

**Tools for Telecom, Fiber Optics, CATV,  
Wireless and Electronics Industries**

**Installation • Maintenance • Repair**

OVER 50 YEARS OF MANUFACTURING EXCELLENCE





Established 1958



**OK Industries**  
Div. of Jonard Industries

Established 1946

**DESIGN      TECHNOLOGY      PRECISION      QUALITY**

Established in 1958; Jonard Industries Corp is a prime manufacturer of Tools for the Telecom, Fiber Optic, CATV and Electronic Industries with designs for installation, maintenance and repair. The company was founded by engineers and technically oriented professionals whose spirit, guidance and influence continue to this very day.

Jonard products are used in diversified applications. Our tools are used on "Airforce-One", the space shuttle, nuclear submarines, and down to earth applications such as computers, telephone installations and production lines.

We are proud to include AT&T, IBM, Hewlett Packard, Boeing, United Technologies, Comcast, Time Warner and many other prestigious companies on the list of satisfied Jonard customers. Our customers now number in the tens-of-thousands, due to our reputation, technical skills, dedication and our ability to meet their ever-increasing demands.

Established in 1946; OK Industries blossomed as a major force in the telecommunications and electronics industries. In February 2003 Jonard Industries merged the operations of OK Industries into the "Jonard Family of Companies." The result of this acquisition is a **Global Manufacturing Powerhouse** with over 100 years of combined experience.

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## JONARD INDUSTRIES

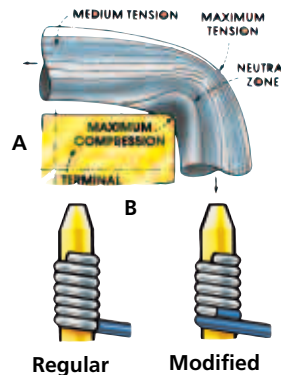
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# WIRE WRAPPING OVERVIEW

Wire Wrapping is a method of making a wire connection by coiling the bare wire around the sharp corners of a terminal under mechanical tension. The technology was developed as an alternative to soldering, which presents various safety and reliability problems in many applications. A principal advantage of wire wrapping is that it provides a high-reliability connection that is also easily removed to correct or modify a wiring layout. Wire wrapping subjects the wire to tremendous tension and compression forces, causing the oxide layer on both wire and terminal to be crushed or sheared, resulting in a clean, oxide-free metal-to-metal contact. A standard wrap is generally used for 24 AWG and larger diameter wires; a modified wrap is typically used for 26 AWG and smaller wires, and is used almost exclusively for 28 to 30 AWG wires. In either case, the wrap style affects only the connection's mechanical stability; both styles provide suitable electrical connections.

## METAL-TO-METAL CONTACT

By bending the wire around the sharp corner of the terminal, the oxide layer on both wire and terminal is crushed or sheared, and a clean, oxide-free metal-to-metal contact is obtained.



## STRIP FORCE CHART \*

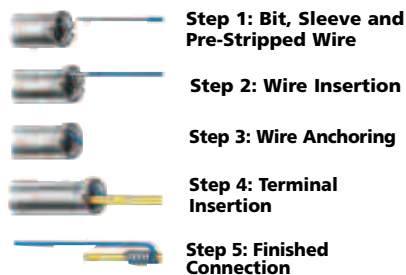
AWG	Wire Size		Min. number of turns (Bare Wire)	Min. strip force	
	Dia. inches	Dia. mm		lbs.	gms
16	.051	1.30	4	15	6800
18	.0403	1.00	4	15	6800
20	.032	0.80	5	8	3600
22	.0253	0.65	5	8	3600
24	.0201	0.50	6	7	3200
26	.0159	0.40	7	6	2700
28	.0126	0.32	7	5	2200
30	.0100	0.25	7	3.3	1500

\*Conforms to MIL-STD-1130B

## TYPES OF WRAP

A "Regular" bit wraps the bare wire around the terminal. A "Modified" bit wraps a portion of insulation around the terminal in addition to the bare wire. This greatly increases the ability to withstand vibration.

## HOW TO MAKE WIRE WRAPPED CONNECTIONS

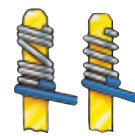


## SOME HINTS ON MAKING WRAPPED CONNECTIONS



### OVERWRAP

Do not press too hard. Let the OK tools do the work. Excessive pressure can lead to overwrapping. Backforce "BF" to prevent overwrapping is available on most power tools and is recommended for use with 26 through 30 AWG wire.



### OPEN WRAP & SPIRAL WRAP

Just keep the OK tool on the terminal until the wrap is complete. Early removal can result in spiral and open wraps.



### PIGTAIL

Wire wrapping is a precision technique and the wrong bit and sleeve just cannot do the job. Improper selection can cause problems ranging from "Pigtails" to loose wraps.

