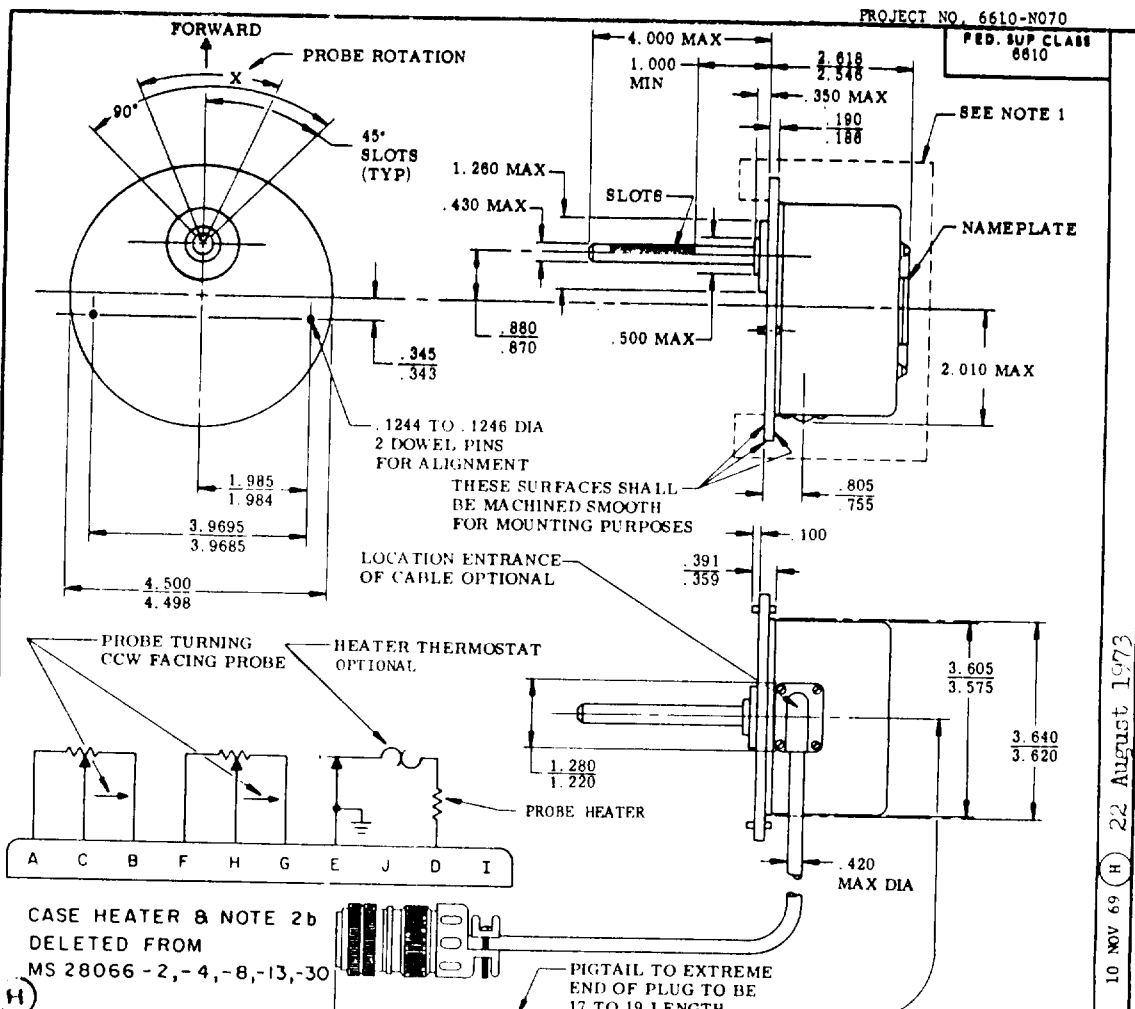


PROJECT NO. 6610-N070

FED. SUP CLASS
6610



CASE HEATER & NOTE 2b
DELETED FROM
MS 28066 - 2, - 4, - 8, - 13, - 30

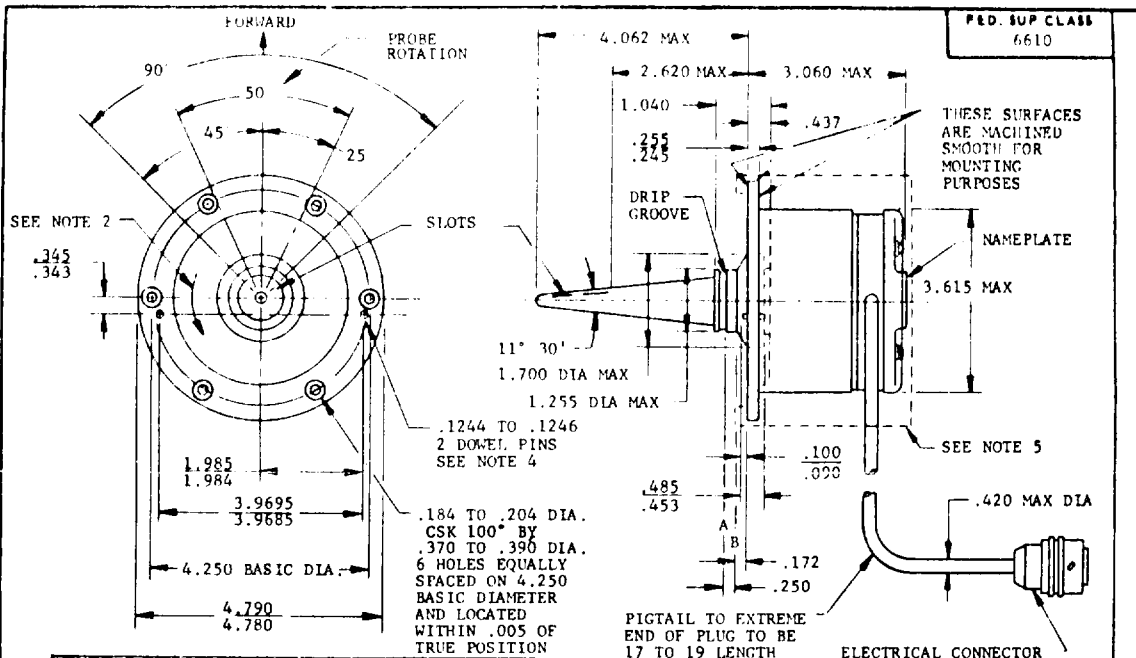
MS. PART NO.	MAX WT. LBS.	X PROBE ROTATION DEGREES	CONNECTOR	HEATERS		POTENTIOMETER DATA			
				VOLTAGE	WIPER TRAVEL % OF TOTAL RES.	ABC		FGH	
						NOM. RES. OHMS	WIPER TRAVEL % OF TOTAL RES.	NOM. RES. OHMS	WIPER TRAVEL % OF TOTAL RES.
MS28066 - 2	1.8	30°	MS3106E18-1P	28DC	2750	90	2500	100	100
- 4	1.8	50°	E18-1P	28 DC	2750	90	2500	100	100
- 8	1.8	50°	E18-8P	115 AC	2750	90	2500	100	100
- 13	1.8	50°	E18-8P	115 AC	2750	90	2750	90	90
MS28066 - 30	1.8	50°	MS3106E18-1P	28 DC	2750	90	2750	90	90

- NOTES: 1. WITHIN THE INDICATED AREA, THE CASE SHALL BE SEALED TO WITHSTAND A DIFFERENTIAL PRESSURE OF 15 PSI.
- 2a. THE PROBE HEATER RATING IS 80 WATTS MAXIMUM.
- (H) 3. THE PROBE HEATER OPTIONAL THERMOSTAT OPENS AT 140°C TO PROTECT THE PROBE FROM OVERHEATING IN STILL AIR.
4. WIPED RESISTANCE IS CENTERED, I. E., 90% WIPED RESISTANCE FOR 100% MECHANICAL TRAVEL X; I. E., 5% UNWIPED EACH END.
- (H) 5. DIMENSIONS IN INCHES; UNLESS OTHERWISE SPECIFIED TOLERANCES: MACHINED ±.010, CAST ±.030, ANGLES ±1°

