INCH-POUND

MIL-PRF-8932/2A
27 August 1998
SUPERSEDING
MIL-S-8932/2
12 August 1980

PERFORMANCE SPECIFICATION SHEET

SWITCHES, PRESSURE, BULKHEAD MOUNTED, AIRCRAFT, DIFFERENTIAL, CLASS 2

This specification is approved for use by all Departments and Agencies of the Department of Defense.

The requirements for acquiring the product described herein shall consist of this specification sheet and MIL-PRF-8932.

REQUIREMENTS:

1. Dimensions, operating pressure ranges, and tolerances. The dimensions, operating pressure ranges and tolerances shall be as specified in table I.

2. Pressure port designations. Each absolute pressure switch shall have two pressure ports as shown on figure 1 of MIL-PRF-8932. The designation “P1” shall be stamped next to the higher pressure port connection and the designation "P2" shall be stamped next to lower pressure port connection. The case pressure release port shall be marked “CPR” (see figure 1 of MIL-PRF-8932). The designations shall be permanently and legibly stamped on the switch case directly adjacent to the applicable pressure port.

3. Proof pressure and drift. The test shall be conducted as specified in MIL-PRF-8932, except that the pressure ports P1 and P2 (see figures 1 and 2) shall be connected together while applying the normal system pressure and the proof pressure. This test shall be repeated, except that the P2 port shall be connected to a vacuum (less than 2 inches of mercury absolute) while applying the normal system pressure and the proof pressure to the P1 port.

4. Sensor balance. Following the adjustment test as specified in 3.4.1 of MIL-PRF-8932; the following tests shall be conducted in sequence in the order specified in 5 and 6.

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5. Sensor matching differential gauge switch. The differential pressure switch with the P2 port open to the atmospheric pressure, shall have the adjustment set so that the switch actuates when the pressure applied to the P1 port is less than one-fifth of the normal system pressure (see figures 1 and 2). The switch shall then be subjected to:

a. A pressure shall be applied to the P1 port and the pressures at which the switch actuates and deactuates shall be recorded. The difference between the two pressure values (operating differential) shall be within the tolerance specified in table I.

b. A pressure equal to one-fifth of the normal system pressure shall be applied to the P2 port. The test specified in (a) shall be repeated. The differential pressure at which the switch actuates and deactuates shall not differ from the values noted in (a) by more than the tolerance specified in table I.

c. The test specified in (b) shall be repeated, with two-fifths of the normal system pressure substituted for one-fifth of the normal system pressure specified in (b).

d. The test specified in (b) shall be repeated, with three-fifths of the normal system pressure substituted for one-fifth of the normal system pressure specified in (b).

e. The test specified in (b) shall be repeated, with four-fifths of the normal system pressure substituted for one-fifth of the normal system pressure specified in (b).

6. Sensor matching differential vacuum switch. Differential pressure switches which operate on pressure less than atmospheric shall have the adjustment set so that the switch shall actuate at a differential pressure less than one-fifth of the operating range (see table I).

a. A vacuum with a value less than the highest value specified in table I shall be applied to the P1 port (see figures 1 and 2). The pressure at which the switch actuates and deactuates shall be recorded and the operating differential shall be within the tolerance specified in table I.

b. The above test shall be repeated with a vacuum applied to the P2 port (see figures 1 and 2) equal to one-fifth of the highest value specified in table I. The differential pressure at which actuation occurs shall not differ from the value established in (a) by more than the tolerance specified in table I.

c. The test specified in (b) shall be repeated with two-fifths of the highest value substituted for one-fifth of the highest value specified in (b).

TABLE I. Dimensions, operating pressure ranges, and tolerances.

