MOD A, B, C, etc.

(The label in Fig. 1 denotes Mod A has been incorporated)



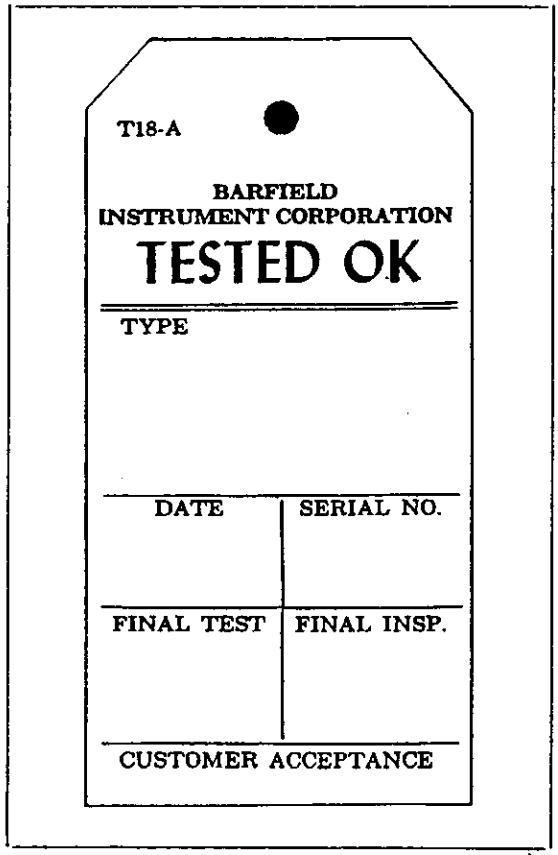
IDENTIFICATION LABEL

Figure 1

B. In addition to the identification label there are three (3) other record forms packaged with the DC-400A they are:

(1) The final acceptance tag, (Fig. 2) this tag supplies the following information:

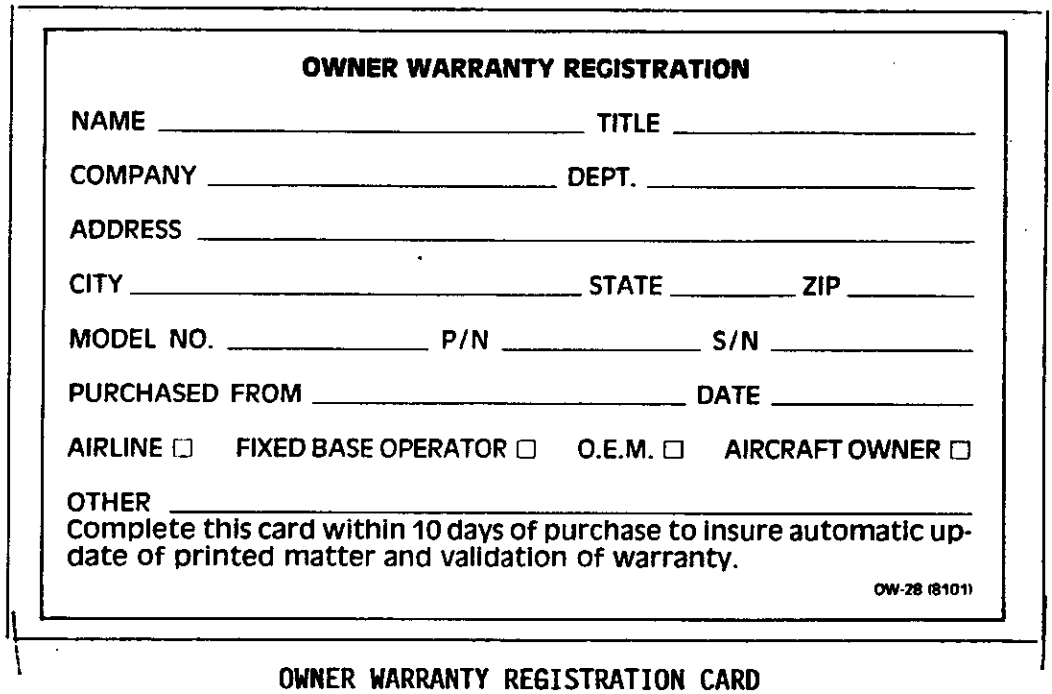
Nomenclature Model Number Part Number	TYPE
Shipping Date	DATE
Serial Number	SERIAL NO.
Final Calibration Technician	FINAL TEST
Final Inspector	FINAL INSP.
Customer Acceptance	CUSTOMER ACCEPTANCE



FINAL ACCEPTANCE TAG

Figure 2

(2) The owner's warranty registration card, (Fig. 3), this preaddressed card is to be completed by the owner and returned to the manufacturer within ten (10) days of purchase **to insure automatic update of printed matter** and validation of warranty.



OWNER WARRANTY REGISTRATION

NAME _____ TITLE _____

COMPANY _____ DEPT. _____

ADDRESS _____

CITY _____ STATE _____ ZIP _____

MODEL NO. _____ P/N _____ S/N _____

PURCHASED FROM _____ DATE _____

AIRLINE ☐ FIXED BASE OPERATOR ☐ O.E.M. ☐ AIRCRAFT OWNER ☐

OTHER _____

Complete this card within 10 days of purchase to insure automatic update of printed matter and validation of warranty.

OW-28 (8101)

OWNER WARRANTY REGISTRATION CARD

Figure 3

(3) The Limited Warranty Statement Card, (Fig. 4), sets forth the manufacturer's obligation to the original purchaser.