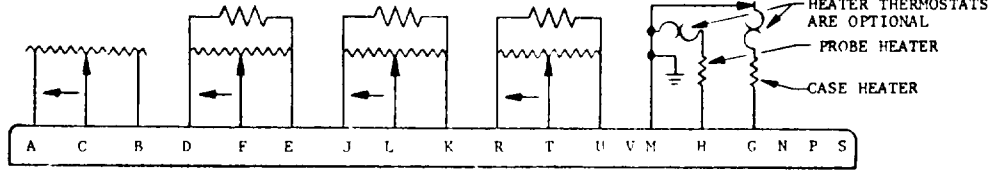
This military standard is approved by NAVAL AIR SYSTEMS COMMAND, Department of the Navy and should be used by their activity. All other military activities are required to employ this standard where suitable.

APPROVED 8 Dec. 55 REVISED (E) 16 FEB '60 (G) 10 NOV 69 (H) 22 August 1973

P.A. NAVY - AS	TITLE	MILITARY STANDARD MS28066 (AS)
Other Cust	TRANSMITTER, ANGLE OF ATTACK OR SIDESLIP, LOCAL	
PROCUREMENT SPECIFICATION MIL-T-19229 (AS)	SUPERSEDES BUAER DWG 52A218R1	SHEET 1 OF 5



MS PART NO.	ANA PART NO.	HEATERS	WEIGHT
MS28066-40	TRK-58/A24G-16	115 VOLT AC	2LB MAX



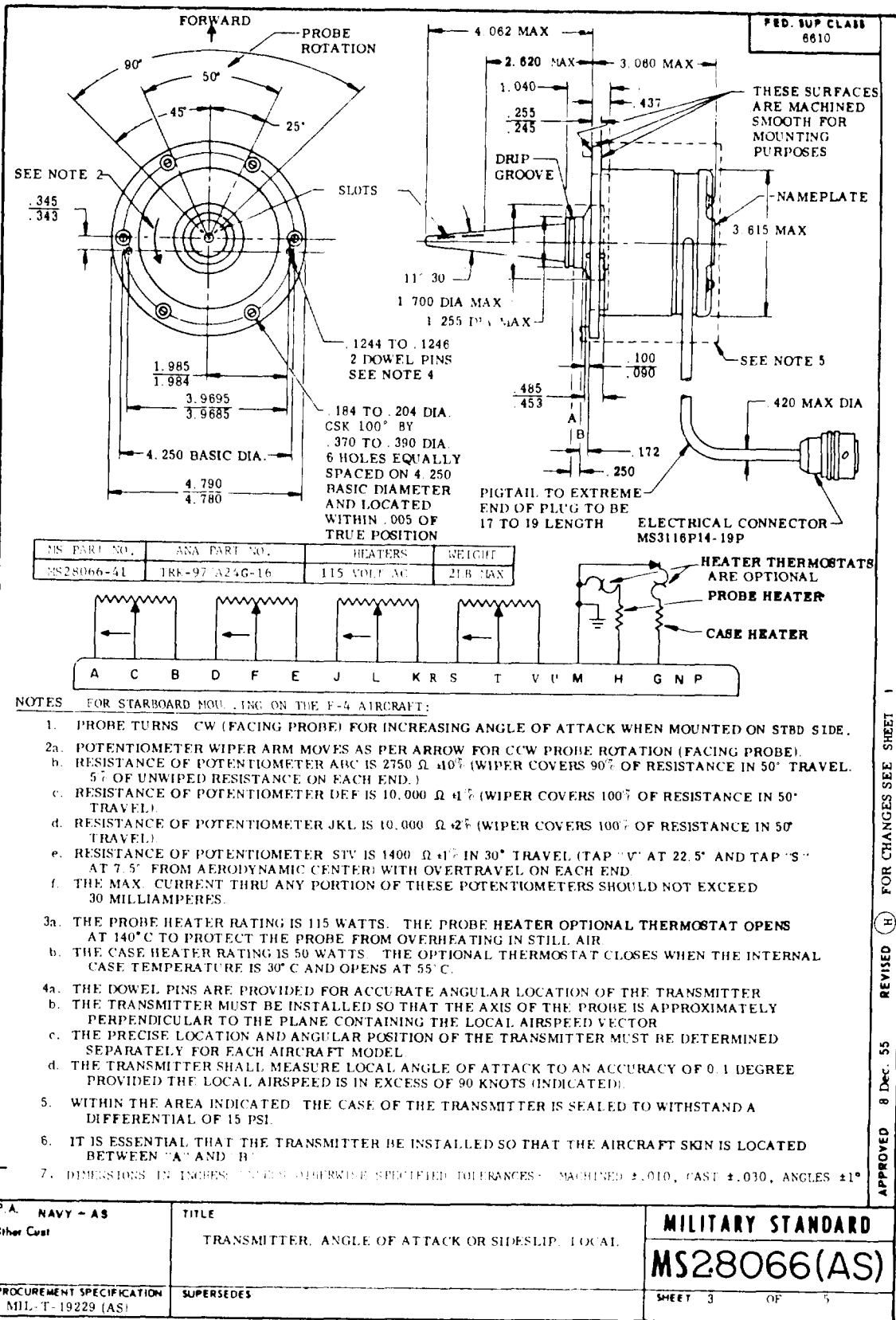
NOTES FOR PORT MOUNTING ON THE F-4 AIRCRAFT:

- PROBE TURNS CCW (FACING PROBE) FOR INCREASING ANGLE OF ATTACK WHEN MOUNTED ON PORT SIDE.
- POTENTIOMETER WIPER ARM MOVES AS PER ARROW FOR CCW PROBE ROTATION (FACING PROBE).
 - RESISTANCE OF POTENTIOMETER ABC IS 2750 Ω ±10% (WIPER COVERS 90% OF RESISTANCE IN 50° TRAVEL, 5% OF UNWIPED RESISTANCE ON EACH END.)
 - RESISTANCE OF POTENTIOMETER DEF IS 10,000 Ω ±1% (WIPER COVERS 100% OF RESISTANCE IN 50° TRAVEL).
 - RESISTANCE OF POTENTIOMETER JKL IS 10,000 Ω ±2% (WIPER COVERS 100% OF RESISTANCE IN 50° TRAVEL).
 - RESISTANCE OF POTENTIOMETER RST IS 1400 Ω ±1% IN 30° TRAVEL (TAP "R" AT 22.5° AND TAP "U" AT 7.5° FROM AERODYNAMIC CENTER) WITH OVERTRAVEL ON EACH END.
- THE MAX. CURRENT THROUGH ANY PORTION OF THESE POTENTIOMETERS SHOULD NOT EXCEED 30 MILLIAMPERES.
- THE PROBE HEATER RATING IS 115 WATTS. THE PROBE HEATER OPTIONAL THERMOSTAT OPENS AT 140°C TO PROTECT THE PROBE FROM OVERHEATING IN STILL AIR.
 - THE CASE HEATER RATING IS 50 WATTS. THE OPTIONAL THERMOSTAT CLOSURES WHEN THE INTERNAL CASE TEMPERATURE IS 30°C AND OPENS AT 55°C.
- THE DOWEL PINS ARE PROVIDED FOR ACCURATE ANGULAR LOCATION OF THE TRANSMITTER.
 - THE TRANSMITTER MUST BE INSTALLED SO THAT THE AXIS OF THE PROBE IS APPROXIMATELY PERPENDICULAR TO THE PLANE CONTAINING THE LOCAL AIRFLOW VECTOR.
 - THE PRECISE LOCATION AND ANGULAR POSITION OF THE TRANSMITTER MUST BE DETERMINED SEPARATELY FOR EACH AIRCRAFT MODEL.
 - THE TRANSMITTER SHALL MEASURE LOCAL ANGLE OF ATTACK TO AN ACCURACY OF 0.1 DEGREE PROVIDED THE LOCAL AIRSPEED IS IN EXCESS OF 90 KNOTS (INDICATED).
- WITHIN THE AREA INDICATED, THE CASE OF THE TRANSMITTER IS SEALED TO WITHSTAND A DIFFERENTIAL OF 15 PSI.
- IT IS ESSENTIAL THAT THE TRANSMITTER BE INSTALLED SO THAT THE AIRCRAFT SKIN IS LOCATED BETWEEN "A" AND "B".
- DIMENSIONS IN BRACKET UNLESS OTHERWISE SPECIFIED: TOLERANCES: DIMENSIONS ±.010, CAST ±.030, ANGLES ±1°.

