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COMPONENT MAINTENANCE MANUAL WITH ILLUSTRATED PARTS LIST DIFFERENTIAL PRESSURE SWITCH CCS PART NUMBER 32D37-1

TO: HOLDERS OF ATA PUBLICATION 21-21-03, COMPONENT MAINTENANCE
MANUAL WITH ILLUSTRATED PARTS LIST COVERING AIR DIFFERENTIAL
PRESSURE SWITCH CCS PART NUMBER 32D37-1.

REVISION NO. 2 DATED JANUARY 25, 2000

HIGHLIGHTS

This manual has been reprinted entirely. Pages that have been revised are outlined below together with the highlights of the revision. Remove old manual and insert new manual. Enter the revision number and date on the record of revision sheet.

CHAPTER/SECTION/PAGE	DESCRIPTION OF CHANGE	EFFECTIVITY
21-21-03		All Models
LEP	Updated	
3	Added Note to Step L.	
7	Updated Fig. 5, Item 1 – Lubricant Added to Step C.	
8	Added to Step D, Step D1	
18	Added box for Item 40	
19	Updated IPL introduced electrical subassembly to help ease rebuilding unit. Electrical assembly is difficult to build in field. Added item 40.	

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DIFFERENTIAL PRESSURE SWITCH

CCS PART NUMBER 32D37-1

COMPONENT MAINTENANCE MANUAL

WITH

ILLUSTRATED PARTS LIST

21-21-03 ^{T-1}
Oct 15/98

**CUSTOM CONTROL SENSORS, INC.
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 DIFFERENTIAL PRESSURE SWITCH**

RECORD OF REVISIONS

Retain this record in front of manual. On receipt of revision, insert revised pages in the manual and enter revision number, date inserted and initial.

REVISION NUMBER	REVISION DATE	DATE FILED	BY	REVISION NUMBER	REVISION DATE	DATE FILED	BY
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**CUSTOM CONTROL SENSORS, INC.
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DIFFERENTIAL PRESSURE SWITCH**

TEMPORARY REVISION AND SERVICE BULLETIN RECORD

SERVICE BULLETIN	TEMPORARY REVISION	OTHER DIRECTIVES	INCORPORATION INTO MANUAL

21-21-03 TR/SB-1
Jan 25/00

**CUSTOM CONTROL SENSORS, INC.
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PART NUMBER 32D37-1
AIR DIFFERENTIAL PRESSURE SWITCH**

LIST OF EFFECTIVE PAGES

PAGE	DATE
T-1	Jan 25/00
R/R-1	Jan 25/00
TR/SB-1	Jan 25/00
LEP-1	Jan 25/00
T/C-1	Aug 02/71
INTRO	Jan 25/00
1	June 28/78
2	Aug 02/71
3	Jan 25/00
7	Jan 25/00
8	Jan 25/00
9 through 17	Aug 02/71
18	June 28/78
19	Jan 25/00

21-21-03 LEP-1
Jan 25/00

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LIGHT OVERHAUL	Not Applicable

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INTRODUCTION

The material in this manual has been prepared to assist qualified personnel in performing maintenance functions ranging from simple checks to complete shop type repair.

This Component Maintenance Manual is compiled in sequence dictated by ATA 100, Revision 35 and covers front matter (Title Page, Record of Revisions Sheet, List of Effective Pages, Table of Contents, and Introduction). A Record of Temporary Revisions and a Service Bulletin List will be added and maintained when the manual is revised. The manual also contains Procedure and Illustrated Parts List (IPL) sections. Refer to the Table of Contents for the page location of specific sections.

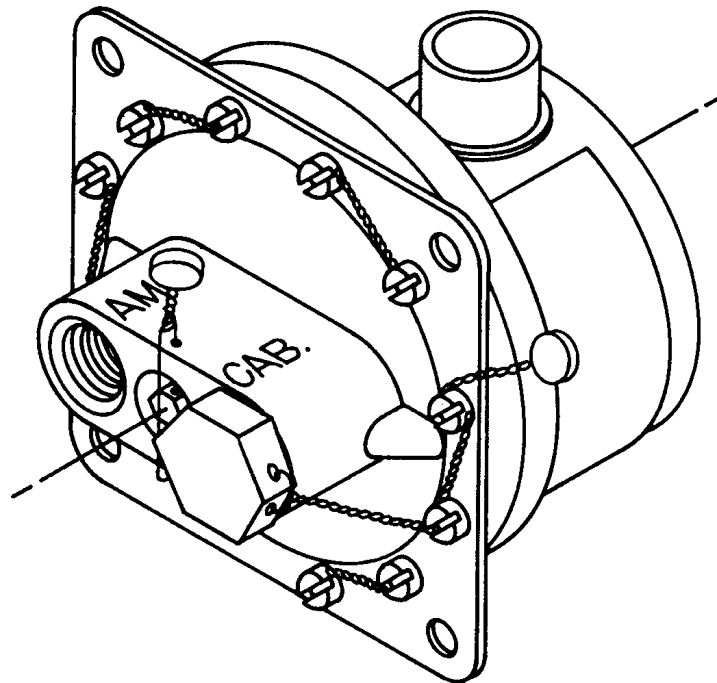
This manual provides verified procedures to enable a shop mechanic to restore a component to serviceable condition.