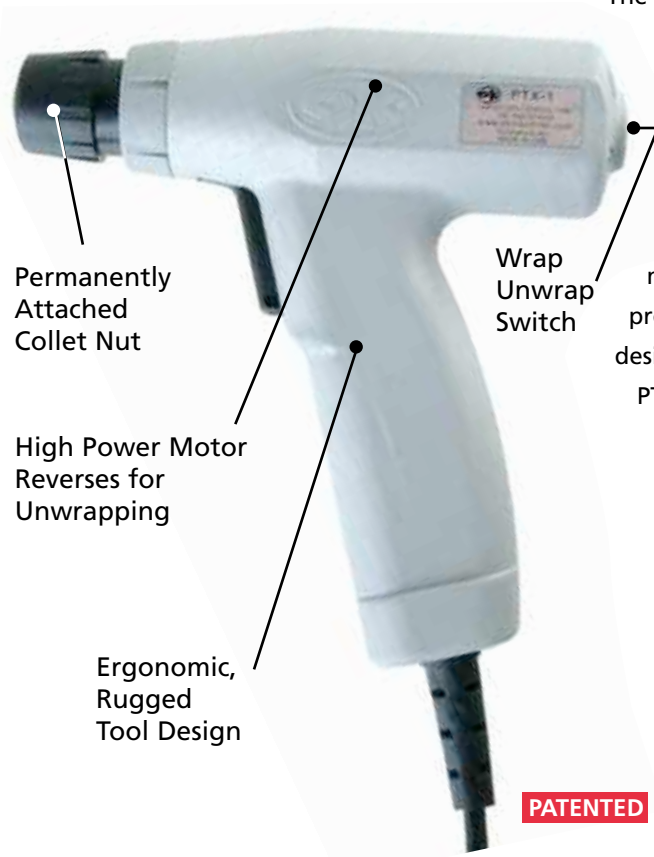
## TERMINAL DIAGONAL CHART

### DIMENSION B

In.	.010	.015	.020	.025	.030	.035	.040	.045	.050	.055	.060	.065	.070	.075	.080	.085	.090	.095	.100
	mm	0.25	0.38	0.51	0.64	0.76	0.89	1.02	1.14	1.27	1.40	1.52	1.65	1.78	1.91	2.03	2.16	2.29	2.41
.010	.014	.018	.022	.027	.032	.036	.041	.046	.051	.056	.061	.066	.071	.076	.081	.086	.091	.096	.101
	0.25	0.36	0.46	0.56	0.69	0.81	0.91	1.04	1.17	1.30	1.42	1.55	1.68	1.80	1.93	2.06	2.18	2.31	2.44
.015	.018	.021	.025	.029	.033	.038	.043	.047	.052	.057	.062	.067	.072	.077	.082	.087	.092	.097	.102
	0.38	0.46	0.53	0.64	0.74	0.84	0.97	1.09	1.19	1.32	1.45	1.58	1.70	1.83	1.96	2.08	2.21	2.34	2.46
.020	.022	.025	.028	.032	.036	.040	.045	.049	.053	.058	.063	.068	.073	.078	.083	.088	.093	.098	.103
	0.51	0.56	0.64	0.71	0.81	0.91	1.02	1.14	1.25	1.35	1.47	1.60	1.73	1.85	1.98	2.11	2.24	2.36	2.49
.025	.027	.029	.032	.035	.039	.043	.047	.050	.056	.060	.065	.069	.074	.079	.084	.089	.094	.099	.104
	0.64	0.69	0.74	0.81	0.89	0.99	1.09	1.19	1.27	1.42	1.52	1.65	1.75	1.88	2.01	2.13	2.26	2.39	2.52
.030	.032	.033	.036	.039	.042	.046	.050	.054	.058	.062	.067	.071	.076	.080	.085	.090	.095	.100	.105
	0.76	0.81	0.84	0.91	0.99	1.07	1.17	1.27	1.37	1.47	1.58	1.70	1.80	1.93	2.03	2.16	2.29	2.41	2.54
.035	.036	.038	.040	.043	.046	.049	.052	.056	.060	.064	.069	.073	.078	.082	.087	.091	.096	.101	.106
	0.89	0.91	0.97	1.02	1.09	1.17	1.25	1.32	1.42	1.52	1.63	1.75	1.85	1.98	2.08	2.21	2.31	2.44	2.57
.040	.041	.043	.045	.047	.050	.052	.056	.060	.064	.068	.072	.076	.080	.084	.089	.092	.097	.102	.107
	1.02	1.04	1.09	1.14	1.19	1.27	1.32	1.42	1.52	1.63	1.73	1.83	1.93	2.03	2.13	2.26	2.34	2.46	2.59
.045	.046	.047	.049	.050	.054	.056	.060	.063	.067	.071	.074	.078	.083	.087	.091	.096	.101	.105	.109
	1.14	1.17	1.19	1.25	1.27	1.37	1.42	1.52	1.60	1.70	1.80	1.88	1.98	2.11	2.21	2.31	2.44	2.57	2.67
.050	.051	.052	.053	.056	.058	.060	.064	.067	.071	.074	.078	.082	.086	.090	.094	.098	.103	.107	.111
	1.27	1.30	1.32	1.35	1.42	1.47	1.52	1.63	1.70	1.80	1.88	1.98	2.08	2.18	2.29	2.39	2.49	2.62	2.72

Example: If "A"=.020". "B"=.060". The terminal diagonal is .063" as shown on chart.

# PTX SERIES ELECTRIC WIRE WRAPPING & UNWRAPPING TOOLS



Permanently Attached Collet Nut

High Power Motor Reverses for Unwrapping

Ergonomic, Rugged Tool Design

Wrap Unwrap Switch

**PATENTED**

The Patented PTX Series Wire Wrapping Tools from OK Industries bring revolutionary new benefits to installers, telecom technicians and other users. With worker safety in mind, we consulted a certified ergonomist and created an ergonomic tool, which includes a lightweight, well-balanced construction, dual-finger short-throw trigger, and a long handle to mitigate pressure on the palm. These features help to prevent repetitive stresses and result in an industry-leading design from a comfort and safety standpoint. Ask for the PTX Series Wire Wrapping Tools from OK Industries — and arm your workers with the tools that offer efficiency and worker safety in your interconnect activity.

## KEY FEATURES

- Ergonomic Design — Minimizes Repetitive Stress
- A 20' Long Power cord
- Rugged Construction
- Wraps and Unwraps 18 to 30 AWG Wire
- Rated Maximum Usage: 2,500 cycles/day
- For Bits & Sleeves: see Pages 7, 10-12

## ORDERING INFORMATION AND PRODUCT SPECIFICATIONS

Part No.	Description	Weight	Voltage	RPM
PTX-1	Electric Wrap/Unwrap Tool - 115V	2.0 lb.	115V	3700
PTX-1BF	Electric Wrap/Unwrap Tool w/Backforce - 115V	2.0 lb.	115V	3700
PTX-2	Electric Wrap/Unwrap Tool - 230V	2.2 lb.	230V	4200
PTX-2BF	Electric Wrap/Unwrap Tool w/Backforce - 230V	2.2 lb.	230V	4200
PTX-48	Electric Wrap/Unwrap Tool - 48V	2.0 lb.	48V	3700

## ACCESSORIES

- **DFB224** Wrap/Unwrap Bit & Sleeve Set
- **DFB2426** Wrap/Unwrap Bit & Sleeve Set
- **H-1000** Cordura Tool Pouch



DFB224



H-1000

# PTX SERIES BATTERY WIRE WRAPPING & UNWRAPPING TOOLS

## BATTERY POWERED LONG-LIFE NIMH BATTERY

The Patented PTX Series Wire Wrapping Tools from OK Industries bring revolutionary new benefits to installers, telecom technicians and other users. With worker safety in mind, we consulted a certified ergonomist and created an ergonomic tool, which includes a lightweight, well-balanced construction, dual-finger short-throw trigger, and a long handle to mitigate pressure on the palm. These features help to prevent repetitive stresses and result in an industry-leading design from a comfort and safety standpoint. Ask for the PTX Series Wire Wrapping Tools from OK Industries — and arm your workers with the tools that offer efficiency and worker safety in your interconnect activity.



