

## Heavy-Duty Switches

SPST Switch with Push-on Terminals Part No. 4416



SPST Switch with Solder Terminals Part No. 4420



DPDT Switch with Push-on Terminals Part No. 4418



Momentary Push-Button Switch Part No. 4423-001



Military Switch Guard Part No. 4429



Toggle Switch Boot Part No. 4419



Anti-rotation locking ring Part No. 4428

### Heavy-Duty Switches – Now with your choice of terminals!

These highly reliable switches are rated at 15 amps. Contacts are made of solid, fine silver. The mounting bushing diameter and bushing length are both  $1\frac{15}{32}$  inch. Toggle switches feature nickel plated,  $1\frac{1}{16}$  inch long actuators. Mounting hardware is furnished.

**Toggle Switch, SPST** (single pole, single throw) This two-terminal switch is perfect for controlling ignition power, switching lights or any other simple on-off type function.

*Toggle Switch, SPST 1/4" Push-on Terminals* .....Part No. 4416 ..... \$6.99  
*Toggle Switch, SPST Solder Lug Terminals* .....Part No. 4420 ..... \$5.99

**Toggle Switch, DPDT** (double pole, double throw, on-off-on) This six-terminal switch is for more complex switching applications.

*DPDT with center off position 1/4" Push-on Terminals* .....Part No. 4418 ..... \$10.49  
*DPDT with center off position Solder Lug Terminals* .....Part No. 4424 ..... \$7.99

**Toggle Switch, SPST Momentary On** This SPST switch has an internal spring that returns the switch to the off position. It is ideal for a starter switch or other momentary switching function. This switch is custom-made with a special "Reverse Keyway" so that it will work properly with our Military Switch Guard (Part No. 4429).

*SPST Momentary on 1/4" Push-on Terminals* .....Part No. 4417 ..... \$11.79  
*SPST Momentary on Solder Lug Terminals* .....Part No. 4422 ..... \$10.99

**Push-Button Switch, SPST Momentary On** This switch can be used for the same applications as the above momentary toggle switch for those who prefer a push-button.

*Push-Button Switch 1/4" Push-on Terminals Only* .....Part No. 4423-001 ..... \$11.99

### Switch Accessories

**Military Switch Guard** This guard was designed for critical aerospace and military applications to prevent accidental switch actuation. It can be used with any of the switches at left and is especially recommended for use on starter switches. Sold individually.

*Switch Guard, MilSpec MS25224-1 (available in Red only)* ..... Part No. 4429 ..... \$17.99

**Toggle Switch Boot** Use to seal the switch toggle to prevent dust, dirt and moisture from getting into the switch.

*Toggle Switch Boot* ..... Part No. 4419 ..... \$5.39

**Locking Ring** Use to ensure against unwanted rotation of the switches at left. A  $1/8$  inch hole must be drilled in the panel to accept the tab on the locking ring.

*Anti-Rotation Locking Ring* ..... Part No. 4428 ..... 49¢



### Miscellaneous Switch Hardware:

*Hex Nut for switch mounting* ..... Part No. 4425 ..... 33¢  
*Knurled Nut for switch mounting* ..... Part No. 4438 ..... 39¢  
*Vertical Switch Plate (on/off)* ..... Part No. 4426 ..... 37¢  
*Horizontal Switch Plate (on/off)* ..... Part No. 4427 ..... 59¢

## Mil Spec MIL-W-22759/16 Extruded ETFE Insulated Wire (white only)

This top-quality stranded wire is standard on military aircraft. It is also the wire of choice for F1 constructors. Each strand of the copper conductor is individually tin plated for corrosion resistance and for excellent soldering qualities. The flame-retardant ETFE insulation

is rated for 150°C (302°F) operation and offers exceptional resistance to most fluids as well as cuts and abrasion. The insulation is very thin, but it is so tough it is nearly impossible to strip without damaging the wire unless the correct stripping tool (sold below) is used.

Wire Size (AWG)	Current Rating *	Insulation Diameter	Part No.	Price per Foot
24 gauge	5.1 amps	0.045 inch / 1.14mm	5005	19¢
22 gauge	6.3 amps	0.052 inch / 1.32mm	5006	21¢
20 gauge	8.9 amps	0.060 inch / 1.52mm	5007	23¢
18 gauge	11.4 amps	0.071 inch / 1.80mm	5008	29¢
16 gauge	13.9 amps	0.079 inch / 2.01mm	5009	32¢
14 gauge	17.7 amps	0.095 inch / 2.41mm	5003-14	64¢
12 gauge	24.0 amps	0.120 inch / 3.05mm	5003-12	99¢
10 gauge	32.9 amps	0.138 inch / 3.51mm	5003-10	\$1.39

\* Current capacity is based on continuous duty for wires in bundles, harnesses or conduits at sea level. Multiply the currents shown by 0.97 to derate for 5,000 ft elevation. Source: FAA AC 43.13-1B, Table 11-9 corrected for sea level (divided by .79).

**ETFE insulation is available in white only.**

### Clear Heat Shrink Tubing

This tough, clear heat shrink tubing shrinks to half its original diameter when heat is applied. It is perfect for making wire labels as shown in the photo. Just print two rows of numbers or other identifiers using a word processing program (a font size of 5 points is shown). Cut out the labels, wrap around the wire, and then cover with clear heat shrink tubing. Labels like this are handy for any wiring harness, but essential with ETFE wiring.



### Custom Wire Stripping Tool for 26 to 16 gauge MIL-W-22759/16 Wire



Left: A counterbore on the stripping die centers the wire to prevent the cutting blade from contacting the copper conductor.

Trying to strip the tough, thin ETFE insulation from MIL-W-22759/16 wire without the proper tool is sure to damage the stranded conductor. This quality tool makes the job fast and easy. The close tolerance stripping dies are sized for our ETFE insulated wire and will not work with any other insulation thickness. A close look at one of the stripping dies says much about the quality of the entire tool. When the dies close, the cutting blades stop just short of the center conductor at which time tension is applied to snap the insulation. A special latch prevents disturbing the strands as the tool releases its grip on the wire.

*Mil Spec Wire Stripping Tool* ..... Part No. 5004 ... \$284.99

### Clear Heat Shrink Tubing

Original Diameter Inches	Shrunk Diameter Inches	Part No.	Price per foot
0.062	0.031	4029	59¢
0.094	0.047	4030	69¢
0.125	0.062	4031	69¢

## High-Quality General Purpose Hookup Wire



This is an excellent quality stranded wire. The thick wall cross-linked SXL insulation is rated for 125°C and is resistant to oil, gas, grease, and acid.

This wire is not as tough or as lightweight as the Mil Spec wire shown above, but it is much easier to strip without a special (expensive) stripping tool.

**See page 63 for Solderless Crimp Terminals**

**Buy more and save! See our website for quantity discounts on wire.**

Wire Size (AWG)	Current Rating *	Insulation Color	Part No.	Price per Foot
18 gauge	9.3 amps	Black	4000	17¢
		Red	4001	17¢
		Orange	4002	17¢
		Yellow	4003	17¢
		Green	4004	17¢
		Blue	4005	17¢
White	4006	17¢		
16 gauge	11.1 amps	Black	4007	21¢
14 gauge	14.9 amps	Black	4008	29¢
12 gauge	19.8 amps	Black	4009	39¢
10 gauge	26.6 amps	Black	4010	44¢

\* Current capacity is based on continuous duty for wires in bundles, harnesses or conduits at sea level. Source: FAA AC 43.13-1B, Table 11-9 corrected for sea level (divided by .79) and for 125°C temperature rating.