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DIFFERENTIAL PRESSURE SWITCH

1.0 DESCRIPTION AND OPERATION

The pressure switch (Ref. Figure 1) senses air pressure and converts it into an electrical signal. Varying pressures are applied to opposite sides of a diaphragm. The resultant force created by the high over low pressure differential is conveyed to a negative rate disc spring by a pressure plate. When the increasing differential pressure reaches a preset actuation point, the disc spring snaps over center allowing the pressure plate to move. This motion is transmitted from the pressure plate through the switch actuator assembly to electrical switching elements. Upon decreasing differential pressure, at a preset value below the actuation point, the disc spring snaps back to its original position returning the pressure plate, switch actuator assembly, and electrical switching element to their original positions.

This pressure switch is used in the avionics compartment to sense differential pressure between cabin and ambient for control of electrical power to avionics compartment cooling fan. Refer to Figure 2 for the leading particulars.



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FIGURE I - PRESSURE SWITCH

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SERVICE MEDIUM	AIR
Actuation Points:	
Increasing Pressure	At 37 ± 0.5 inches H ₂ O differential
Decreasing Pressure	By 31.5 inches H ₂ O differential
Deadband	2 inches H ₂ O minimum
Proof Pressures:	
Cabin port only	18.2 PSIG
Ambient port only	1.15 PSIG
Ambient Temperature Range	-65°F to +165°F
Pressure Connection	Per AND10050-47/16-20 UNF-3B thd.
Mounting Provisions	Four .210 inch dia. holes on 2.50 inch centers
Electrical Data:	
Switching Element	2 SPDT hermetically sealed
Current	1.0 amp inductive at 28 VDC
Receptacle	Bendix PTIH-10-6P mates with MS3116-10-6S
Overall Dimensions:	
Height	3.00 inches max
Width and Depth	3.03 inches max
Weight	1.0 pound max

FIGURE 2 - LEADING PARTICULARS

2.0 DISASSEMBLY (Ref. Figure 13)

NOTE: This pressure switch should be tested in accordance with TESTING procedures to determine the extent of maintenance necessary. Disassemble pressure switch only to the extent that the malfunction(s) indicated by TESTING can be corrected.

- A. Cut and remove lockwire from vent plug [2], lock [3], screws [7] and port cap [9].

NOTE: Observe method used to lockwire pressure switch. Use same method to replace lockwire during assembly.

- B. Remove vent plug [2] and lock [3].

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- C. Using a 3/16 inch Allen wrench, remove adjustment screw [4] from port cap [9]. Remove O-ring [5] from adjustment screw [4].
- D. Remove helical spring [6] from port cap [9].
- E. Remove screws [7], mounting bracket [8]. And port cap [9] from body [30].
- F. Remove diaphragm [10], O-rings [11 and 12], and adjustment shoe [13] from port cap [9] or body [30].

NOTE: Do not remove stop [14] unless it is damaged. If required, use a 5/16-inch Allen wrench to remove stop [14]. It is recommended that diaphragm [10] and O-rings [5, 11 and 12] be replaced at each overhaul.

- G. Carefully disengage pressure plate [15] from lower arm of switch actuator assembly in body [30]. Remove pressure plate [15] and disc spring [16] from body [30].

NOTE: Do not disassemble top portion of pressure switch [17 through 30] unless repair or replacement of a component is indicated in CHECK and/or TESTING. If disassembly is necessary, proceed only with those steps necessary to repair or replace the defective component.

- H. Unsolder and remove screw [17] from case [18].
- I. Unsolder and separate case [18] from body [30].

NOTE: Observe orientation of receptacle [19] to body [30]. This orientation must be duplicated during assembly.

- J. Unsolder and detach electrical wires from switches [27].
- K. If receptacle [19] or case [18] requires replacement, unsolder and remove receptacle [19] from case [19].
- L. If replacement of a switch [27] is necessary:

NOTE: It is suggested to replace with electrical assembly [40] and disregard disassembly steps L (1 through 4) and remove only the nuts [23].

- (1) Carefully break epoxy bond between screws [22], nuts [23], switches [27], shims [28], switch actuator support assembly [24], pin assembly [25] and switch holder on body [30].

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- (2) Remove screws [22] and nuts [23].
- (3) Remove switch actuator support assembly [24], pin assembly [25], switch actuator [26], switches [27], and shims [28].

NOTE: Observe placement and number of shim(s) [28] for installation during assembly procedure.

- (4) If replacement is necessary, remove eccentric pin [29] from switch actuator support assembly [24] using a .050 inch Allen wrench.

