



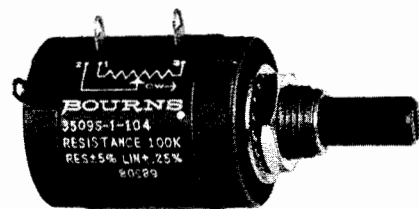
Model 3509
 $\frac{7}{8}$ " Diameter 10-Turn Bushing Mount
 Wirewound Element

OBSOLETE 1983

Actual Size

FEATURES

- High performance at low cost.
- Nonmetallic shaft and bushing.
- SILVERWELD® termination eliminates vulnerable single-wire termination and provides low end resistance.
- Shaft with screwdriver slot standard.
- Extended temperature range —55 to +105°C.
- Individual inspection of each potentiometer to guaranteed electrical and physical specifications.



STANDARD RESISTANCES

Resistance (Ohms)	Part Number*	Resolution (Percent)
100	3509S-1-101	0.053
200	3509S-1-201	0.042
500	3509S-1-501	0.032
1,000	3509S-1-102	0.026
2,000	3509S-1-202	0.021

* The last three digits of the part number represent the resistance value in standard code.

Resistance (Ohms)	Part Number*	Resolution (Percent)
5,000	3509S-1-502	0.016
10,000	3509S-1-103	0.018
20,000	3509S-1-203	0.014
50,000	3509S-1-503	0.010
100,000	3509S-1-104	0.009

COMMON MODIFICATIONS AND PART NUMBERS TO ORDER BY

Linearity 0.1% independent (500 ohms minimum) P/N 3509S-40-RC
 Stainless Steel Shaft with Metal Bushing P/N 3509S- 8-RC
 Metal Bushing and Standard Plastic Shaft P/N 3509S- 9-RC

Shaft Flat P/N 3509S-80-RC
 High Torque 2.0 to 8.0 oz.-in. P/N 3509S-16-RC

BOURNS Potentiometer Model 3509

STANDARD SPECIFICATIONS

ELECTRICAL CHARACTERISTICS

Resistance Range	Standard 100 to 100,000 ohms Special 50 to 250,000 ohms
Resistance Tolerance*	±5%
Linearity (Independent)*	±.25% maximum
Resolution	See standard resistance table
Effective Electrical Angle*	3600° (+10°, -2°)
Absolute Minimum Resistance*	1 ohm or .25%, whichever is greater
Noise*	100 ohms ENR maximum
Power Rating	
25°C	2.0 watts
105°C	0 watt
Dielectric Strength	MIL-R-12934
Sea Level	1,000 volts AC minimum
70,000 feet	250 volts AC minimum
Insulation Resistance, 500 volts DC*	1,000 megohms minimum

ENVIRONMENTAL CHARACTERISTICS

Operating Temperature Range	-55 to +105°C
Temperature Coefficient of Wire	20 ppm/°C maximum
Humidity	MIL-R-12934
Vibration	MIL-R-12934, 10Gs

Shock	MIL-R-12934, 50Gs
Load Life	MIL-R-12934, 4.6.20.2, 1,000 hours
Resistance Shift	2.0% maximum
Sand and Dust	MIL-E-5272
Fungus	MIL-E-5272
Salt Spray	MIL-R-12934

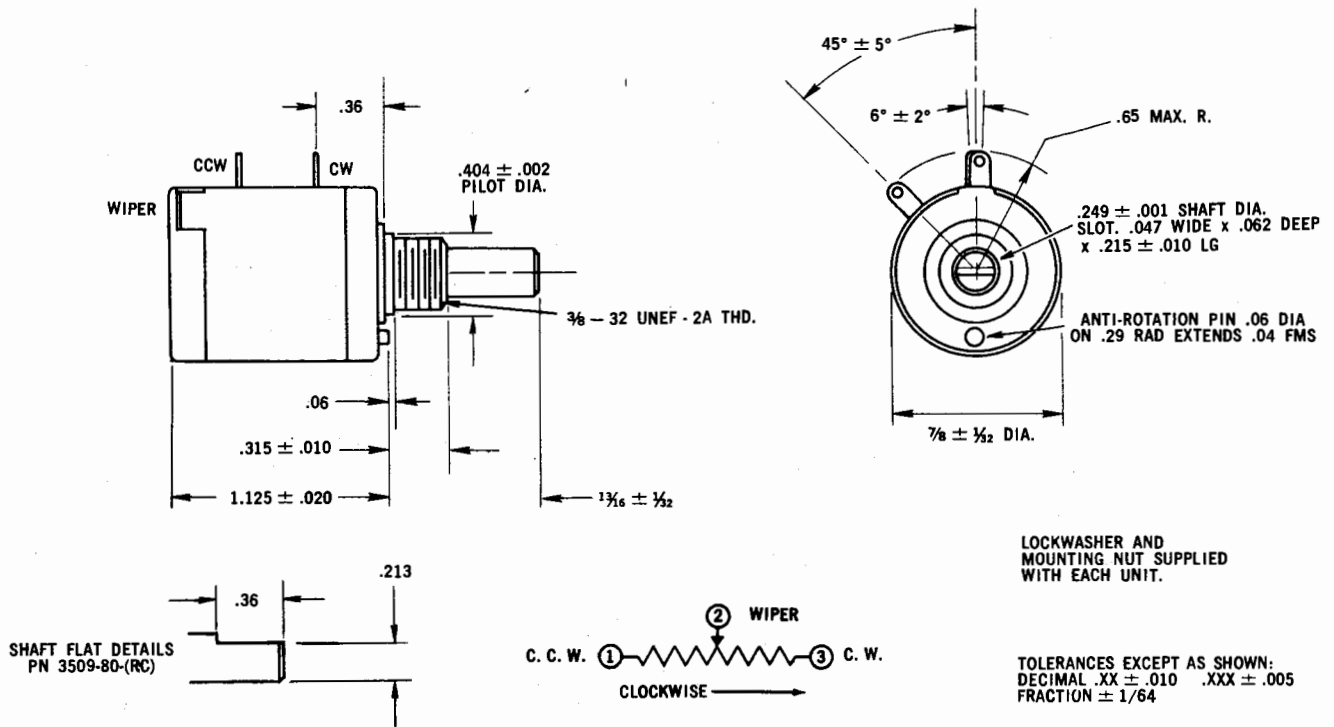
MECHANICAL AND PHYSICAL CHARACTERISTICS

Mechanical Angle*	3600° (+10°, -0°)
Rotational Life Normal Conditions	1,000,000 shaft revolutions minimum
Stop Strength	48 oz.-in. minimum
Torque*	
Starting and Running	2.0 oz.-in. maximum
Weight	Approximately 1.0 oz.
Terminals	Gold plated solder lugs
Housing and bushing	Glass filled nylon
Shaft	Polycarbonate
Mounting Nut Torque	15 lb.-in. maximum
Markings*	Manufacturer's name and part number, resistance value and tolerance, linearity tolerance, wiring diagram, and date code.

NOTES

* 100% or statistical sample inspection performed to insure highest quality. Specifications are subject to change without notice.

3509



LOCKWASHER AND MOUNTING NUT SUPPLIED WITH EACH UNIT.

TOLERANCES EXCEPT AS SHOWN:
DECIMAL .XX ± .010 .XXX ± .005
FRACTION ± 1/64