**PATENTED**

### KEY FEATURES

- Ergonomic Design — Minimizes Repetitive Stress
- Rugged Construction
- Wraps and Unwraps 18 to 30 AWG Wire
- Rated Maximum Usage: 2,500 cycles/day
- For Bits & Sleeves: see Pages 7, 10-12

### ORDERING INFORMATION AND PRODUCT SPECIFICATIONS

Part No.	Description	Weight	Voltage	RPM
PTX	Battery Wrap/Unwrap Tool (Battery not included)	1.1 lb.	3.6V*	3700
PTX-KIT1	115V battery tool kit (tool, charger, 2 batteries)	3.5 lb.	3.6V*	3700
PTX-KIT1DH	PTX-KIT1 w/DFB224 and H-1000	3.6 lb.	3.6V*	3700
PTX-KIT2	230V battery tool kit (tool, charger, 2 batteries)	3.5 lb.	3.6V*	4200

\* Powered by long-life NiMH battery

### ACCESSORIES

- **PTX-B** PTX Battery, 3.6V
- **PTX-BC1** 115V Battery Charger
- **PTX-BC2** 230V Battery Charger
- **H-1000** Cordura Tool Pouch
- **DFB224** Wrap/Unwrap Bit & Sleeve Set
- **DFB2426** Wrap/Unwrap Bit & Sleeve Set



H-1000



PTX-BC1



PTX-B



DFB224

For a complete listing of bits and sleeves- see pages 7, 10-12

# DUAL FUNCTION WRAP/UNWRAP BIT & SLEEVE SETS



## DFB224 & DFB2426 DUAL FUNCTION BIT/SLEEVE SETS

This innovative Patented product represents a truly revolutionary approach to wire wrapping, by combining both the wrap and the unwrap functions into one bit/sleeve set. The bit is precision machined for high quality wrapping in the clockwise direction, but also includes the removal mechanism that is used to unwrap when operated counterclockwise. The user can quickly and easily switch back and forth between wrap and unwrap mode by retracting or extending the retractable sleeve, and flipping the switch on a wrap/unwrap power tool (i.e., a power wire wrapping tool with reversible motor). This product, which can wrap or unwrap 22–26 AWG wire (depending on set), enables the user to maximize operating efficiency while eliminating the need to purchase and carry extra tools or bits for unwrapping. Also, to prevent pin-to-pin shorting, the retractable sleeve is coated with a durable 1000V dielectric material.

**Note:** The DFB set can only be used with the PTX or other powered wire wrapping tools with a reverse mode.

Part #	Description	Wire Size AWG MM	Min. Terminal Diagonal		Max. Terminal Diagonal		Terminal Hole Depth		Terminal Hole Diameter		Effective Radius	
			IN.	MM	IN.	MM	IN.	MM	IN.	MM	IN.	MM
DFB224	Wrap/Unwrap Bit/Sleeve Set 22-24 AWG	22/24 .50/.65	.054	1.37	.073	1.85	0.50	12.70	.075	1.90	.111	2.82
KB-DF224	Replacement bit for DFB224											
P-DF224	Replacement Sleeve for DFB224											
DFB2426	Wrap/Unwrap Bit/Sleeve Set 24-26 AWG	24/26 .40/.50	.054	1.37	.065	1.65	0.50	12.70	.066	1.67	.098	2.48
KB-DF2426	Replacement bit for DFB2426											
P-DF2426	Replacement Sleeve for DFB2426											

## HOW TO USE THE DFB224 & DFB2426

The Wrap/Unwrap bit is shipped with the sleeve set in the wrap position. To change to the unwrap function simply pull the sleeve out approximately 1/4" (the sleeve is spring loaded and you should feel some tension while pulling forward), rotate the sleeve in either direction 180° and release. The sleeve should now be seated approximately 1/4" lower than in the wrap position. This will expose the unwrap feature on the bit.

To change back to the wrap position pull the sleeve out approximately 1/2" and rotate the sleeve in either direction 180° and release. The spout should be in the 12:00 position and the sleeve should be locked in position.

**Note:** If you cannot rotate the sleeve, you need to pull the sleeve out further before trying to rotate the sleeve.

# MANUAL WIRE WRAPPING TOOLS

## MANUAL WIRE WRAPPING TOOLS

- G200/R3278 : Lexan™
- G100/R3278 : Aluminum
- G100/R3278INS : Aluminum (insulated)
- For Bits & Sleeves : see pages 10-12

Also available– bits and sleeves for old style chuckless wire wrapping tools

For precise reliable wraps, choose the tool you want. We offer durability with our rugged aluminum tool, G100/R3278, added protection with our insulated version, G100/R3278INS, providing 1000V of dielectric strength across most of the housing, and the same reliability, light weight plus a lower cost with our Lexan® model, G200/R3278. These tools accommodate wire sizes from 18 AWG (1.00mm) thru 32 AWG (0.20mm).



G200/R3278 Lexan™



G100/R3278 Aluminum



G100/R3278INS Insulated



# MANUAL WIRE WRAPPING & UNWRAPPING TOOLS

## INSULATED MANUAL WIRE WRAPPING TOOL WITH LED FLASHLIGHT



G100/R3278FL

This tool combines the rugged durability of all metal construction with an insulative material that provides 1000V dielectric strength across most of the housing, and an LED flashlight for task lighting...No more working in the dark! The flashlight uses a standard AAA battery, which can be easily changed. Flashlight is positioned for both 3" and 5" bits and sleeves so no adjustments are necessary.