3.0 CLEANING

WARNING: AVOID SOLVENT CONTACT WITH SKIN AND AVOID BREATHING SOLVENT VAPORS. WEAR SAFETY GOGGLES. OBSERVE FIRE PRECAUTIONS.

- A. Clean all metal parts with cleaning solvent (per Federal Specification P-D-680, Type 1 or equivalent.) Use a stiff bristle brush and/or a clean, lint-free cloth to remove all foreign matter.
- B. Dry parts thoroughly with moisture free, compressed air or allow to air dry.

ITEM	AVAILABILITY
Solvent, Stoddard	P-D-680, Type 1, or equivalent
Brush, stiff bristle	Commercially available
Cloth, lint free	Commercially available

FIGURE 3 - CLEANING MATERIALS

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4.0 CHECK (Refer to Figure 13)

- A. Check all machined surfaces for cracks, nicks, burrs, corrosion or any other condition which could cause a malfunction in service.
- B. Check all threaded parts for crossed, stripped or worn threads.
- C. Check all plated parts for deterioration.
- D. Check helical spring [6] for distortion, length, and rate.
 - (1) Visually check helical spring [6] for distortion.
 - (2) Free length should be 0.485/0.515 inches.
 - (3) With helical spring [6] deflected to solid height, the reaction force should be approximately 5.5 pounds.
- E. Using a circuit tracer or other suitable device, check switch [27] or electrical circuitry (Refer to Figure 10).
 - (1) With switch [27] in the deactuated position, there must be closed circuits between "NC" and "C" terminals of switch [27] (circuits A-B and D-E) and open circuits between "NO" and "C" terminals (circuits A-C and D-F).
 - (2) Gradually depress actuating plunger of switch [27] (lower arm of switch actuator assembly in body [30] until switch [27] actuates.

CAUTION: INTERNAL DAMAGE TO SWITCH [27] CAN RESULT IF ACTUATING PLUNGER IS DEPRESSED TOO FAR.

- (3) With switch [27] actuated, there must be closed circuits between "NC" and "C" terminals of switch [27] (circuits A-C and D-F) and open circuits between "NC" and "C" terminals (circuits A-B and D-E).
- F. Check dielectric strength of receptacle [19].
 - (1) With the output current limited to 18 milliamperes, apply 1000 volts RMS 60 cycles between each pin on receptacle [19] and shell of receptacle [19] for a period of not to exceed one minute.

CAUTION: THE OUTPUT CURRENT MUST BE LIMITED DURING THIS TEST AS A PRECAUTIONARY MEASURE TO PREVENT PERMANENT DAMAGE TO THE PART.

- (2) There must be no arcing and the maximum permissible leakage is 0.2 milliamperes.
- G. Check nameplate [20] and wiring diagram [21] for legibility and security of attachment to case [18].

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5.0 REPAIR (Refer to Figure 13)

- A. The necessary repair materials are shown in Figure 4.
- B. Adjustment screw [4] and port cap [9] contain nylon locking inserts. If required, these inserts should be replaced with new nylon pellets of appropriate size.
- C. Remove any minor nicks, corrosion or burrs from aluminum parts with an aluminum oxide abrasive cloth.
- D. Remove defects from stainless steel parts using crocus cloth per Federal Specification P-C-458, grade 600 or finer.
- E. Repair minor thread damage by carefully chasing threads with an appropriate tap or die.
- F. Replace any parts on which the plating has deteriorated.
- G. Replace all parts that cannot be made serviceable by REPAIR steps 5.B through 5.E.

ITEM	AVAILABILITY
Inserts, nylon locking	L-P-410, Comp 6/6, 1/16 inches diameter and 3/32 inch dia.
Cloth, Aluminum Oxide	P-C-451, Grade 600 or finer
Cloth, Crocus	P-C-458, Grade 600 or finer
NOTE: Equivalent substitutes may be used for the above items.	

REPAIR MATERIALS – FIGURE 4

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6.0 ASSEMBLY (Refer to Figure 13)

- A. This procedure describes the complete assembly of the pressure switch. If the pressure switch was only partially disassembled, proceed with the appropriate assembly paragraphs.

NOTE: Equivalent substitutes may be used for materials listed in Figure 5.

ITEM	DESCRIPTION	MANUFACTURER
1	BRAYCOTE 1625 or 806 Lubricant	Castrol Inc. Bray Products Division Irvine, CA 92714 (714) 660-9414
2	STYCAST 2651 and CATALYST 9 Epoxy	Emerson & Cuming, Inc. Canton, Mass. (V04552)
3	Solder, 95% Sn/5% Sb	Federal Specification QQ-S-571 Grade Sb5
4	Wire, Electrical	MIL-W-16878, Type E, 22 AWG
5	25-7070-0053 Solder, 95% Sn/5% Ag	Kester Solder Company Anaheim, CA (V14597)
6	Solder, 60% Sn/40% Pb	Federal Specification QQ-S-571 Grade Sn 60
7	Lockwire	MS20995C32
8	67, Seal	Stoffel Seals Corp. Tuckahoe, NY (V01019)

FIGURE 5 - ASSEMBLY MATERIALS

- B. Apply lubricant (Figure 5, Item 1) to O-rings [5, 11 and 12] and threads of port cap [9].
 C. Skip if replacing with electrical assembly [40]. Install eccentric pin [29] into switch actuator support assembly [24].