3. ELECTRONIC COMPONENT REFERENCE DESIGNATORS WITHIN THE MANUAL

When mentioned in the text the electronic components are referred to by their alphanumeric reference designations as per USA standards.

These reference designations may be preceded, if need be, by alphanumeric reference designations of the printed circuit board carrying the component involved.

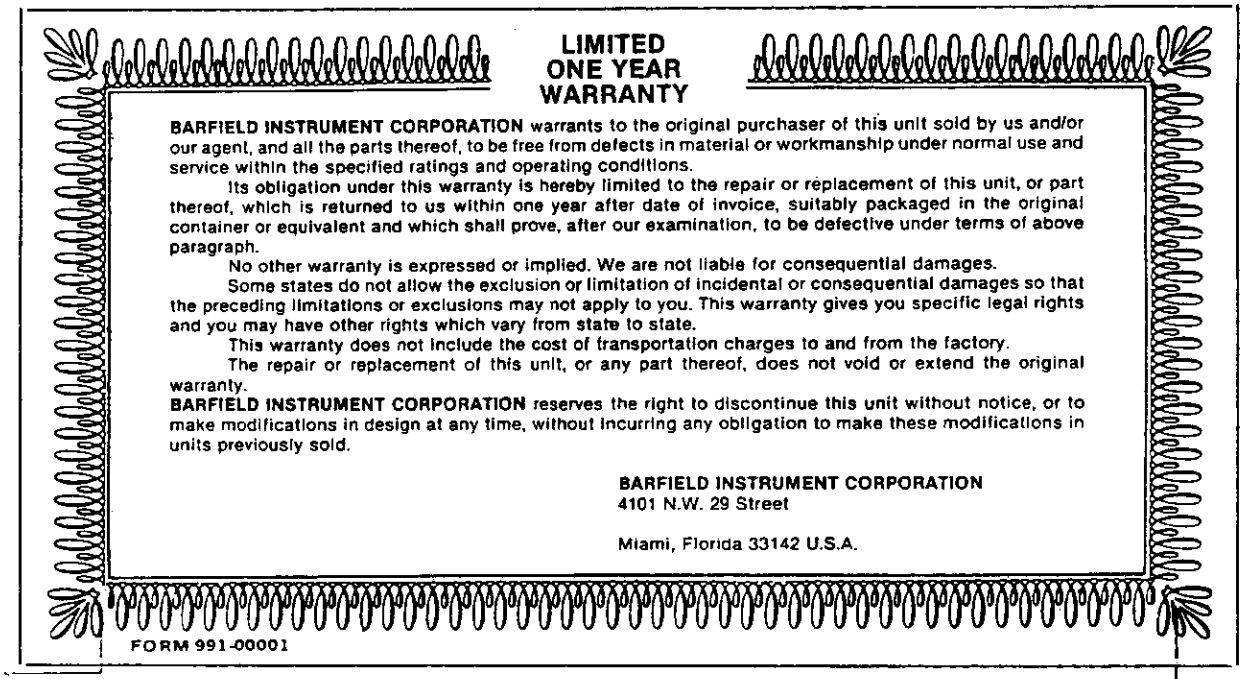
For example: PCB2 Q1 means Transistor 1 (Q1) mounted on Printed Circuit Board 2 (PCB 2).

4. REFERENCE IDENTIFICATION OF COMPONENT PARTS AND ASSEMBLIES WITHIN THE MANUAL

Figure and item references will be used to provide positive identification. References will not be used in the text after the item has once been positively identified.

5. MODIFICATIONS

The information specific to any modified unit is given in revisions to the text describing the unit and the modification.



LIMITED
ONE YEAR
WARRANTY

BARFIELD INSTRUMENT CORPORATION warrants to the original purchaser of this unit sold by us and/or our agent, and all the parts thereof, to be free from defects in material or workmanship under normal use and service within the specified ratings and operating conditions.

Its obligation under this warranty is hereby limited to the repair or replacement of this unit, or part thereof, which is returned to us within one year after date of invoice, suitably packaged in the original container or equivalent and which shall prove, after our examination, to be defective under terms of above paragraph.

No other warranty is expressed or implied. We are not liable for consequential damages.

Some states do not allow the exclusion or limitation of incidental or consequential damages so that the preceding limitations or exclusions may not apply to you. This warranty gives you specific legal rights and you may have other rights which vary from state to state.

This warranty does not include the cost of transportation charges to and from the factory.

The repair or replacement of this unit, or any part thereof, does not void or extend the original warranty.

BARFIELD INSTRUMENT CORPORATION reserves the right to discontinue this unit without notice, or to make modifications in design at any time, without incurring any obligation to make these modifications in units previously sold.

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Miami, Florida 33142 U.S.A.

FORM 991-00001

LIMITED WARRANTY STATEMENT CARD

Figure 4

The modification revision sections contain only the specific data concerning that modification.

A. Text presentation

(1) The paragraphs that have been superseded or changed in order to add or delete information are designated by the same numerical references as the paragraph in the basic text that they supersede or complement.

(2) Where it has been necessary to draw up supplementary text the numbering of the paragraphs referring to these texts follows that of the basic text in logical sequence.

B. Figures

The figures to modification in question are grouped in the modification part of each section and have the same numbers as the corresponding figures in the basic text together with an index letter according to the order in which the modifications appear.

