

MODELS 7420, 7430, 7440 COAXWITCH

Instructions  
for  
Installation-Operation-Maintenance

General

The Bird Electronic Corporation COAXWITCH is a manually operated selector switch for use in 70/75 ohm coaxial circuits. The switch is designed for use in switching antennas, receivers, transmitters, or other gear.

The COAXWITCH meets rigid MIL Specifications. The unit is housed in a black anodized aluminum casting, with nickel-plated brass Female N connectors and connector plate. A selectively hardened cadmium plated ground steel shaft is used for the switching operation. The connectors and shaft have neoprene seals, making the entire switch installation splash proof.

Characteristics

Connectors	Female N Types
Maximum RF Voltage	500 volts RMS
Attenuation to Unused Channel	60 dB (cross talk)
Ambient Operating Temperature	-60°C to +40°C
Net Weight	2.5 pounds

Electrical Performance Data:

Frequency	VSWR	Insertion Loss	Max RF Power Rating
100 MHz	1.05: 1 Max.	.05 dB	700 W
1 GHz	1.10: 1 Max.	.10 dB	200 W

Installation

Figure 1, illustrates the outline, mounting dimensions, and various circuit designations. Panel mounting is accomplished by means of three #10-32 by 3/8" Truss Head Machine Screws through the dial plate and panel. Remove the actuator knob (#10-32 set screw on hub) and the dial plate. Drill the mounting panel according to the face layout of the COAXWITCH. Brackets are recommended for wall or table mounting. When installing the COAXWITCH, take advantage of the manner in which the female connectors are positioned parallel to the axis of the switch. This eliminates the need for right angle connectors, which results in a saving of space.

Operation

To select position desired, pull knob out, rotate, and push in to make contact. The shaft push-pull motion is just over one-half inch. A ball-and-spring detent retains the rotor at the selected position. There is 60° rotation between detents. A garter spring and ball mechanism assist closing of the contacts, and will maintain firm contact even under shock and vibration.

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Maintenance-Lubrication

The COAXWITCH is rugged and simple. It requires only nominal routine care. Periodic cleaning of the RF connectors is recommended. Be sure to clean the insulator surfaces as well as the metal contacts. A little dry solvent such as Inhibisol or trichlorethylene on a cotton swab stick should be used for cleaning. Avoid breathing fumes when using solvents.

The switch may be opened for inspection by removing the screws on the connector end. If flexibility of the cables permit, they need not be disconnected to remove the entire cable-connector assembly plate. The rotor assembly may be lifted out if the knob has been removed.

Before lubricating the unit, clean the shaft and mating bearing shaft hole. Use light machine oil (a drop or two) on the center shaft. Do not allow oil to get into contacts. Use ball bearing grease (low temperature types, Andoc, etc.) on the rotary detent ball, (work into hole behind ball) and on the three push-in balls on the inside of the housing at the bottom. A drop of oil on the shaft close to the dial plate, with the switch disengaged, will relieve drag at the neoprene shaft seal.

For access to the push-in balls and associated garter spring, after the connector assembly and shaft have been removed, use a flat blade as a screwdriver and unscrew the shaft bushing. Screw the bushing in tight when re-assembling. The detent ball and spring may be removed by pushing or driving with a small pin or a drill into the side hole behind the ball.

MODEL	CIRCUIT	TERMINAL OUTLINE
7420	Single circuit 2 position	
7430	Single circuit 4 position	
7440	Single circuit 3 position	

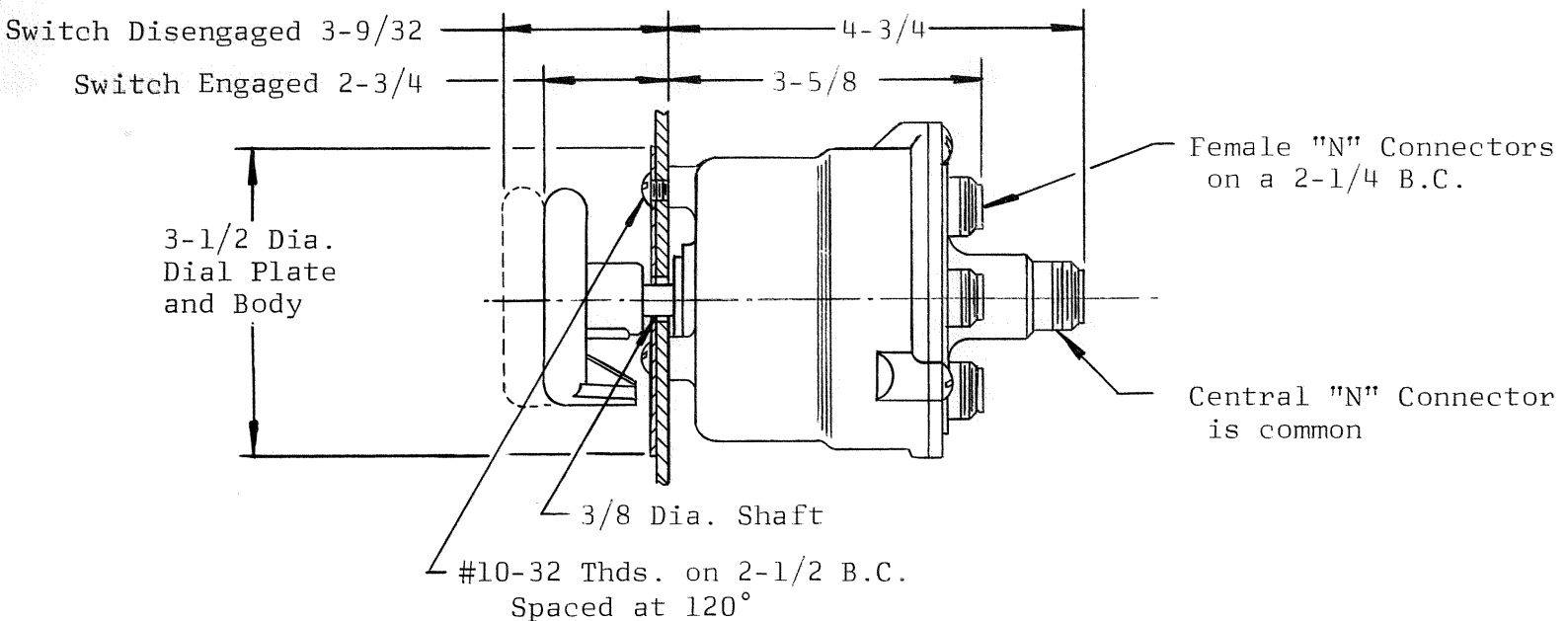


Figure 1. Basic Outline Drawing