The G100/R3278FL provides up to ten revolutions per squeeze of the trigger, and can accommodate wire sizes from 18-32 AWG. This hand operated wire-wrapping tool uses interchangeable bits and sleeves. And when you use our insulated sleeves, shorting between the pins of the main frame and other equipment is minimized.



## WIRE WRAPPING FLASHLIGHT KIT



G100-FL



G100-FLA

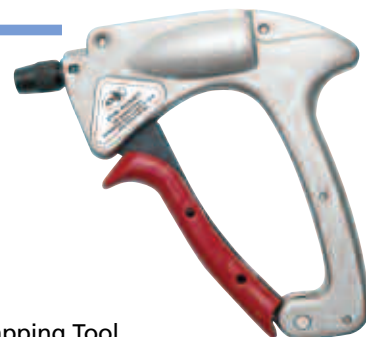
Add the convenience of task lighting to your wire wrapping gun with this Wire Wrapping Flashlight Kit. Compatible with all wire wrapping tools.

This LED Flashlight Kit uses a standard AAA battery (included). Mounted on a bracket, this attachment installs in minutes and provides task lighting for those poorly lit areas. Flashlight is positioned for both 3" and 5" bits & sleeves so No Adjustments are necessary.

Part No.	Construction	For Use With
G100-FL	Metal	G100/R3278, G100/R3278INS, WG-350, WG-350INS
G100-FLA	Plastic	Universal-for use with most manual wire wrapping guns

## MANUAL WIRE UNWRAPPING TOOL

The combination of the G100/R3394CT unwrap tool and the PUW unwrap bit & sleeve set gives you the best tool for high speed wire unwrapping. High production, long life, low maintenance. Use Unwrap Set PUW2226 for wire AWG 20 thru 26 (0.80 thru 0.40mm).



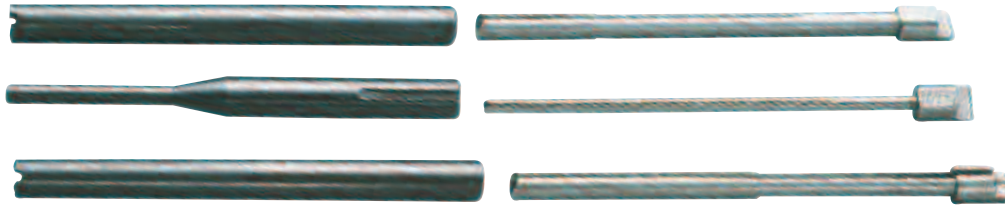
G100/R3394CT



■ G100/R3394CT : Manual Wire Unwrapping Tool  
(See bit & sleeve listed below)

Unwrap Bit Part No.	Unwrap Sleeve Part No.	Bit and Sleeve Set Set No.	Wire Size		Terminal Hole Diameter	
			AWG	mm	Inches	mm
2026UB	SOK2230	PUW2226	20-26	0.80-0.40	.070	1.77

# BITS & SLEEVES WIRE WRAPPING



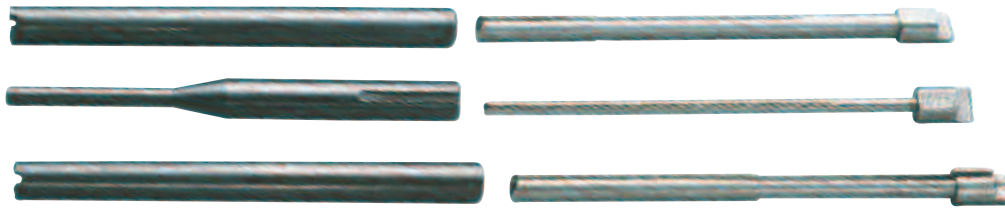
Fully compatible with any make or model wire wrapping tool. Modified bits provide 1 1/2–2 turns of insulation.

## 3" BITS AND SLEEVES CHART (AWG) INCHES

Wire Gauge (AWG)	Regular	Modified	Bit Part No.	Sleeve Part No.	Maximum Insulation Diameter Inches	Minimum Terminal Diagonal Inches	Maximum Terminal Diagonal Inches	Terminal Hole Depth Inches	Effective Radius Inches	Terminal Hole Diameter Inches
18	●		KB18	P194LN		.060	.073	1.000	.150	.075
20		●	WB20M	P194LN	.059	.042	.073	1.000	.150	.075
20-22	●		KB2075	P2224	-	.042	.073	1.000	.123	.075
22	●		KB22	P2224	-	.054	.073	.750	.117	.075
22		●	WB2275M	P2224	.052	.049	.074	1.000	.132	.075
22-24	●		KB224LH	P2224	-	.061	.085	1.000	.117	.086
22-24	●		KB224-1	P2224	-	.054	.073	1.000	.111	.075
22-24	●		KB224	P2224	-	.054	.073	.807	.111	.075
22-24		●	WB224M	P2224	.050	.049	.074	1.250	.121	.075
24		●	WB24DH	P2224	.046	.054	.073	1.750	.117	.075
24	●		KB24	P2426	-	.055	.074	.750	.100	.075
24		●	WB24SM*	P3032LN	.044	.024	.043	.750	.098	.044
24-26		●	WB2426M	P2224	.046	.054	.073	.750	.118	.075
26	●		KB26	P2426	-	.058	.073	1.000	.100	.075
26		●	WB26SM*	P26LN	.031	.023	.038	.750	.075	.040
26		●	WB26M	P2224	.046	.054	.073	1.000	.118	.075
26		●	WB2644M*	P3032LN	.046	.024	.043	.750	.098	.044
26		●	WB2669M	P2426	.041	.053	.068	1.000	.109	.069
28		●	WB2870M	P2426	.034	.053	.068	1.000	.103	.070
28		●	WB28SHM	P3032	.030	.031	.035	.750	.066	.036
30		●	SB30MSH-B*	P3032	.027	.031	.035	.750	.064	.036
30		●	SB30MMK*	P3032	.023	.031	.035	.750	.064	.036
30-32		●	WB3032M*	P3032	.027	.034	.038	.750	.064	.040
30-32		●	WB3032MIL†	P3032	.027	.034	.038	.750	.064	.040
30-32	●		KB3032	P3032	-	.034	.038	.750	.064	.040

\*These tools are recommended for .025" square terminals on .100" center to center of the pins † Provides 2.5 turns of insulation

# BITS & SLEEVES WIRE WRAPPING



Fully compatible with any make or model wire wrapping tool. Modified bits provide 1 1/2–2 turns of insulation.