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D. Skip to Step D1 if replacing with electrical assembly [40]. Place shim(s) [28], switch [27], and switch actuator [26] between pin assembly [25] and switch actuator support assembly [24].

D1. Mount these components to body [30] using screws [22] and nuts [23].

NOTE: Plungers on switch [27] should be as close as possible to pivot point of switch actuator [26]. Screws [22] should be snug, not tight, in order to facilitate final positioning of switch [27].

E. Install disc spring [16], pressure plate [15], and one O-ring [11] into body [30].

NOTE: Make certain that lower arm of switch actuator assembly is registered in undercut at top of pressure plate [15].

F. Install remaining O-ring [11] and diaphragm [16] onto port cap [9].

G. Assemble port cap [9] and mounting bracket [8] to body [30] using screws [7].

H. Place O-ring [5] around adjustment screw [4] and install adjustment screw [4] into port cap [9]. Use a 3/16-inch Allen wrench.

I. Synchronize switch [27].

(1) Mount the pressure switch into a test setup such as shown in Figure 7.

(2) Apply sufficient pressure to CABIN pressure port to actuate disc spring [16]. Maintain this pressure.

(3) Slowly move switch [27] toward switch actuator arm on body [30] until switch [27] actuate. Advance switch [27] an additional .004-.008 inches toward switch actuator arm being careful that switch [27] remain lined up with each other.

CAUTION: INTERNAL DAMAGE TO SWITCH [27] CAN RESULT IF 0.008 INCH (0.20 mm) OVERTRAVEL LIMIT IS EXCEEDED.

(4) Carefully tighten screws [22] being careful switch [27] does not move from its preliminary adjustment position.

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- (5) While actuating and deactuating disc spring [16], turn eccentric pin [29] to obtain simultaneous actuation of switch [27]. Use a 0.050-inch Allen wrench.
- (6) Apply epoxy (Figure 5, Item 2) to bond screws [22], nuts [23], switch actuator support assembly [24], pin assembly [25], switch [27], shim(s) [28], and body [30] to each other. Cure epoxy in accordance with manufacturer's instructions.

- J. Remove screws [7] and separate mounting bracket [8], port cap [9], and body [30].
- K. Remove O-rings [11], diaphragm [10], pressure plate [16], and disc spring [16] from port cap [9] or body [30].

NOTE: Carefully disengage pressure plate [16] from lower arm of switch actuator assembly in body [30].

- L. Solder (Figure 5, Item 3) electrical wires (Figure 5, Item 4) to terminals on receptacle [19].
- M. Insert electrical wires through hole in case [18] and solder (Figure 5, Item 5) receptacle [19] to case [18].
- M. Solder (Figure 5, Item 6) electrical wires to terminals of switch [27] using Figure 10 for circuitry.
- N. Solder (Figure 5 Item 6) electrical wires to terminals of switch [27] using Figure 10 for circuitry.
- O. Solder (Figure 5, Item 6) case [18] to body [30] orienting parts as observed in DISASSEMBLY.
- P. Hermetically seal chamber.
 - (1) Place partially assembled pressure switch in an oven and bake at +250° F for 30 minutes minimum to remove all moisture.
 - (2) Install screw [17] immediately after pressure switch cools to handling temperature.
 - (3) Solder (Figure 5, Item 6) screw [17] to case [18] hermetically sealing the chamber.
- Q. Install stop [14] into port cap [19] using a 5/16-inch Allen Wrench.

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- R. Install adjustment shoe [13] into stop [14]. Using a 5/16-inch Allen wrench, adjust stop [14] so that top of adjustment shoe [13] is 0.006/0.010 inch below plane formed by flat surface between groove for O-ring [11] and outer edge of port cap [9].
- S. Install disc spring [16] and pressure plate [15] in body [30].

NOTE: Make certain that lower arm of switch actuator assembly is registered in undercut at top of pressure plate [15].

- T. Install O-rings [11 and 12] and diaphragm [10] in port cap [9] and body [30].

NOTE: Align large hole in diaphragm [10] with AMBIENT port passage.

- U. Assemble port cap [9] and mounting bracket [8] to body [30] using screws [7]. See Figure 6 for torque values.
- V. If adjustment screw [4] with O-ring [5] was removed, reinstall both parts into port cap [9].

NOTE: Helical spring [6] will be installed during testing procedure.