WARNING: BEFORE PERFORMING ANY WORK ON A MODIFIED UNIT IT IS ESSENTIAL THAT THE TECHNICIAN CHECKS WHETHER THERE IS ANY FURTHER INFORMATION IN THE RELEVANT MODIFICATION SECTION.

INSTRUCTION MANUAL

CHAPTER 1

GENERAL INFORMATION AND OPERATING INSTRUCTIONS

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INSTRUCTION MANUAL

DESCRIPTION

1. PURPOSE OF MANUAL

A. This publication contains the description, identification data, operating procedures for the;

DC-400A DIGITAL DC FUEL QUANTITY TEST SET, P/N 101-00850, (Ref. Fig. 1). (Hereinafter referred to as the **DC-400A**),

Manufactured by:

Barfield Instrument Corporation; Miami, Florida 33142

B. The manual is published in modular form, i.e., the basic manual provides information to operate the **DC-400A Test Set** only. Each individual aircraft fuel quantity system will require its own particular **Adapter Module** (Ref. 1-3, Page 2, Fig. 3). The **Adapter Module** Manuals are published as appendixes to the basic manual.

As new **Adapter Modules** are developed the table, (Ref. 1-3, Page 2, Fig. 3), will be updated as required. **Registered owners** of the **DC-400A** will receive, through automatic distribution, revisions to the basic manual denoting this.

2. GENERAL DESCRIPTION

The **DC-400A**, is a completely self-contained, portable, light weight, internal battery powered **dc** fuel quantity system **Test Set**, specifically designed, with proper **Adapter Module**, to meet the requirement for testing and calibration of a wide range of **Aircraft DC Fuel Quantity Systems** can be serviced and bench testing the component parts without additional harnesses or test equipment.

3. CHARACTERISTICS (Ref. Fig. 2)

A. Completely self-contained **DC Fuel Quantity Test Set.**

B. Capability to test all major components and circuitry in the **Aircraft's dc** fuel quantity system.

C. Interchangeable **Adapter Modules,** dedicated to specific **Aircraft.**

D. Capability to bench check **Aircraft** fuel quantity system components.

E. 4 1/2 digit **LCD** (**L**iquid-**C**rystal-**D**isplay).

F. Power supply; 12 volts, eight (8) AA batteries.

G. State of the art low battery drain circuitry.

H. Human engineered for maximum ease of operation and maintenance.

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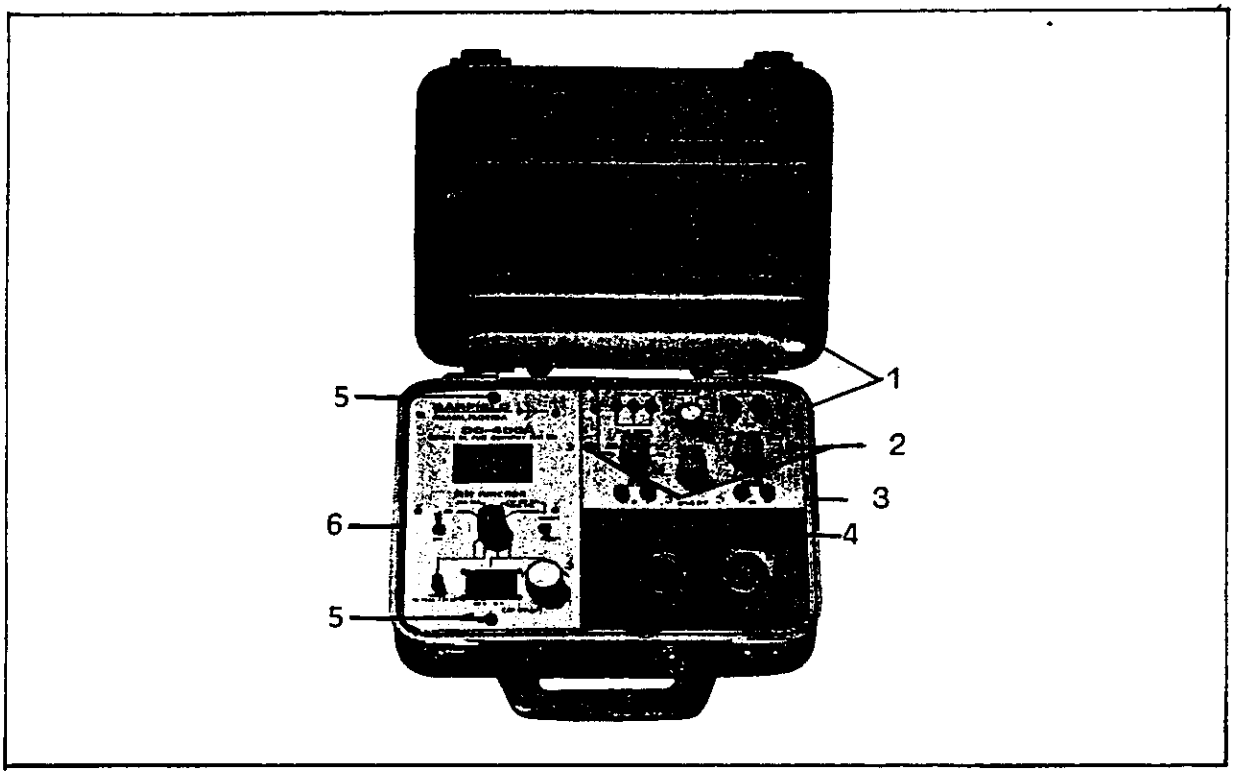
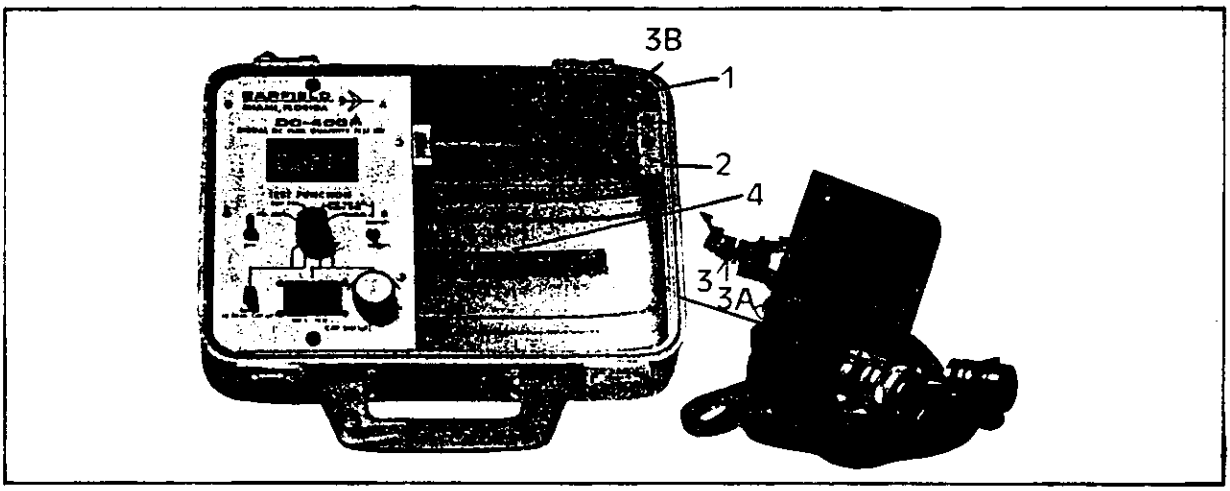