## 3" BITS AND SLEEVES CHART METRIC

Wire Gauge mm	Regular	Modified	Bit Part No.	Sleeve Part No.	Maximum Insulation Diameter mm	Minimum Terminal Diagonal mm	Maximum Terminal Diagonal mm	Terminal Hole Depth mm	Effective Radius mm	Terminal Hole Diameter mm
1.00	●		KB18	P194LN		1.52	1.85	25.40	3.81	1.90
0.80		●	WB20M	P194LN	1.50	1.07	1.85	25.40	3.81	1.90
0.65-0.80	●		KB2075	P2224	-	1.07	1.85	25.40	3.12	1.90
0.65	●		KB22	P2224	-	1.37	1.85	19.05	2.97	1.90
0.65		●	WB2275M	P2224	1.32	1.24	1.87	25.40	3.35	1.90
0.50-0.65	●		KB224LH	P2224	-	1.54	2.15	25.40	2.97	2.18
0.50-0.65	●		KB224-1	P2224	-	1.37	1.85	25.40	2.82	1.90
0.50-0.65	●		KB224	P2224	-	1.37	1.85	20.50	2.82	1.90
0.50-0.65		●	WB224M	P2224	1.27	1.24	1.87	31.75	3.07	1.90
0.50		●	WB24DH	P2224	1.17	1.37	1.85	44.50	2.97	1.90
0.50	●		KB24	P2426	-	1.39	1.87	19.05	2.54	1.90
0.50		●	WB24SM*	P3032LN	1.11	0.60	1.09	19.05	2.48	1.11
0.40-0.50		●	WB2426M	P2224	1.17	1.37	1.85	19.05	2.99	1.90
0.40	●		KB26	P2426	-	1.47	1.85	25.40	2.54	1.90
0.40		●	WB26SM*	P26LN	0.79	0.58	0.96	19.05	1.90	1.02
0.40		●	WB26M	P2224	1.17	1.37	1.85	25.40	2.99	1.90
0.40		●	WB2644M*	P3032LN	1.17	0.60	1.09	19.05	2.48	1.11
0.40		●	WB2669M	P2426	1.04	1.34	1.72	25.40	2.77	1.75
0.32		●	WB2870M	P2426	0.86	1.35	1.72	25.40	2.61	1.78
0.32		●	WB28SHM*	P3032	0.76	0.79	0.89	19.05	1.67	0.91
0.25		●	SB30MSH-B*	P3032	0.69	0.79	0.89	19.05	1.62	0.91
0.25		●	SB30MMK*	P3032	0.58	0.79	0.89	19.05	1.62	0.91
0.20-0.25		●	WB3032M*	P3032	0.69	0.86	0.96	19.05	1.62	1.02
30-32		●	WB3032MIL†	P3032	0.69	0.86	0.96	19.05	1.62	1.02
0.20-0.25	●		KB3032	P3032	-	0.86	0.96	19.05	1.62	1.02

\*These tools are recommended for .025" square terminals on .100" center to center of the pins † Provides 2.5 turns of insulation

# SPECIALIZED BITS & SLEEVES

## 3" Bits and Insulated Sleeves

The insulated sleeves are covered with a material that provides 1000V dielectric strength which helps to prevent shorting between pins and enhances worker safety.



P2224INS



KB22

Bit Part No.	Sleeve Part No.	Wire Size		Regular	Minimum Terminal Diagonal		Maximum Terminal Diagonal		Terminal Hole Depth		Effective Radius		Terminal Hole Diameter	
		AWG	mm		In.	mm	In.	mm	In.	mm	In.	mm	In.	mm
KB22	P2224INS	22	0.65	●	.054	1.37	.073	1.85	.750	19.05	.117	2.97	.075	1.90
KB224	P2224INS	22-24	0.50-0.65	●	.054	1.37	.073	1.85	.807	20.50	.111	2.82	.075	1.90
KB24	P2426INS	26	0.50	●	.055	1.39	.074	1.87	.750	19.05	.100	2.54	.075	1.90
KB26	P2426INS	26	0.40	●	.058	1.47	.073	1.85	1.000	25.40	.100	2.54	.075	1.90
KB3032	P3032INS	30-32	0.32	●	.034	0.86	.038	0.96	0.750	19.05	.064	1.62	.040	1.02

## 5" Bits and Sleeves (Extended Length) Insulated and Non Insulated Sleeves

These bits and sleeves are designed for wire wrapping in areas requiring deep penetration. Their 5" (127mm) length ensures "true" connections in hard-to-get-at locations. Available with or without insulation.



P2426-5INS

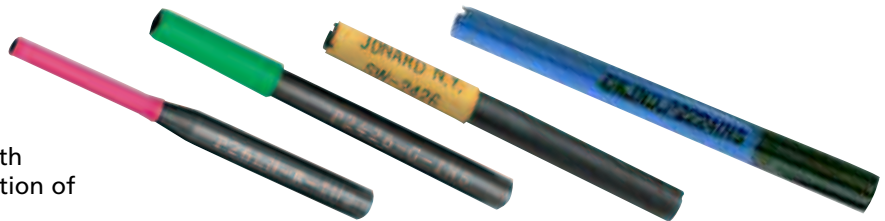


KB24-5

Bit Part No.	Insulated Sleeve Part No.	Uninsulated Sleeve Part No.	Wire Size		Regular	Minimum Terminal Diagonal		Maximum Terminal Diagonal		Terminal Hole Depth		Effective Radius		Terminal Hole Diameter	
			AWG	mm		In.	mm	In.	mm	In.	mm	In.	mm	In.	mm
KB22-5	P2224-5INS	P2224-5	22	0.65	●	.054	1.37	.073	1.85	.750	19.05	.117	2.97	.075	1.90
KB24-5	P2426-5INS	P2426-5	24	0.50	●	.055	1.39	.073	1.85	.750	19.05	.100	2.54	.075	1.90
KB26-5	P2426-5INS	P2426-5	26	0.40	●	.058	1.47	.073	1.85	.750	19.05	.100	2.54	.075	1.90

## 3" Bit & Sleeve Sets With Insulated Color Coded Sleeves

Enjoy the convenience of pre-assembled sets with insulated color-coded sleeves for easy identification of wire sizes based on color.