Dash no.	Potential operating range in. Hg abs	Normal system pressure in. Hg abs	Tolerances ± in. Hg abs	Max. AC current amperes	Max. DC current amperes	Max. weight LBs	Schematic figures	Dim. K inch Max.	Dim. L inch	Dim. W inch
-3D	0.1 - 1.0	30	.06	3	1	1.75	1	2.312	4.400	2.300
-4D	0.1 - 1.0	30	.06	3	1	2.00	2	2.312	4.400	2.300
-5D	0.3-5.0	30	.30	3	1	1.75	1	2.312	4.400	2.300
-6D	0.3-5.0	30	.30	3	1	2.00	2	2.312	4.400	2.300
-11D	2.0-15.0	30	.75	3	1	1.75	1	2.312	4.400	2.300
-12D	2.0-15.0	30	.75	3	1	2.00	2	2.312	4.400	2.300
-13D	2.0-20.0	30	1.00	3	1	1.75	1	2.312	4.400	2.300
-14D	2.0-20.0	30	1.00	3	1	2.00	2	2.312	4.400	2.300
-17D	3.0-27.0	30	1.40	3	1	1.75	1	2.312	4.400	2.300
-18D	3.0-27.0	30	1.40	3	1	2.00	2	2.312	4.400	2.300
-21D	4.0-36.0	40	1.90	5	3	1.75	1	2.312	4.400	2.300
-22D	4.0-36.0	40	1.90	5	3	2.00	2	2.312	4.400	2.300

TABLE I. Dimensions, operating pressure ranges, and tolerances – (continued).

Dash no.	Potential operating range PSI	Normal system pressure PSI	Tolerances ± PSI	Max. AC current amperes	Max. DC current amperes	Max. weight Lbs	Schematic figures	Dim. K Max. inch	Dim. L inch	Dim. W inch
-35D	0.5-4.50	5	.25	5	3	1.5	1	1.344	3.700	1.200
-36D	0.5-4.50	5	.25	5	3	1.5	2	1.344	3.700	1.200
-37D	1.0-9.0	10	.50	5	3	1.5	1	1.344	3.700	1.200
-38D	1.0-9.0	10	.50	5	3	1.5	2	1.344	3.700	1.200
-41D	2.0-18.0	20	1.0	8	4	1.5	1	1.344	3.700	1.200
-42D	2.0-18.0	20	1.0	8	4	1.5	2	1.344	3.700	1.200
-45D	4.0-36.0	40	1.70	8	4	1.5	1	1.344	3.700	1.200
-46D	4.0-36.0	40	1.70	8	4	1.5	2	1.344	3.700	1.200
-49D	6.0-54.0	60	2.30	10	5	1.5	1	1.344	3.700	1.200
-50D	6.0-54.0	60	2.30	10	5	1.5	2	2.312	4.400	2.300
-57D	15.0-135.0	150	4.10	10	5	1.5	1	1.531	5.300	1.000
-58D	15.0-135.0	150	4.10	10	5	1.5	2	1.531	5.300	1.000
-61D	20.0-225.0	250	4.40	12	7	1.5	1	1.531	5.300	1.000
-62D	20.0-225.0	250	4.40	12	7	1.5	2	1.531	5.300	1.000
-67D	50.0-450.0	500	5.00	12	.7	1.5	1	1.531	5.300	1.000
-68D	50.0-450.0	500	5.00	12	.7	1.5	2	1.531	5.300	1.000
-69D	100.0-900.0	1000	10	15	10	1.5	1	1.531	5.300	1.000
-70D	100.0-900.0	1000	10	15	10	1.5	2	1.531	5.300	1.000
-71D	100.0-1350.0	1500	15	15	10	1.5	1	1.531	5.300	1.000
-72D	200.0-1350.0	1500	15	15	10	1.5	2	1.531	5.300	1.000

TABLE II. Superseding part numbers.

Superseding part numbers	Canceled part numbers	Superseding part numbers	Canceled part numbers
M8932/2-3D	MS25276-3D	M8932/2-41D	MS25276-41D
M8932/2-4D	MS25276-4D	M8932/2-42D	MS25276-42D
M8932/2-5D	MS25276-5D		
M8932/2-6D	MS25276-6D	M8932/2-45D	MS25276-45D
		M8932/2-46D	MS25276-46D
M8932/2-11D	MS25276-11D		
M8932/2-12D	MS25276-12D	M8932/2-49D	MS25276-49D
M8932/2-13D	MS25276-13D	M8932/2-50D	MS25276-50D
M8932/2-14D	MS25276-14D		
		M8932/2-57D	MS25276-57D
M8932/2-17D	MS25276-17D	M8932/2-58D	MS25276-58D
M8932/2-18D	MS25276-18D		
		M8932/2-61D	MS25276-61D
M8932/2-21D	MS25276-21D	M8932/2-62D	MS25276-62D
M8932/2-22D	MS25276-22D		
		M8932/2-67D	MS25276-67D
M8932/2-35D	MS25276-35D	M8932/2-68D	MS25276-68D
M8932/2-36D	MS25276-36D	M8932/2-69D	MS25276-69D
M8932/2-37D	MS25276-37D	M8932/2-70D	MS25276-70D
M8932/2-38D	MS25276-38D	M8932/2-71D	MS25276-71D
		M8932/2-72D	MS25276-72D