DC-400A SYSTEM

Figure 1



DC-400A SYSTEM

Figure 2

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I. Compact, light weight, completely portable, rugged all metal, weather-proof carrying case with removable cover.

J. **LCD** warning signal for low battery condition.

K. Short circuit protected **LO-Z**; overload caution presented on the **LCD.**

4. PHYSICAL DESCRIPTION OF MAJOR COMPONENTS

A. CARRYING CASE (Ref. Figs. 1 and 2)

(1) Fabricated from drawn aluminum for maximum strength with support flanges in the upper and lower halves (Ref. Fig. 1 item 1). Adapter flanges (Ref. Fig. 2 items 1 and 2) serve as supports and securing mounts for the **Adapter Module.**

(2) The case provides; on the left-hand side, space for the **DC-400A,** on the right-hand side, space for an **Adapter Module** and a well for storage of its integral interfacing harnesses.

B. FRONT PANEL (Ref. Fig. 3)

The front panel is provided with:

(1) A 4 1/2 digit display (3).

(2) An **ON/OFF** power switch (1), **S105.**

(3) A four (4) position **TEST FUNCTION** switch (2), **S-205.**

(4) A **200 (pF)/1000 (pF)** selector switch (5), **S305.**

(5) A **PRESS TO READ CAP (pF)** (**CAP**acitance picoFarads) switch (9) **S-102.**

(6) Two (2) thumbwheel switches (7 and 8) **CAP SIM (pF)** (**CAP**acitance **SIM**ulator[picoFarads]), **S-202.**

(7) A **0-10 CAP SIM (pF)** trimmer control knob (6).

C. LCD PRESENTATION (Ref. Fig. 3)

(1) Through **Adapter Module** selection and switching arrangements displays of picofarads, volts, siemens (conductance), pounds, millivolts, microamperes, and ohms. Each of these units will be discussed separately in **Section 2, Operation,** and in the **Adapter Module** manual.