Kit Number	Bit Part No.	Sleeve Part No. Color	Wire Size		Regular	Modified	Maximum Insulation Diameter		Minimum Terminal Diagonal		Maximum Terminal Diagonal		Terminal Hole Depth		Effective Radius		Terminal Hole Diameter	
			AWG	mm			In.	mm	In.	mm	In.	mm	In.	mm	In.	mm	In.	mm
KT22B	KB22	P2224INS Blue	22	0.65	●		-	-	.054	1.37	.073	1.85	.750	19.05	.117	2.97	.075	1.90
KT224B	KB224	P2224INS Blue	22-24	0.65-0.50	●		-	-	.054	1.37	.073	1.85	.807	20.05	.111	2.82	.075	1.90
KT24Y	KB24	SW-2426 Yellow	24	0.50	●		-	-	.055	1.39	.074	1.87	.750	19.05	.100	2.54	.075	1.90
KT26G	KB26	P2426-G-INS Green	26	0.40	●		-	-	.058	1.47	.073	1.85	1.000	25.40	.100	2.54	.075	1.90
KT26R	WB26SM	P26LN-R-INS Red	26	0.40		●	.031	0.79	.023	0.58	.038	0.96	.750	19.05	.750	1.90	.040	1.02

# MANUAL WIRE WRAPPING TOOL KITS

## TELECOM WIRE WRAPPING KITS

These are complete kits for technicians working at a Main Distributing Frame or for field service where wire wrapping is required.

**WWK-CO Insulated Wire Wrapping Kit** - designed specifically for the Central Office.

Part No.: **WWK-CO: Wire Wrapping Kit CENTRAL OFFICE**

Kit Contains:

- G100/R3278INS Insulated Wire Wrapping Tool
- KB224 bit 22-24 AWG
- P2224INS Insulated sleeve 22-24 AWG
- H-1000 Cordura Pouch
- JIC-21257 Telecom long nose pliers
- JIC-22035 Probe pick
- UW4 Sleeved unwrapping tool
- JIC-2257 Insulated wire loop puller



WWK-CO

JIC-2257

JIC-22035

JIC-21257

G100/R3278INS

UW4

KB224

P2224INS

Part No.: **WWK-1: Wire Wrapping Kit**

Kit Contains: G200/R3278 Wire Wrapping Tool  
KB224 bit 22-24 AWG  
P2224 sleeve 22-24 AWG  
HW-UW-224 Wrap/unwrap tool  
ST-100 wire stripper 22-24 AWG  
H-1000 Cordura Pouch



P2224

KB224

ST-100

HW-UW-224

G200/R3278

WWK-1

Part No.: **WWK-1INS: Insulated Wire Wrapping Kit**

Kit Contains:

- G100/R3278INS Insulated Wire Wrapping tool
- KB224 bit 22-24 AWG
- P2224INS Insulated sleeve 22-24 AWG
- UW4 sleeved unwrapping tool 20-26 AWG
- ST-100 Wire stripper 22-24 AWG
- H-1000 Cordura Pouch



WWK-1INS

UW4

ST-100

KB224

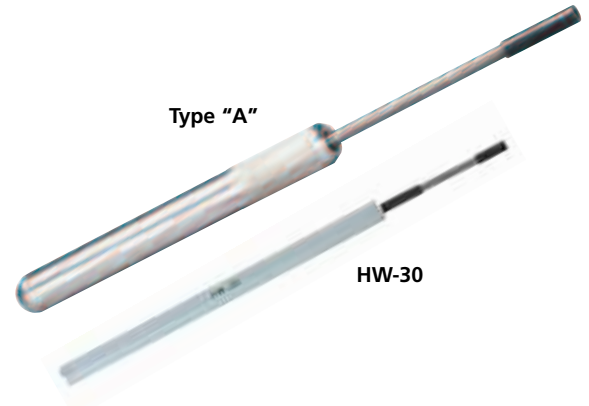
P2224INS

G100/R3278INS

# HAND WRAPPING AND UNWRAPPING TOOLS

## HAND WRAPPING TOOLS

These Hand Wrapping Tools are carefully designed to produce perfect wire wrapped connections. Precision, long-lasting tools for use where occasional wraps are required or where power wire-wrapping tools are not practical. Compact and convenient.



Part No.	Reg.	Mod.	Type	Wire Size		Max. Insulation Diameter		Terminal Hole Diameter		Terminal Hole Depth		Outside Diameter	
				AWG	mm	Inches	mm	Inches	mm	Inches	mm	Inches	mm
HW-20	●		A	20	0.80	-	-	.075	1.90	1.000	25.40	.218	5.53
HW-224	●		A	22-24	0.65-0.50	-	-	.075	1.90	.807	20.50	.218	5.53
HW-224LH	●		A	22-24	0.65-0.50	-	-	.086	2.18	1.000	25.40	.218	5.53
HW-26	●		A	26	0.40	-	-	.075	1.90	1.000	25.40	.218	5.53
HW-30*		●		30	0.25	.027	0.69	.036	0.91	.750	19.05	.125	3.17

\*These tools are recommended for .025" (0.63mm) square terminals on .100" (2.54mm) centers

## HAND UNWRAPPING TOOLS

These tools are used to remove wire connections made with 20 thru 32 gauge wire.