- W. After pressure switch has been tested and adjusted in accordance with TESTING, install lock [3] into adjustment screw [4] and vent plug [2] into CABIN pressure port of port cap [9]. It may be necessary to trim lock [3] to an appropriate length by shortening the end without the lockwire hole.
- X. Lockwire (Figure 5, Item 7) lock [3] to port cap [9], screws [7] in pairs, and vent plug [2] to one pair of screws [7]. Install seal (figure 5, Item 8) on lockwire locking lock [3] to port cap [9] and one pair of screws [7] to vent plug [2].

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7.0 FITS AND CLEARANCES (Ref Figure 13)

ITEM	TORQUE VALUE
SCREWS [7]	12-15 INCH POUNDS

FIGURE 6 - TORQUE VALUES

8.0 TESTING (Ref Figure 13)

- A. Test Setup
- (1) Atypical test setup is shown in Figure 7.
 - (2) The test setup should be connected to a source of clean, dry, compressed air that delivers at least 18.2 PSIG.

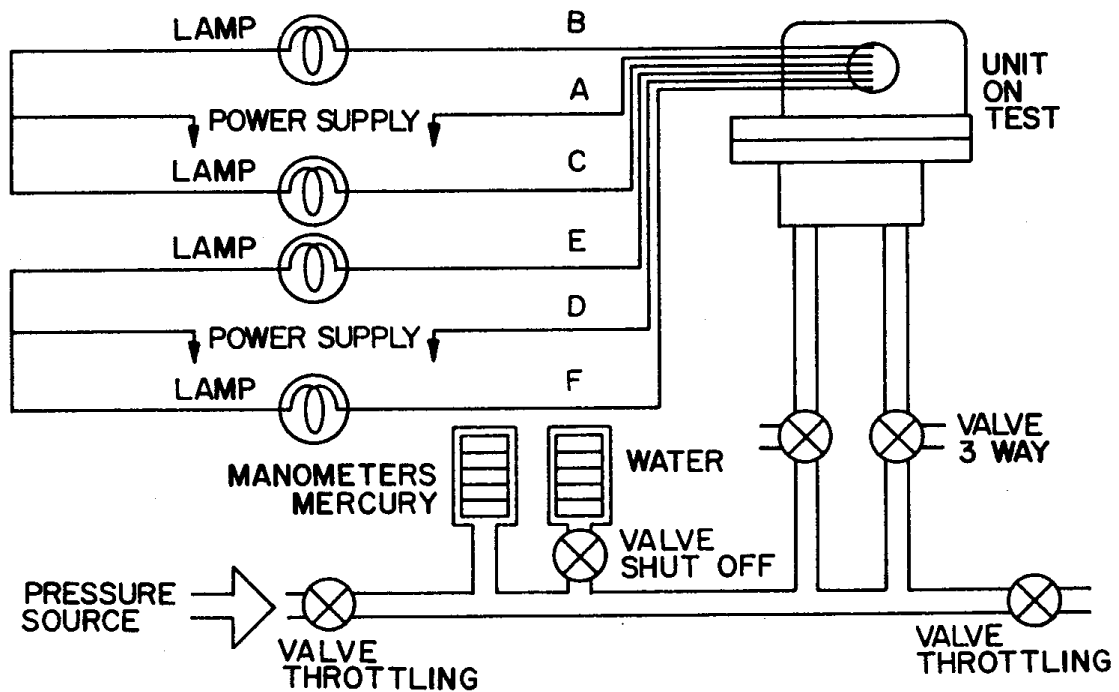


FIGURE 7 - TEST SETUP

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- B. Test Equipment
- (1) The necessary test equipment needed for the test setup (Ref Figure 7) is shown in Figure 8.
 - (2) All items of test equipment are commercially available.

DESCRIPTION	QUANTITY
Valve, Throttling	2
Valve, 3-way	2
Valve, Shutoff	1
Manometer, water – 60 inch	1
Manometer, mercury – 60 inch	1
Power Supply, 28 volts DC	2
Lamp, #313	4

FIGURE 8 – TEST EQUIPMENT

- C. Test pressure switch for leakage.
- (1) If vent plug [2] is installed, remove it to facilitate testing of pressure switch.
 - (2) Shut off valve to water manometer.

CAUTION: DO NOT EXCEED THE RECOMMENDED PRESSURES DURING THIS TEST.

- (3) With AMBIENT pressure port open to ambient, slowly apply 18.2 PSIG to CABIN pressure port. Seal off pressure source and hold a static pressure head for one minute. Reduce pressure to ambient.

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- (4) With CABIN pressure port open to ambient, slowly apply 1.15 PSIG to AMBIENT PRESSURE PORT. Seal off pressure source and hold a static pressure head for one minute. Reduce pressure to ambient.
 - (5) There must not be a noticeable pressure loss as indicated by either the manometer or visibility at pressure switch.
 - (6) If leakage occurs, replace diaphragm [10] and O-rings [5, 11. and 12].
- D. Test electrical circuitry.
- (1) With output circuit limited to 18 milliamperes, apply 1000 volts RMS 60 cycles between each pin of receptacle [19] and case [18] for a period not to exceed one minute.