(2) 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.**

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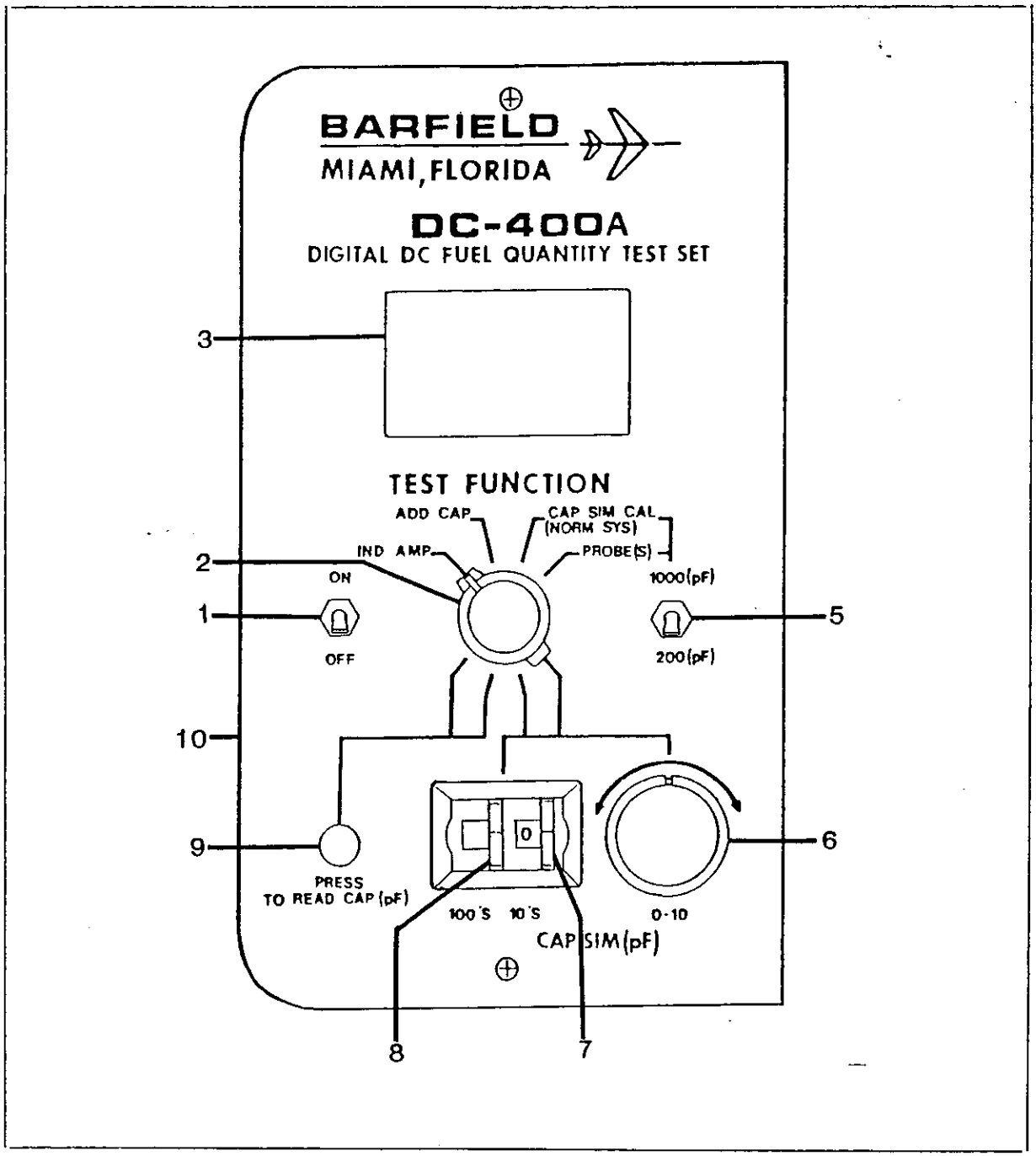


FRONT PANEL

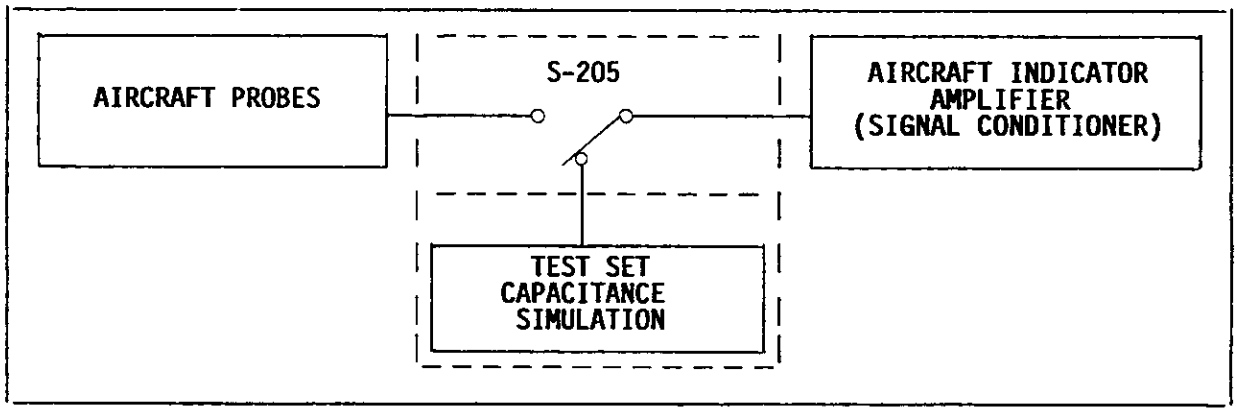
Figure 3

5. **SWITCHING FUNCTIONS** (Ref. Fig. 3)

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

B. The **TEST FUNCTION** selector permits the operator to select;

(1) **IND-AMP**, (**IND**icator **AMP**lifier), (Ref. Figs. 3 and 4), electrically disconnects the **Aircraft's** fuel tank(s) probe(s) from the fuel quantity system's amplifier/signal conditioner/indicator while simultaneously electrically connecting the amplifier/signal conditioner/indicator to the **DC-400A's CAP**acitance **SIM**ulator for empty/full check and or calibration I/A/W **Aircraft** or fuel quantity system manufacturer's procedures and specifications.



