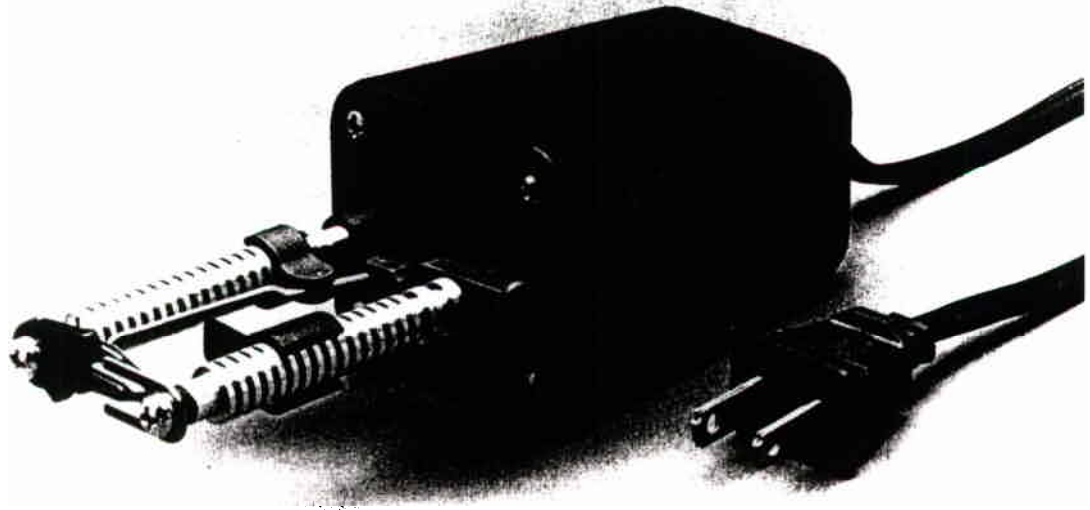


# PATCO Thermal Wire Strippers

## Teflon\* Insulation PTS - 30/40 Series



- AC line or battery powered
- Fast, small, portable
- Safe to use
- No wire or shield nicking
- Solid, stranded or shielded wires
- Hand held
- Low cost

**PTS-30** series wire strippers are low power line operated tools, which far surpass all previous devices in safety, versatility, speed and economy. The patented design incorporates a uniquely shaped nichrome heating element, which heats up quickly (less than 5 seconds) to an optimal temperature of 1700°F and efficiently strips high temperature insulation (Teflon\*) from solid, stranded, or shielded wires in the range of #8 to #40 AWG.

*Extremely thin heating element evaporates such a negligible amount of insulation, that the use of these strippers does not require any kind of special ventilation, whereas toxic fumes from the use of the competitive thermal strippers must be exhausted.*

The low mass, guarded element minimizes the risk of burns, eliminates nicks and broken strands of conductors and reduces lead pull on sensitive components. These comfortably sized handheld tools operate on 120 VAC, 50/60 Hz, with power consumption of 40 watts or less, depending on model.

Different line voltages available on special orders.

**PTS-40 SERIES:** Same as PTS-30 Series except powered by rechargeable battery.

Designed for field operation without access to a line power. Each unit includes battery and charger and can produce over 100 strips on full charge.

\*(Teflon) is a registered trade mark of Dupont

# PATCO Thermal Wire Strippers

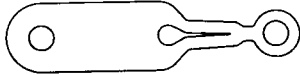
Stripping Elements  
Actual Size

P/N 0030-001

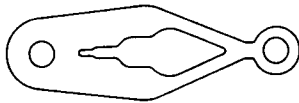
NEW #



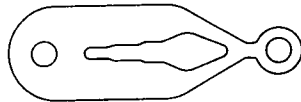
P/N 0030-002



P/N 0030C-001



P/N 0030HD-001



P/N 0030HDS-003



## Model PTS-30

WIRE SIZES: #16 to #30 AWG  
solid, stranded or shielded.

## Model PTS-30S

WIRE SIZES: #30 to #40 AWG  
solid or stranded.