Part No.	Type	Wire Size		Type of Unwrap	Terminal Hole Diameter		Terminal Hole Depth		Outside Diameter	
		AWG	mm		Inches	mm	Inches	mm	Inches	mm
UW1	D	20-26	0.80-0.40	Left Hand	.070	1.77	1.000	25.40	.156	3.96
UW2	C	20-26	0.80-0.40	Left and Right Hand	.070	1.77	1.000	25.40	.156	3.96
UW4	B	20-26	0.80-0.40	Left Hand	.070	1.77	2.360	60.00	.187	4.74
UW5	B	20-26	0.80-0.40	Left and Right Hand	.070	1.77	2.360	60.00	.187	4.74
UW093R	D	24-32	0.50-0.20	Left Hand	.038	0.96	1.000	25.40	.093	2.36
UWD93-93	C	24-32	0.50-0.20	Left and Right Hand	.038	0.96	1.000	25.40	.093	2.36
UW2832C	B	28-32	0.32-0.20	Left and Right Hand	.038	0.96	.750	19.05	.156	3.96

# HAND WRAPPING AND UNWRAPPING TOOLS



## HAND WRAPPING AND UNWRAPPING TOOLS

These Hand Wrapping and Unwrapping Tools are carefully designed to produce perfect wire wrapped connections. Precision, long-lasting tools for use where occasional wraps are required or where power wire-wrapping tools are not practical. Compact and convenient.



## HAND WRAPPING AND UNWRAPPING TOOLS

To switch from wire wrapping to unwrapping takes only seconds - just a quick change of the cap from one end to the other.

WRAPPING SIDE													UNWRAPPING SIDE							
Part Number	Reg	Mod	Wire Size		Max. Insulation Diameter		Terminal Hole Diameter		Terminal Hole Depth		Outside Diameter		Wire Size		Terminal Hole Diameter		Terminal Hole Depth		Outside Diameter	
			AWG	mm	In.	mm	In.	mm	In.	mm	In.	mm	AWG	mm	In.	mm	In.	mm	In.	mm
HW-UW-18-19	●		18-19	1.00-0.91	-	-	.075	1.90	1.000	25.40	.250	6.35	18-19	1.00-0.91	.075	1.90	1.000	25.40	.187	4.74
HW-UW-20	●		20	0.80	-	-	.075	1.90	1.000	25.40	.218	6.35	20-26	1.00-0.91	.070	1.77	1.000	25.40	.156	3.96
HW-UW-224	●		22-24	0.65-0.50	-	-	.075	1.90	.807	20.50	.218	5.53	20-26	0.80-0.40	.070	1.77	1.000	25.40	.156	3.96
HW-UW-224-1	●		22-24	0.65-0.50	-	-	.075	1.90	1.000	25.40	.218	5.53	20-26	0.80-0.40	.070	1.77	1.000	25.40	.156	3.96
HW-UW-2426	●		24-26	0.50-0.40	-	-	.075	1.90	.750	19.05	.218	5.53	20-26	0.80-0.40	.070	1.77	1.000	25.40	.156	3.96
HW-UW-26	●		26	0.40	-	-	.075	1.90	1.000	25.40	.218	5.53	20-26	0.80-0.40	.070	1.77	1.000	25.40	.156	3.96
HW-UW-26SM*		●	26	0.40	.031	0.79	.040	1.02	.750	19.05	.125	3.17	24-32	0.50-0.20	.038	0.96	1.000	25.40	.093	2.36
HW-UW-2829M*		●	28-29	0.32-0.29	.036	0.91	.040	1.02	.750	19.05	.156	3.96	24-32	0.50-0.20	.038	0.96	1.000	25.40	.093	2.36
HW-UW-30*		●	30	0.25	.027	0.69	.036	0.91	.750	19.05	.125	3.17	24-32	0.50-0.20	.038	0.96	1.000	25.40	.093	2.36

\*These tools are recommended for .025" (0.63mm) square terminals on .100" (2.54mm) centers. A modified wrap provides 1.5 – 2 turns of insulation.

# WRAP / STRIP / UNWRAP TOOLS

## WRAP/STRIP/UNWRAP TOOLS

Each WSU tool wraps, unwraps and even strips the appropriate wire diameter with a unique built-in stripper blade. Ideal for bench use or tool kit in all service and repair applications. In addition to versatility, convenience, and reliability, the WSU Series offers exceptional value.

**WSU-2224**  
(Regular Wrap)

**WSU-24M**  
(Modified Wrap)

**WSU-26M**  
(Modified Wrap)

**WSU-30**  
(Regular Wrap)

**WSU-30M**  
(Modified Wrap)



**PATENTED**

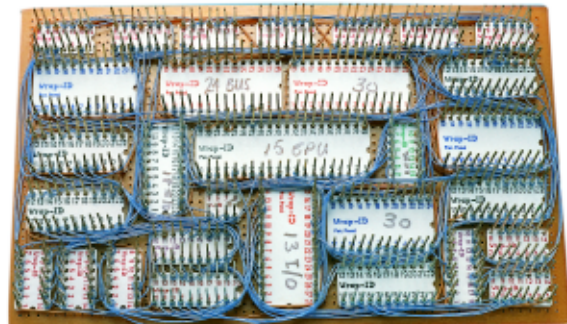
Part No.	Reg		Wire Size		Max. Insulation Diameter		Terminal Hole Diameter		Terminal Hole Depth		Outside Diameter		Square Post	
	Reg	Mod	AWG	mm	In.	mm	In.	mm	In.	mm	In.	mm	In.	mm
WSU-2224	●		22-24	0.65-0.50			.075	1.90	1.50	38.1	.213	5.4	.045	1.14
WSU-24M		●	24	0.50	.036	0.92	.075	1.90	1.50	38.1	.213	5.4	.045	1.14
WSU-26M		●	26	0.40	.034	0.86	.075	1.90	1.50	38.1	.213	5.4	.045	1.14
WSU-30	●		30	0.25			.036	0.91	1.50	38.1	.125	3.2	.025	0.63
WSU-30M		●	30	0.25	.021	0.53	.036	0.91	1.50	38.1	.125	3.2	.025	0.63

These tools are recommended for .025" (0.63mm) square terminals on .100" (2.54mm) centers

## SOCKET-WRAP I.D.™

Increase Wiring Speed and Reduce Errors.

Used to identify pin numbers on wire wrapping sockets. Consisting of a socket-sized plastic panel with numbered holes in the pin location, the Socket Wrap-ID is simply slipped onto the socket before wrapping. You can also write on them for easy identification of location, IC Part number, function, etc. These unique items greatly simplify both initial wire wrapping and subsequent troubleshooting or repair. A great help to technicians, and production facilities alike.