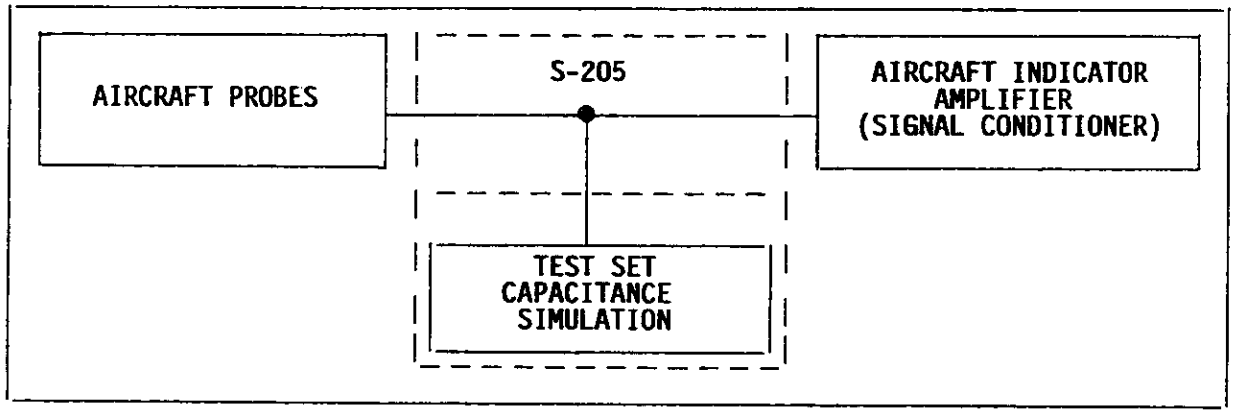
IND AMP POSITION

Figure 4

(2) **ADD CAP**, (**ADD CAP**acitance), (Figs. 3 and 5), electrically connects the **Aircraft's** fuel tank(s), probes(s) and **Airsraft'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.

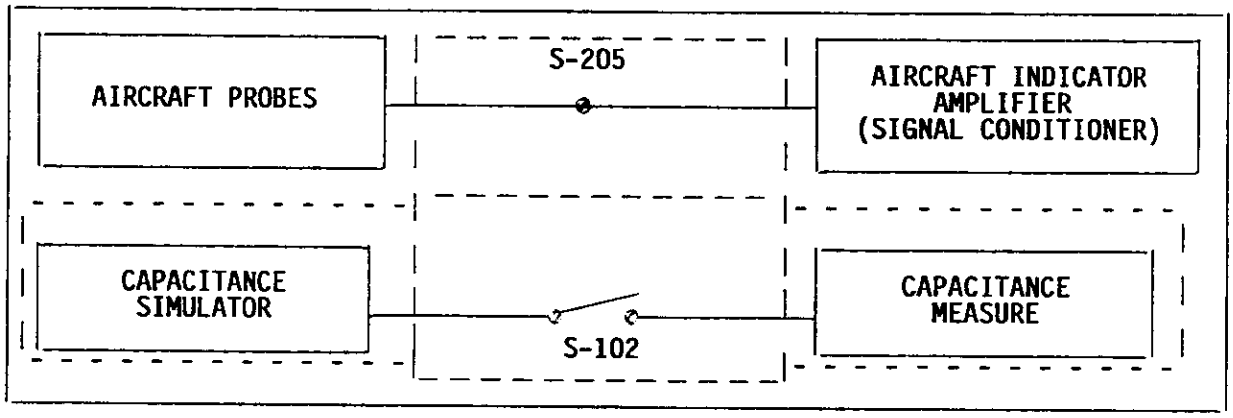
(3) **CAP SIM CAL**, (**CAP**acitance **SIM**ulator **CAL**ibration), (Ref. Figs. 3 and 6). The **DC-400A** is electrically isolated from the **Aircraft's** fuel quantity system and is its calibration mode. Capacitance can be selected and set by controls (6), (7) and (8). With the **200 (pF)/1000 (pF)** selector, set appropriately. The value will appear on the **LCD** when the **PRESS TO READ CAP (pF)** switch is depressed.

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



ADD CAP POSITION

Figure 5



CAP SIM CAL POSITION

Figure 6

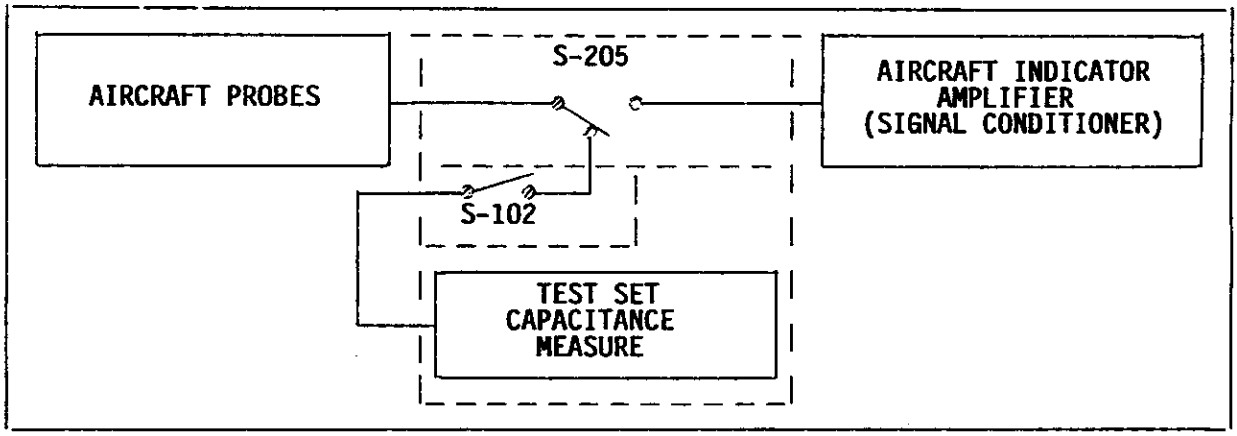
(4) **PROBE(S)**, (Ref. Figs. 3 and 7), and **Aircraft** power are isolated from the **Aircraft's** system. The probe values can then be measured. These values will appear on the **LCD** when the **PRESS TO READ CAP (pF)** switch is depressed.