APPROVED 5 DEC 55 REVISED 11 FOR CHANGES SEE SHEET 1

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P.A. NAVY - AS Other Cust	TITLE TRANSMITTER, ANGLE OF ATTACK OR SIDEWIND, LOCAL	MILITARY STANDARD MS28066(AS)
PROCUREMENT SPECIFICATION MIL-T-19229 (AS)	SUPPESDES	SHEET 1 OF 1

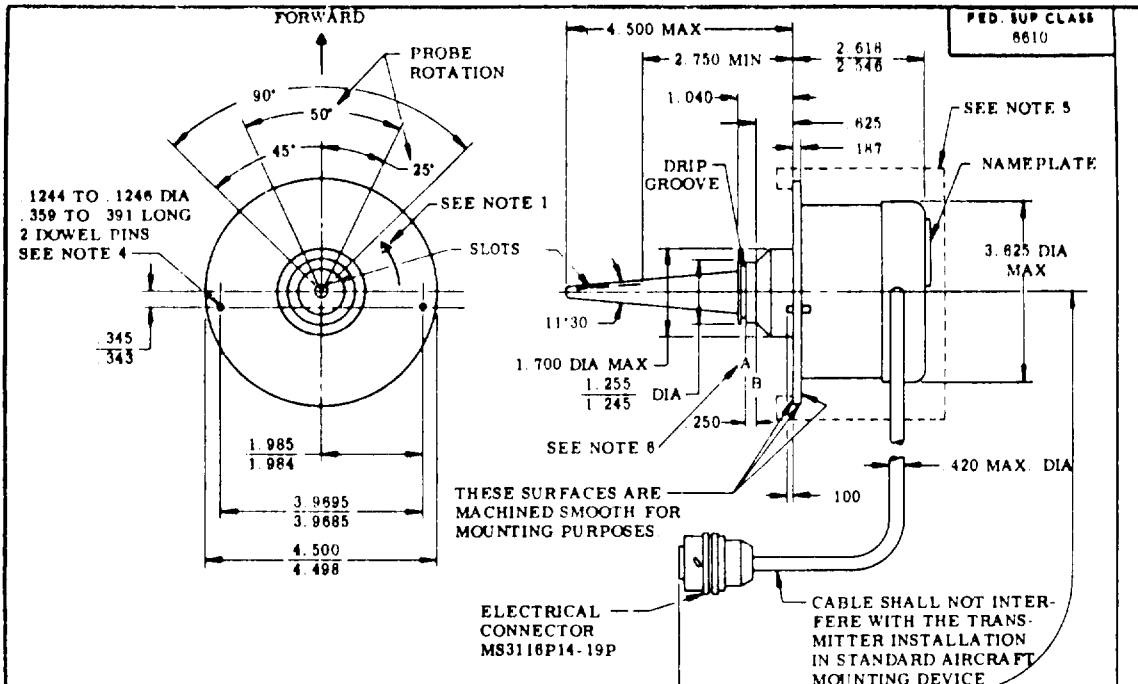


This military standard is approved by NAVAL AIR SYSTEMS COMMAND, Department of the Navy and is based on the requirements of the Department of the Navy. All other military activities are required to employ this standard where suitable.