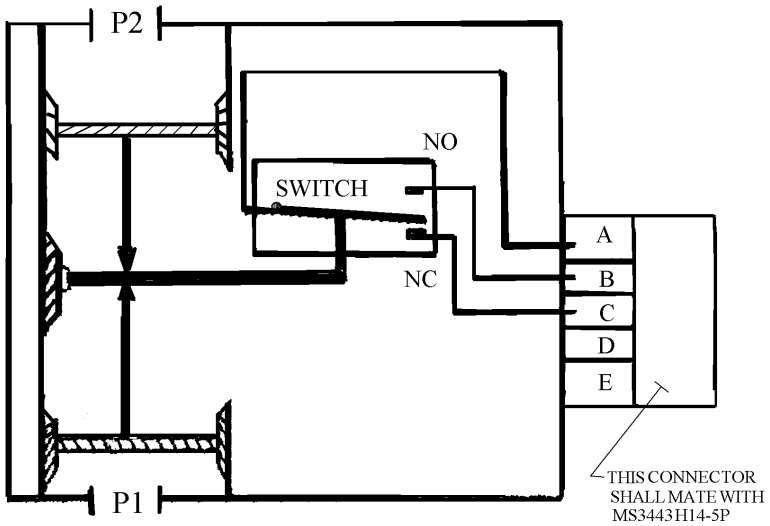

FIGURE 1. Differential pressure switch schematic pressure port open.
(2 CONTACTS)

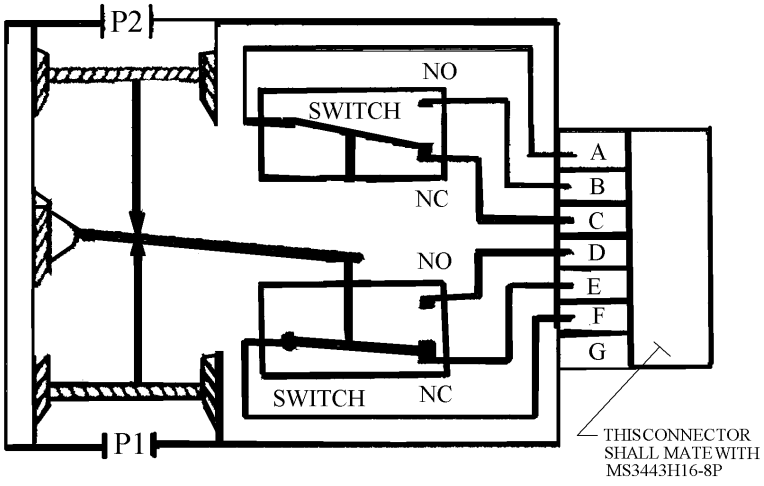

FIGURE 2. Differential pressure switch schematic, pressure port open.
(4 CONTACTS)

d. The test specified in (b) shall be repeated with three-fifths of the highest value substituted for one-fifth of the highest value specified in (b).

e. The test specified in (b) shall be repeated with four-fifths of the highest value substituted for one-fifth of the highest value specified in (b).

7. Intended use. The pressure switches covered by this specification are used in the production and maintenance of F-18 military aircraft. These aircraft are exposed for prolonged periods to extreme seagoing environments not encountered by commercial aircraft.

8. Changes from previous issue. Marginal notations are not used in this revision to identify changes with respect to previous issue due to the extent of the changes.

CONCLUDING MATERIAL

Custodians:
Army - AV
Navy - AS
Air Force - 99

Preparing Activity:
Navy - AS

(Project 1650-0598)

Review Activities:
Army - MI
Navy - MC
Air Force - 71
DLA - CC