(5) The **200 (pF)/1000 (pF)** selector switch permits selection of either the **200 (pF)** range presented in tenths on the **LCD** or **1000 (pF)** range presented in units on the **LCD.**

(6) The **PRESS TO READ CAP (pF)** switch when depressed display capacitance values of the **Aircrafts** fuel quantity probes when in **PROBE(S)** position or the capacitance value set into the capacitance simulator when in **CAP SIM CAL** position.

(7) The **10's/100's** thumbwheel assembly allows setting approximate capacitance values for simulation.

(8) The **0-10** trimmer control knob permits exact adjustment to predetermined capacitance values to be simulated.



PROBE(S) POSITION

Figure 7

6. **ADAPTER MODULE** (Ref. Fig. 2)

The Adapter Modules, though not covered in this, the basic manual, are mentioned here to establish the characteristics of the complete testing unit.

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INSTRUCTION MANUAL

OPERATION

1. GENERAL OPERATING INSTRUCTIONS

A. PREPARATION FOR USE

(1) Battery installation/Replacement;

(2) Loosen the two (2) captive screws (Ref. 1-1, Fig. 1, Item 2).

CAUTION: FROM THIS POINT AND UNTIL REINSTALLATION IS COMPLETE ABSOLUTE CARE MUST BE EXERCISED TO PROTECT THE RIBBON CABLE AND THE CONNECTORS J1 AND P1 FROM DAMAGE.

(3) Lift the **Adapter Module** (3) approximately 1 cm (½ inch), gently move it toward the open section of the case until the connector assembly (Ref. 1-1. Fig. 2, Item 3) is clear of the support bracket (Ref. 1-1, Fig. 2, Item 1). Raise it approximately 8 cm (3 inches until the ejector mechanism can be operated to separate P-1 (Ref.1-1, Fig.2, Item 3B) from J-1 (Ref. 1-1, Fig. 2, Item 3A). Remove the unit from the case and set aside from work area protecting both the front panel face the connector attached to the left hand side of the Module.

(4) Remove the two (2) screws (Ref. 1-1, Fig. 3, Item 5) from the **DC-400A** front panel (Ref. 1-1, Fig. 1, Item 6). Lift the unit from the case and place it, inverted, on a clean, cloth protected surface.

(5) Remove the battery holder securing screws. Place batteries (Ref. 4-4, Fig. 3, Item 2) in holder (Ref. 4-4, Fig. 3, Item 3), observing polarity. Reinstall the holder and connect the lead.

(5) Installation of the **DC-400A** and the **Adapter Module** into the carrying case is the exact reverse order of removal.

B. PRELIMINARY

The following 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, also that **Aircraft's Adapter Module** manual. Special attention shall be given to **WARNINGS** and **CAUTIONS** therein.

(1) Tank systems must be drained of **ALL** fuel, and **DRY**, for accurate probe capacitance measurements.

NOTE: Follow Aircraft manufacturer's procedures for this and the following requirements.

(2) **Aircraft** fuel quantity systems power **MUST** be **OFF** before wiring har-

nesses 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** I/A/W procedures specified in that **Adapter Module's** 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.**

(4) For each probe capacitance measurement depress the **PRESS TO READ CAP (pF)** switch. Record the reading on the proper worksheet for comparison with system manufacturer's specifications. Release the **PRESS TO READ CAP (pF)** switch.

Follow the above procedure for each probe position.

(5) When each probe measurement has been recorded place the **ON/OFF** switch to **OFF.**

D. PROBES(S) BENCH TEST

(1) Isolate the probe under test and avoid physical contact with the probe during test.

(2) Configure the **Adapter Module** I/A/W procedures specified in that **Adapter Module's** manual.

(3) **DC-400A** configuration

(a) Rotate the **TEST FUNCTION** selector to **PROBE(S).**

(b) Place the **200 (pF)/1000 (pF)** switch appropriately.

(c) Place **ON/OFF** switch to **ON.**

(4) Depress and hold the **PRESS TO READ CAP (pF)** switch. Compare the

reading with system manufacturer's specifications. Release the **PRESS TO READ CAP (pF)** switch.

(6) When probe measurement has been made and compared, place the power switch to **OFF**.

3. AMPLIFIER/SIGNAL CONDITIONER/INDICATOR TEST PROCEDURE

A. Configure the **Adapter Module** I/A/W procedures specified in that **Adapter Module's** manual.

B. EMPTY CAPACITANCE TEST

(1) **DC-400A** configuration

(a) Rotate the **TEST FUNCTION** selector to **CAP SIM CAL**.

(b) Place the **200 (pF)/1000 (pF)** appropriately.

(c) Place the **CAP SIM (pF) 10's/100's** selectors to the values specified in that **Adapter Module's** manual.

(d) Place the **ON/OFF** switch to **ON**.

(2) Depress and hold the **PRESS TO READ CAP (pF)** switch while adjusting the **CAP SIM (pF)** fine adjust knob to obtain the exact **LCD** as the values specified in that **Adapter Module's** manual.

(3) Release the **PRESS TO READ CAP (pF)** switch.

(4) Rotate the **TEST FUNCTION** selector to **IND AMP**.

(5) Energize the **Aircraft's** fuel quantity system.

The **Aircraft's** fuel quantity indicator should indicate empty. If not, where applicable, adjust to empty I/A/W manufacturer's specifications.