## Model PTS-30C

WIRE SIZES: Microwave type coaxial cables  
.160 inches to .220 O.D. (GORE etc.)

## Model PTS-30HD

WIRE SIZES: #14 to #10 AWG  
solid or stranded.

## Model PTS-30HDS

WIRE SIZES: #8 AWG  
solid or stranded.

### SPECIFICATIONS: PTS-30 Series.

**Dimensions:** 5.9 in. (150 mm.) x 2.25 in. (57 mm.) x 2 in. (51 mm.).

**Weight:** 1 pound (.453 kg.).

**Line Cord:** #18 AWG 2 wire flexible cord, 6 feet (1.8 m.) long.  
(International Line Cords available on special orders.)

### SPECIFICATIONS: PTS-40 Series.

**Dimensions:** Same as PTS-30 Series.

**Weight:** 9 ounces (.255 kg.) including battery.

**Battery:** Ni-Cad 1.2 Volts, Single D cell.

### BATTERY CHARGER

**Dimensions:** 2.27 in. (58 mm.) x 1.89 in. (48 mm.) x 2.12 in. (54 mm.).

**Weight:** 6 ounces (.17 kg.).

**Input:** 120 VAC 50/60 Hz, 2.8W

**Output:** 1.45 VDC 400mA.

CUSTOM ELEMENTS AVAILABLE ON SPECIAL ORDERS.

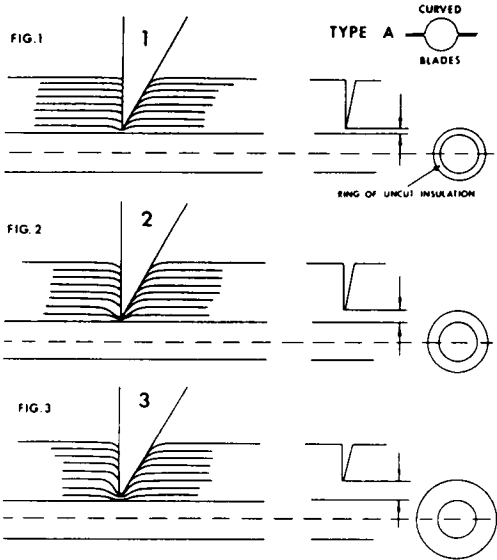
#22 AWG Only



Sample Element

# Wire Stripping Analysis

## MECHANICAL WIRE STRIPPERS — TYPE A (CURVED BLADE)

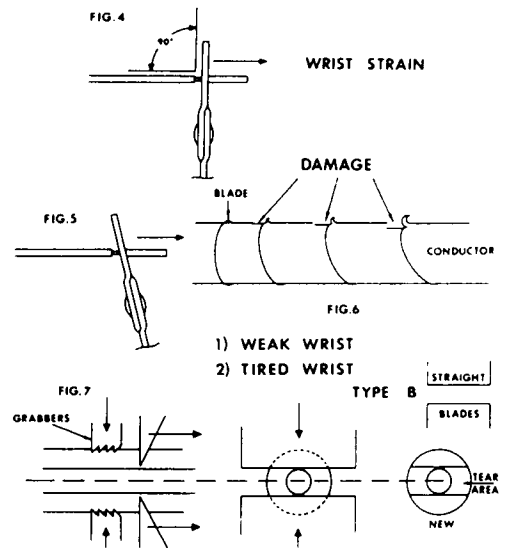


As you will note in figure 1 the opening of fully closed jaws is slightly larger than the diameter of the conductor to be stripped, this is to prevent the conductor from being nicked. This method leaves a ring of uncut insulation which must be ripped off. The force necessary for the complete separation of the slug must be added to stripping force needed to overcome the friction of the insulation against the conductor.

Figure 2 shows a slightly dull blade. Note that blades always stop the same distance away from the conductor. However, due to elasticity of the insulation material these blades will not penetrate as deeply as sharp blades.