CAUTION: THE OUTPUT CURRENT MUST BE LIMITED DURING THIS TEST IN ORDER TO PREVENT PERMANENT DAMAGE TO SWITCH [27].

- (2) There must be no arcing and the maximum permissible leakage is 2 milliamperes.
- (3) If an insulation defect is noted, repair electrical circuitry using CHECK, paragraph 4, to determine defective component(s).
- (4) Using a circuit tracer or another suitable device, check for circuits A-B and D-E closed and circuits A-C and D-F open (Ref Figure 10).
- (5) If the proper continuity cannot be established, repair electrical circuits using CHECK, paragraph 4, to determine defective component(s).
- (6) Slowly apply 2.0 PSIG to CABIN pressure port. The pressure switch should actuate by this pressure and is indicated by an audible “snap” from within pressure switch, circuits A-C and D-F closing, and circuits A-B and D-E opening.
- (7) If an audible “snap” cannot be heard, and circuits do not change, replace disc spring [16].

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- (8) If an audible “snap” can be heard by circuits do not change, repair electrical circuits using CHECK, paragraph 4, to determine the defective component(s).
- E. Test pressure switch operating limits.
- (1) Open valve to water manometer.
 - (2) Slowly increase test pressure to CABIN pressure port until circuits A-C and D-F close (A-B and D-E open). Note the exact gage reading the instant this occurs.
 - (3) Slowly reduce test pressure to CABIN pressure port until circuits A-C and D-F close (A-B and D-E Close). Note the exact gage reading the instant this occurs. Reduce pressure to zero.
 - (4) The pressure difference between actuation and deactuation is the deadband. If deadband does not conform to Figure 9, remove adjustment screw [4] with O-ring [5] and adjust stop [14]. Insert a 5/16-inch Allen wrench through port cap [9] and rotate stop [14] to obtain the necessary deadband.
- NOTE:** Counterclockwise rotation of stop [14] increases deadband; clockwise rotation decreases deadband.
- (5) Using a 3/16-inch Allen wrench, remove adjustment screw [4] with O-ring [5] from port cap [9]. Install helical spring [6] into port cap [9]. Reinstall adjustment screw [4] with O-ring [5] into port cap
 - (6) Actuate and deactuate pressure switch per paragraphs 8.E. (2) and 8.E. (3). If pressure settings do not conform to Figure 9, adjust pressure switch by rotating adjustment screw [4] in small increments and repeating paragraphs 8.E.(2) and 8.E.(3). To increase pressure settings, turn adjustment screw [4] counterclockwise; to decrease, turn clockwise.

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TEST PRESSURE	PRESSURE INCHES OF WATER	CIRCUIT			
		A-B	A-C	D-E	D-F
Increasing	At 37 ± 0.5	Open	Closes	Open	Closed
Decreasing	By 31.5	Closes	Opens	Closes	Opens
Deadband	2 minimum	-			