- NOTES FOR STARBOARD MOUNTING ON THE F-4 AIRCRAFT:**
1. PROBE TURNS CW (FACING PROBE) FOR INCREASING ANGLE OF ATTACK WHEN MOUNTED ON STBD SIDE.
 - 2a. POTENTIOMETER WIPER ARM MOVES AS PER ARROW FOR CCW PROBE ROTATION (FACING PROBE).
 b. RESISTANCE OF POTENTIOMETER ABC IS 2750 Ω $\pm 1\%$ (WIPER COVERS 90% OF RESISTANCE IN 50° TRAVEL. 5% OF UNWIPED RESISTANCE ON EACH END.)
 c. RESISTANCE OF POTENTIOMETER DEF IS 10,000 Ω $\pm 1\%$ (WIPER COVERS 100% OF RESISTANCE IN 50° TRAVEL).
 d. RESISTANCE OF POTENTIOMETER JKL IS 10,000 Ω $\pm 2\%$ (WIPER COVERS 100% OF RESISTANCE IN 50° TRAVEL).
 e. RESISTANCE OF POTENTIOMETER STV IS 1400 Ω $\pm 1\%$ IN 30° TRAVEL (TAP 'V' AT 22.5° AND TAP 'S' AT 7.5° FROM AERODYNAMIC CENTER) WITH OVERTRAVEL ON EACH END.
 f. THE MAX CURRENT THRU ANY PORTION OF THESE POTENTIOMETERS SHOULD NOT EXCEED 30 MILLIAMPERES.
 - 3a. THE PROBE HEATER RATING IS 115 WATTS. THE PROBE HEATER OPTIONAL THERMOSTAT OPENS AT 140°C TO PROTECT THE PROBE FROM OVERHEATING IN STILL AIR.
 b. THE CASE HEATER RATING IS 50 WATTS. THE OPTIONAL THERMOSTAT CLOSES WHEN THE INTERNAL CASE TEMPERATURE IS 30° C AND OPENS AT 55° C.
 - 4a. THE DOWEL PINS ARE PROVIDED FOR ACCURATE ANGULAR LOCATION OF THE TRANSMITTER.
 b. THE TRANSMITTER MUST BE INSTALLED SO THAT THE AXIS OF THE PROBE IS APPROXIMATELY PERPENDICULAR TO THE PLANE CONTAINING THE LOCAL AIRSPEED VECTOR.
 c. THE PRECISE LOCATION AND ANGULAR POSITION OF THE TRANSMITTER MUST BE DETERMINED SEPARATELY FOR EACH AIRCRAFT MODEL.
 d. THE TRANSMITTER SHALL MEASURE LOCAL ANGLE OF ATTACK TO AN ACCURACY OF 0.1 DEGREE PROVIDED THE LOCAL AIRSPEED IS IN EXCESS OF 90 KNOTS (INDICATED).
 5. WITHIN THE AREA INDICATED THE CASE OF THE TRANSMITTER IS SEALED TO WITHSTAND A DIFFERENTIAL OF 15 PSI.
 6. IT IS ESSENTIAL THAT THE TRANSMITTER BE INSTALLED SO THAT THE AIRCRAFT SKIN IS LOCATED BETWEEN 'A' AND 'B'.
 7. DIMENSIONS IN INCHES UNLESS OTHERWISE SPECIFIED. TOLERANCES - MACHINED $\pm .010$, CAST $\pm .030$, ANGLES $\pm 1^\circ$.

APPROVED 8 Dec 55 REVISED H FOR CHANGES SEE SHEET 1

P.A. NAVY - AS Other Cust	TITLE TRANSMITTER, ANGLE OF ATTACK OR SIDESLIP, LOCAL	MILITARY STANDARD MS28066(AS)
PROCUREMENT SPECIFICATION MIL-T-19229 (AS)	SUPERSEDES	SHEET 3 OF 5



MS PART NO.	HEATERS	WEIGHT
MS28066-50	28 VOLTS DC	2 POUNDS



NOTES FOR PORT MOUNTING ON THE A-6 AIRCRAFT:

- PROBE TURNS CCW (FACING PROBE) FOR INCREASING ANGLE OF ATTACK WHEN MOUNTED ON PORT SIDE OF AIRCRAFT.
- POTENTIOMETER WIPER ARM MOVES AS PER ARROW FOR CCW ROTATION (FACING PROBE).
 - POTENTIOMETER ARC RESISTANCE IS 2750 OHMS $\pm 5\%$ AT 75° F (WIPER COVERS 90% OF RESISTANCE IN 50° WIPER TRAVEL WITH 5% OF UNWIPED RESISTANCE ON EACH END).
 - POTENTIOMETER DEF RESISTANCE IS 2750 OHMS $\pm 5\%$ AT 75° F (WIPER COVERS 90% OF RESISTANCE IN 50° WIPER TRAVEL WITH 5% OF UNWIPED RESISTANCE ON EACH END).
 - POTENTIOMETER IJKL RESISTANCE IS 2500 OHMS $\pm 1\%$ AT 75° F (WIPER COVERS 100% OF RESISTANCE IN 50° WIPER TRAVEL).
 - MAX. CURRENT THRU ANY PORTION OF THESE POTENTIOMETERS IS 30 MILLIAMPS.
- THE PROBE HEATER RATING IS 115 WATTS. THE PROBE HEATER OPTIONAL THERMOSTAT OPENS AT 140° C TO PROTECT THE PROBE FROM OVERHEATING IN STILL AIR.
 - THE CASE HEATER RATING IS 50 WATTS. THE OPTIONAL THERMOSTAT CLOSURES WHEN THE INTERNAL CASE TEMPERATURE IS 30° C AND OPENS AT 55° C.
- THE DOWEL PINS ARE PROVIDED FOR ACCURATE ANGULAR LOCATION OF THE TRANSMITTER.
 - THE TRANSMITTER MUST BE INSTALLED SO THAT THE AXIS OF THE PROBE IS APPROXIMATELY PERPENDICULAR TO THE PLANE CONTAINING THE LOCAL AIRSPEED VECTOR.
 - THE PROBE LOCATION AND CORRECT ANGULAR POSITION OF THE TRANSMITTER MUST BE DETERMINED SEPARATELY FOR EACH AIRCRAFT MODEL.
 - THE TRANSMITTER SHALL MEASURE LOCAL ANGLE OF ATTACK TO AN ACCURACY OF 0.1° PROVIDED THE LOCAL AIRSPEED IS IN EXCESS OF 90 KNOTS INDICATED.
- WITHIN THE INDICATED AREA, THE CASE OF THE TRANSMITTER IS SEALED TO WITHSTAND A DIFFERENTIAL PRESSURE OF 15 PSI.
- IT IS ESSENTIAL THAT THE TRANSMITTER BE INSTALLED SO THAT THE AIRCRAFT SKIN IS LOCATED BETWEEN "A" AND "B".
- DIMENSIONS IN PARENTHESES ARE OTHERWISE SPECIFIED TOLERANCES: UNLESS OTHERWISE SPECIFIED: ± 0.010 , ± 0.010 , ANGLE $\pm 1^\circ$.

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APPROVED 8 DEC 55 REVISED FOR CHANGES SEE SHEET 1

P.A. NAVY - AS Other Code	TITLE	MILITARY STANDARD
	TRANSMITTER, ANGLE OF ATTACK OR SIDESLIP, LOCAL	MS28066(AS)
PROCUREMENT SPECIFICATION MIL-T-19229 (AS)	SUPERSEDES	SHEET 4 OF 5

DD FORM 1300 672-1 (limited coordination)

PREVIOUS EDITIONS OF THIS FORM ARE OBSOLETE

PLATE 1

FED. SUP. CLASS
6610

FORWARD

PROBE ROTATION

90
50
45
25

SEE NOTE 1

SLOTS

.1244 TO .1246 DIA
.359 TO .391 LONG
2 DOSEL PINS
SEE NOTE 4

.345
.343

1.985
1.984

3.9695
3.9685

4.500
4.498

4.500 MAX

2.750 MIN

1.040

2.618
2.546

.625

.187

3.625 DIA MAX

.11 30°

1.700 DIA MAX

1.255
1.245

.250

.100

.420 MAX DIA

DRIP GROOVE

ELECTRICAL CONNECTOR
MS3116P14-19P

CABLE SHALL NOT INTERFERE WITH THE TRANSMITTER INSTALLATION IN STANDARD AIRCRAFT MOUNTING DEVICE

PICTAIL
17 TO 19 LENGTH

MS PART NO.	HEATERS	WEIGHT
MS28066-60	115 VOLTS AC	2 POUNDS MAX

A C B D F E J L K R S T U V M P N G B

HEATER THERMOSTATS ARE OPTIONAL.