Figure 3 illustrates a badly worn blade. Note the effect of blade sharpness on the size of the ring of uncut insulation increases dramatically with the dullness of the blades. Dullness of the blades therefore drastically increases lead pull on sensitive components causing damage.

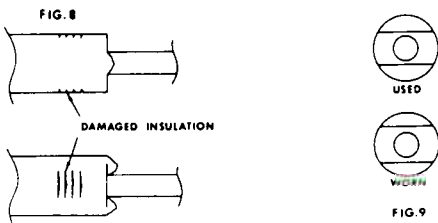
Another disadvantage of this type of stripper is that the stripping angle should be 90 degrees. (Figure 4) As this angle changes with wrist strain, conductor damage can result. (Figure 5) The severity of conductor damage is directly proportional to the angle of the stripper in relationship to the conductor. (See Figure 6)



## MECHANICAL WIRE STRIPPERS — TYPE B (STRAIGHT BLADES)

This type of stripper incorporates certain features which eliminate conductor damage. (See figure 7) Examples include the Paladin type strippers. Sharpness of the blade is again important in order to maintain insulation penetration. When blades become dull, depth of cut decreases causing strain on mechanical parts. Eventually, if blades are not replaced or sharpened, failure to remove slug will result. Also, as you will note in figures 7 & 9, the tear area of this type is much larger than previously mentioned types. The possibility of uneven and nonuniform edges can result depending on insulating material. (See figure 8 - side view & top view)

Lastly, this type of mechanical stripper uses grabbers which hold the insulation while the blades pull the slug from the wire. The sharpness of these grabbers is also important for proper gripping. However, the sharpness and gripping force causes insulation damage on every strip. (See figure 8) This can become very important for government or military work.



## THERMAL WIRE STRIPPERS

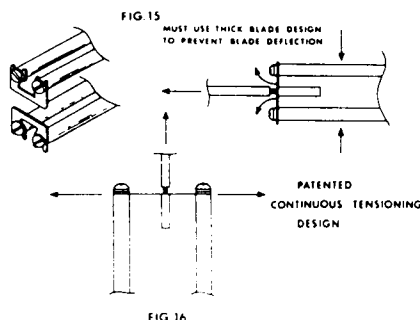
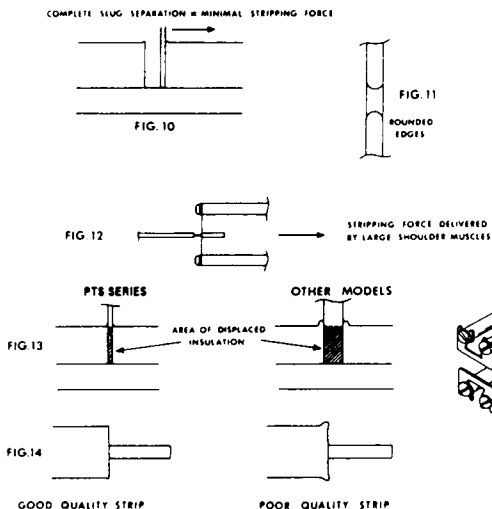
Thermal wire strippers offer many advantages over mechanical strippers. The cutting of the insulation is accomplished by a heated blade which melts insulation all the way to the conductor, this way complete separation of the insulation is achieved. (See figure 10) Damage to the conductor is eliminated due to the rounded design of the blade. (Figure 11)

Stripping force is reduced to an absolute minimum. Figure 12 shows actual stripping action by the PTS-10 model. The stripping force is delivered by large shoulder muscles which greatly reduces fatigue even in prolonged periods of continuous stripping.

Figure 13 shows a comparison of the PTS-10 to other thermal stripper designs (i.e. Teledyne Kinetics, Pace, etc.). Thin blade design clearly out performs competitive models as illustrated.

Figure 14 indicates the quality of the strip achieved by the PTS-10 vs. other models.

The reason for thick blade design on competitive models is clearly shown by figure 15. The blades must withstand the force required for the removal of the slug. The PTS-10 model incorporates a patented continuous tensioning design which permits the use of a thinner blade. (See figure 16)



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