FIGURE 9 –PRESSURE SWITCH OPERATING CHARACTERISTICS

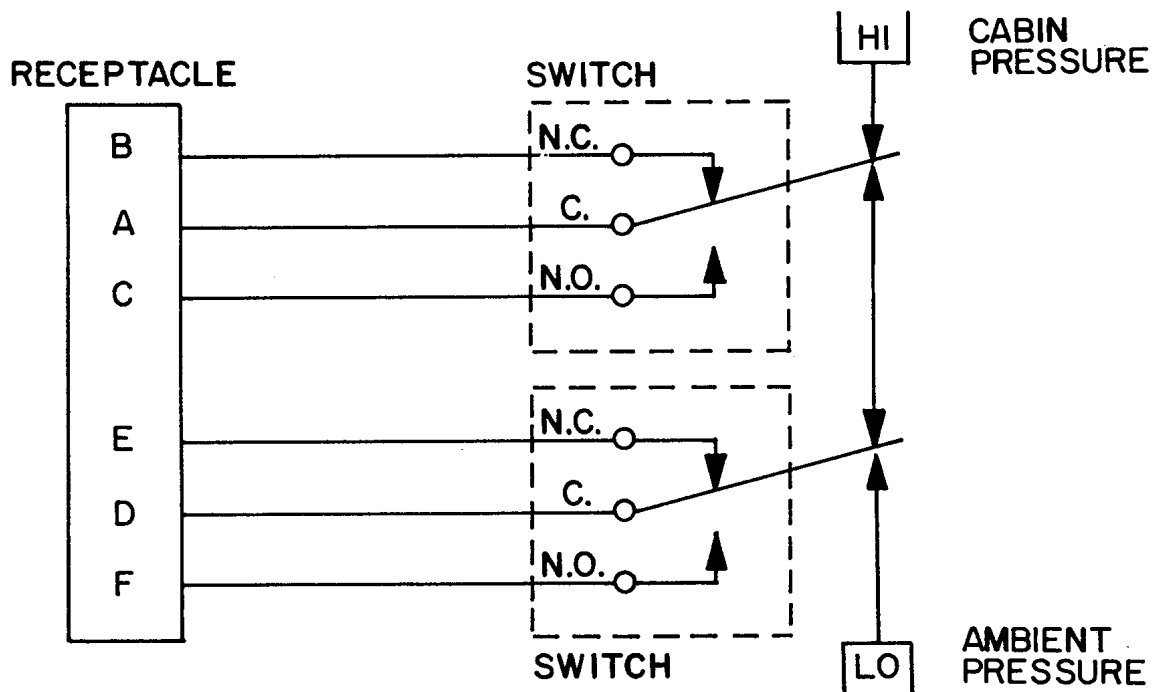


FIGURE 10 – ELECTRICAL SCHEMATIC

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9.0 TROUBLE SHOOTING

Refer to TESTING procedure for the isolation of failure(s) and the remedy(ies).

10.0 STORAGE INSTRUCTIONS (Refer Figure13)

- A. Figure 11 lists the necessary storage materials for proper protection of pressure switch.

MATERIAL	AVAILABILITY
Plugs (MIL-C-5501)	Commercially available
Caps (MIL-C-5501)	Commercially available
Container, corrugated cardboard	Commercially available
Bag, Polyethene	Commercially available

FIGURE 11 - STORAGE MATERIALS

- B. Plug pressure port and cap receptacle [7].
- C. Place pressure switch in a corrugated cardboard container. If pressure switch is not stored in a moisture free area, place pressure switch in a sealed polyethylene bag and corrugated cardboard container.
- D. When properly packaged, the pressure switch may be stored indefinitely at a temperature of -65° F to +165° F and relative humidity of 90% maximum.

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11.0 SPECIAL TOOLS, FIXTURES AND EQUIPMENT

No special tools or fixtures are required. The necessary test equipment is described in Figure 8.

12.0 ILLUSTRATED PARTS LIST

- A. The illustrated parts list provides identification and spare parts ordering information. Order parts by part number.
- B. Supplier codes in the parts list nomenclature column are obtained from the Federal Cataloging Handbook H4-1. Figure 12 cross-references these codes with the supplier's name and location.
- C. The complete description of O-rings [3, 11 and 12] must include the compound found in the nomenclature column of the parts list when ordered under vendor part number.
- D. The equivalent CCS part numbers for purchased parts are referenced in the nomenclature column and should be included when ordering parts from:
Custom Aviation Supply Company
21111 Plummer Street
Chatsworth, CA 91311

CODE	SUPPLIER
V56878	Standard Pressed Steel Company Jenkintown, PA
V77820	Bendix Corp. Scintilla Division Sidney, NY
V83259	Parker Seal Company Culver City, CA
V91929	Minneapolis-Honeywell Regulator Company Micro Switch Division Freeport, IL