PROBE HEATER

CASE HEATER

NOTES FOR PORT MOUNTING ON RA-5C AIRCRAFT:

1. PROBE TURNS CCW (FACING PROBE) FOR INCREASING ANGLE OF ATTACK WHEN MOUNTED ON PORT SIDE OF AIRCRAFT.
- 2a. POTENTIOMETER WIPER ARM MOVES AS PER ARROW FOR CCW ROTATION (FACING PROBE).
- b. POTENTIOMETER ABC RESISTANCE IS 2750 OHMS $\pm 5\%$ AT 75°F (WIPER COVERS 90% OF RESISTANCE IN 50° WIPER TRAVEL WITH 5% OF UNWIPED RESISTANCE ON EACH END).
- c. POTENTIOMETER DEF RESISTANCE IS 1400 OHMS $\pm 1\%$ AT 75°F (WIPER COVERS 100% OF RESISTANCE IN 30° WIPER TRAVEL WITH 10% OVERTRAVEL ON EACH END).
- d. POTENTIOMETER JKL RESISTANCE IS 2500 OHMS $\pm 1\%$ AT 75°F (WIPER COVERS 100% OF RESISTANCE IN 50° WIPER TRAVEL).
- e. MAX. CURRENT THRU ANY PORTION OF THESE POTENTIOMETERS IS 30 MILLIAMPS.
- 3a. THE PROBE HEATER RATING IS 115 WATTS. THE PROBE HEATER INTERNAL THERMOSTAT OPENS AT 140°C TO PROTECT THE PROBE FROM OVERHEATING IN STILL AIR.
- b. THE CASE HEATER RATING IS 50 WATTS. THE OPTIONAL THERMOSTAT CLOSSES WHEN THE INTERNAL CASE TEMPERATURE IS 30°C AND OPENS AT 55°C.
- 4a. THE DOSEL PINS ARE PROVIDED FOR ACCURATE ANGULAR LOCATION OF THE TRANSMITTER.
- b. THE TRANSMITTER MUST BE INSTALLED SO THAT THE AXIS OF THE PROBE IS APPROXIMATELY PERPENDICULAR TO THE PLANE CONTAINING THE LOCAL AIRSPEED VECTOR.
- c. THE PROPER LOCATION AND CORRECT ANGULAR POSITION OF THE TRANSMITTER MUST BE DETERMINED SEPARATELY FOR EACH AIRCRAFT MODEL.
- d. THE TRANSMITTER SHALL MEASURE LOCAL ANGLE OF ATTACK TO AN ACCURACY OF 0.1° PROVIDED THE LOCAL AIRSPEED IS IN EXCESS OF 90 KNOTS INDICATED.
5. WITHIN THE INDICATED AREA, THE CASE OF THE TRANSMITTER IS SEALED TO WITHSTAND A DIFFERENTIAL PRESSURE OF 15 PSI.
6. IT IS ESSENTIAL THAT THE TRANSMITTER BE INSTALLED SO THAT THE AIRCRAFT SEIN IS LOCATED BETWEEN "A" AND "B".
7. DIMENSIONS IN INCHES UNLESS OTHERWISE SPECIFIED TOLERANCES ARE UNWIPED ± 0.010 , CAST ± 0.020 , AND $\pm 0.1^\circ$

P A NAVY - AS

Other Cust

TITLE

TRANSMITTER, ANGLE OF ATTACK OR SIDESLIP, LOCAL

MILITARY STANDARD

MS28066(AS)

SHEET 5 OF 5

PROCUREMENT SPECIFICATION: MIL-1-14229 (AS)

SUPERSEDES:

DD FORM 672-1 (Limited coordination)

PREVIOUS EDITIONS OF THIS FORM ARE OBSOLETE

PLATE NO 2815

APPROVED 4 DEC 58 REVISED 4 DEC 58

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DOCUMENT IDENTIFIER AND TITLE MS28066 (AS) H TRANSMITTER, ANGLE OF ATTACK OR SIDESLIP, LOCAL		
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