C. 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 and adjusting the **CAP SIM (pF) 0-10** fine 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 full I/A/W manufacturer's specifications.

(7) Refer to the **Aircraft's,** system manufacturer's and appropriate **Adapter Module** manual for further amplifier/signal conditioner/indicator test. Perform any additional test in the same sequential steps outlined in Para. **3. A., B** and **C.**.

(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.

D. BENCH TEST

(1) Configure the **Adapter Module** I/A/W that **Adapter Module's** manual.

NOTE: An external dc power supply is required for this test, refer to that Adapter Module's manual.

(2) With the exception of the external dc power supply replacing **Aircraft** power the **DC-400A** configuration, sequential steps and operation are exactly as those in Para. **3. AMPLIFIER/SIGNAL CONDITIONER/-INDICATOR TEST PROCEDURE.**

(3) When all tests are complete remove external dc power and place the **DC- 400A ON/OFF** switch to **OFF.**

4. AIRCRAFT SYSTEM CALIBRATION

A. Configure the **Adapter Module** I/A/W that **Adapter Module's** 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 (pF) 0-10** fine adjust knob to obtain the **exact** values as those specified in that **Adapter Module's** manual.

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(6) Release the **PRESS TO READ CAP (pF)** switch.

(7) 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 I/A/W system manufacturer's specifications.

(8) Rotate the **TEST FUNCTION** selector to **ADD CAP**. The **Aircraft's** fuel quantity indicator should indicate full. If not, where applicable, adjust to full I/A/W manufacturer's specifications.

(9) Rotate the **TEST FUNCTION** selector to **CAP SIM CAL**. Check the fuel quantity indicator for empty indication. If necessary, and where applicable, trim I/A/W manufacturer's specifications.

(10) When all values have been verified, the test procedures are complete.

(11) 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.

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SPECIFICATIONS AND CAPABILITIES

1. PHYSICAL DATA

A. Length - 31.0 CM (12.2 in.)

B. Width - 26.4 CM (10.4 in.)

C. Height - 13.5 CM (5.3 in.)

D. Weight - 3.2 Kg (7.0 lbs.)

2. CAPABILITIES

Refer to 1-1, 2., A., B. and 3., A., B.

3. PERFORMANCE DATA:

FUNCTION	RANGE	ACCURACY	EXCITATION
Monitor Display	0-19999	.1% of Range ± 2 Digits	Ratiometric $\frac{Ein}{Eref}$ X 10000
+ 1.000 VDC	Reference Output	+ .001 VDC	
Capacitance Measurement	0-199.99 in 0.01 pF Increments	±.1% + 2 digits	20V RMS @ 6.25 KHz
	0-1000.0 in 0.1 pF Increments	±.1% + 2 digits	20V RMS @ 6.25 KHz
Capacitance Simulator	0-400 pF Infinite Resolution	Adjustable to Capacitance Measurement	

PERFORMANCE DATA TABLE

Figure 1

3. LEADING PARTICULARS

A. Display: 4½ digit LCD

B. Display character height: 10 mm (0.4 inches)

C. Temperature operating range: 0° C - 50° C (32° F -122° F)

D. Power requirement: eight (8) 1½ volt penlight batteries (AA) approximately 200 hours of operation.

AIRCRAFT DESIGNATION	MODULE DESIGNATION	PART NUMBER	MANUAL PART NUMBER
Beech KINGAIR & C-99	DC-400/A C-99 and KINGAIR	101-00802	56-101-00802
Bell 214ST HELICOPTER	DC-400/A 214ST	101-00801	56-101-00801
Bell 406 HELICOPTER	DC-400/A 406	101-00805	56-101-00805
Bell 412 HELICOPTER	DC-400/A 412	101-00807	56-101-00807
CANADAIR CHALLENGER	DC-400/A CHALLENGER	101-00803	56-101-00803
DeHAVILLAND DHC-8	DC-400A DCH-8	101-00808	56-101-00808
SAAB-FAIRCHILD SF-340	DC-400A SF-340	101-00809	56-101-00809

MODULE/AIRCRAFT REFERENCE TABLE

Figure 2

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SHIPPING

1. RECEIVING

No special unpacking procedures are necessary. It is recommended that the factory shipping container and packing materials be retained should it become necessary, for any reason, to reship the **DC-400A.**

Also recommended is that the **DC-400A** 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 Adapter for reshipment.

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STORAGE

1. PROCEDURE

A. Remove the batteries and store separately.

B. Place a four (4) ounce bag of desiccant inside the case.

C. Close and latch the cover.

D. Store in a cool dry place.

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CHAPTER 2

MAINTENANCE

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There are no actual field maintenance procedures for the **DC-400A.** Care should be taken to keep the **Adapter,** cables, and leads clean and moisture free.

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CHAPTER 3

OVERHAUL/MAJOR REPAIR

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There are no overhaul procedures for the **DC-400A.** If any problems or difficulties are experienced, please contact or send unit to an approved repair facility.

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CHAPTER 4

ILLUSTRATED PARTS LIST

TABLE OF CONTENTS

There is no requirement for an illustrated parts list to be issued with this Barfield Instruction Manual. Please contact Barfield Instrument Corporation directly for any information concerning parts replacement.

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CHAPTER 5

MANUFACTURERS APPENDIX

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There is neither requirement nor necessity for an appendix of manufacturers to be issued with this Barfield Instruction Manual. The appropriate **Adapter Module** is included in the packaging of the **DC-400A.**

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