FIGURE 12 – SUPPLIER CODES

CUSTOM CONTROL SENSORS, INC.
COMPONENT MAINTENANCE MANUAL
PART NUMBER 32D37-1
DIFFERENTIAL PRESSURE SWITCH

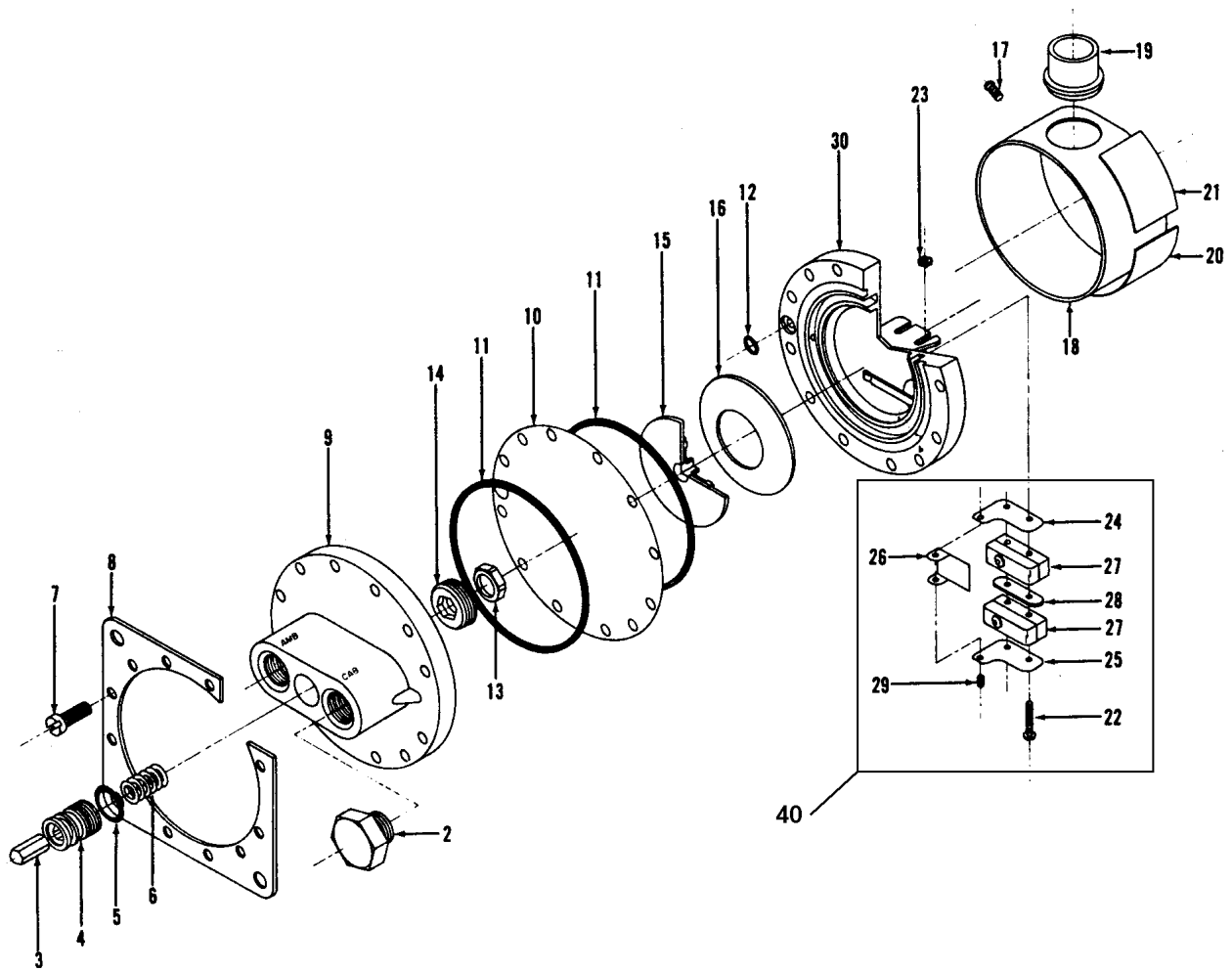


FIGURE 13 - EXPLODED VIEW

**CUSTOM CONTROL SENSORS, INC.
COMPONENT MAINTENANCE MANUAL
PART NUMBER 32D37-1
DIFFERENTIAL PRESSURE SWITCH**

FIG. ITEM	PART NUMBER	NOMENCLATURE 1234567	EFF CODE	UNITS PER ASSY
13 – 1	32D37-1	SWITCH, PRESSURE		RF
2	28-26	.PLUG-VENT		1
3	50-5	.LOCK, REPLD BY 50-55		1
3A	50-55	.LOCK, REPLS 50-5		1
4	29-17	.SCREW, ADJUSTMENT		1
5	APR568-011	.O-RING .COMP S604-7 (V83259) CCS P/N 80-011-2		1
6	1-1	.SPRING, HELICAL		1
7	56-88	.SCREW		12
8	36-50	.BRACKET, MOUNTING		1
9	14-482	.CAP-PORT		1
10	31-185	.DIAPHRAGM		1
11	ARP568-035	.O-RING .COMP S604-7 (V83259) CCS P/N 80-035-2		2
12	ARP568-005	.O-RING .COMP S604-7 (V83259) CCS P/N 80-005-2		1
13	30-43-2	.SHOE-ADJUSTMENT		1
14	23-60-2	.STOP		1
15	32-308	.PLATE, PRESSURE		1
16	2-3212-2-37-1	.SPRING, DISC		1
17	56-35	.SCREW-DRIVE		1
18	16-269	.CASE		1
19	PTIH10-6P	.RECEPTACLE (V-77820) CCS P/N 74-34		1
20	131-50-109	.NAMEPLATE, - REPLD BY 131-316-33		1
20A	131-316-33	.NAMEPLATE, - REPLS 131-50-109		1
21	10-208-1	.DIAPHRAGM, WIRING		1
22	AN515-2-14	..SCREW, CCS P/N 56-51 - EXCEPT 23 REPLD BY 88-301-3		2
23	21FA256	.NUT (V56878) – EXCEPT 23 .CCS P/N 47-3 - REPLD BY 88-301-3		2
24	65-3	..SUPPORT ASSEMBLY, SWITCH ACTUATOR EXCEPT 23 - REPLD BY 88-301-3		1
25	22-11	..PIN ASSEMBLY – EXCEPT 23 REPLD BY 88-301-3		1
26	20-3	..ACTUATOR, SWITCH – EXCEPT 23 REPLD BY 88-301-3		1
27	22SM55T	..SWITCH (V91929) – EXCEPT 23 CCS P/N 79-59 - REPLD BY 88-301-3		2
28	21-1	..SHIM – EXCEPT 23, REPLD BY 88-301-3		AR
29	22-10	..PIN, ECCENTRIC – EXCEPT 23 REPLD BY 88-301-3		1
30	17-122	.BODY		1
40	88-301-3	.ELECTRICAL ASSEMBLY REPLS IPL ITEMS 22,24,25,26,27,28,& 29		1

FIGURE 14 - ILLUSTRATED PARTS LIST

21-21-03