Part No.	Pins	Row Spacing	Qty./Pkg.
ID-8-100	8	.3" (7.5mm)	100
ID-16-100	16	.3" (7.5mm)	100
ID-18-50	18	.3" (7.5mm)	50
ID-20-50	20	.3" (7.5mm)	50
ID-22-50	22	.4" (10mm)	50
ID-24-50	24	.6" (15mm)	50
ID-28-50	28	.6" (15mm)	50
ID-40-25	40	.6" (15mm)	25
ID-96-25	96	.3" (7.5mm)	25



# WIRE WRAPPING ACCESSORIES



UL Listed

## KYNAR® Insulated, Silver Plated Copper Conductor

Ideally suited for wire wrapping and many other applications. OFHC (oxygen free high conductivity) provides a flexible yet abrasion resistant wire

Wire Size		Insulation Dia.		Roll Size		Blue	Yellow	White	Black	Red
AWG	mm	In.	mm	Feet	Meters					
24	0.50	.030	0.76	100	30.4	R24B-0100	R24Y-0100	R24W-0100	R24BLK-0100	R24R-0100
26	0.40	.027	0.69	100	30.4	R26B-0100	R26Y-0100	R26W-0100	R26BLK-0100	R26R-0100
28	0.32	.024	0.60	100	30.4	R28B-0100	R28Y-0100	R28W-0100	R28BLK-0100	R28R-0100
30	0.25	.020	0.50	100	30.4	R30B-0100	R30Y-0100	R30W-0100	R30BLK-0100	R30R-0100
				1000	304.4	R30B-1000	R30Y-1000	R30W-1000	R30BLK-1000	R30R-1000

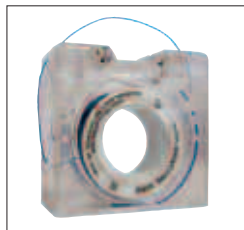
## KSW Wire Wrapping Wire Rolls for Cut/Strip/Wrap Applications

Low strip force Kynar® insulated silver plated copper conductor wire is further processed to provide a low strip force for use with CSW bits and sleeves. Ideally suited for wire wrapping and many other applications. OFHC (oxygen free high conductivity) provides a flexible yet abrasion resistant wire

Wire Size		Insulation Dia.		Roll Size		Blue	Yellow	White	Black	Red
AWG	mm	In.	mm	Feet	Meters					
24	0.50	.030	0.76	100	30.4	KSW 24B-0100	KSW 24Y-0100	KSW 24W-0100	KSW 24BLK-0100	KSW 24R-0100
26	0.40	.027	0.69	100	30.4	KSW 26B-0100	KSW 26Y-0100	KSW 26W-0100	KSW 26BLK-0100	KSW 26R-0100
28	0.32	.024	0.60	100	30.4	KSW 28B-0100	KSW 28Y-0100	KSW 28W-0100	KSW 28BLK-0100	KSW 28R-0100
30	0.25	.020	0.50	100	30.4	KSW 30B-0100	KSW 30Y-0100	KSW 30W-0100	KSW 30BLK-0100	KSW 30R-0100
				1000	304.0	KSW 30B-1000	KSW 30Y-1000	KSW 30W-1000	KSW 30BLK-1000	KSW 30R-1000

## Wire Dispenser - WD-30 Series

- With 50ft. (15.2m) Roll of 30 AWG (0.25mm) Kynar® wire-wrapping wire
- Built-in Plunger cuts wire to desired length
- Built-in Stripper strips 1" (25.4mm) of insulation
- Refillable



WD-30-B

## Replacement Rolls of Wire For WD-30 Series

Wire for wire-wrapping. 30 AWG (0.25mm) Kynar® wire, 50ft. (15.2m) roll, silver plated, solid conductor easy stripping.



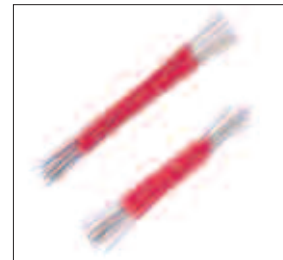
R-30R-0050

Part No.	Description
R-30B-0050	30 AWG (0.25mm) Blue 50ft. for WD-30-B
R-30Y-0050	30 AWG (0.25mm) Yellow 50ft. for WD-30-Y
R-30W-0050	30 AWG (0.25mm) White 50ft. for WD-30-W
R-30R-0050	30 AWG (0.25mm) Red 50ft. for WD-30-R
R-30-TRI	30 AWG (0.25mm) Red, White, Blue 50ft (15.2m) roll, each color for WD-30-TRI

Part No.	Description
WD-30-B	Dispenser with 50' of Blue wire
WD-30-Y	Dispenser with 50' of Yellow wire
WD-30-W	Dispenser with 50' of White wire
WD-30-R	Dispenser with 50' of Red wire
WD-30-TRI	Dispenser with 50' each Blue, White and Red wire

## Pre-Cut and Pre-Stripped Wire Wrapping Wire

- 50 pieces per package
- Kynar® insulated
- Silver plated copper conductor
- UL listed
- 1" of stripped wire on either end
- Add 2" to the insulation length (see chart below) for total length of wire



30 AWG (0.25mm) Pre-Cut/Pre-Stripped Wire 50 Pieces/Pkg.

Insulation Length		White	Yellow	Blue	Red
In.	mm				
1	25	30-W-50-010	30-Y-50-010	30-B-50-010	30-R-50-010
2	51	30-W-50-020	30-Y-50-020	30-B-50-020	30-R-50-020
3	76	30-W-50-030	30-Y-50-030	30-B-50-030	30-R-50-030
5	127	30-W-50-050	30-Y-50-050	30-B-50-050	30-R-50-050

# COPPER WIRE CUT & STRIP TOOLS

## WIRE CUT-AND-STRIP TOOLS - ST-100 SERIES

A revolutionary concept for easy and clean stripping of wires for wire wrapping, electronic and appliance applications. Biomechanically designed for maximum efficiency.

Easy to operate... place wire (up to 4) in stripping slot with ends extending beyond cutter blades... press tool and pull... wire is cut and stripped to proper "wire wrapping" length. The hardened steel cutting blades and sturdy construction of the tool ensure long life. Strip length easily adjustable for your application. Blades are made from specially tempered spring steel for clean, nick-free wire stripping.



Part No.	Wire Size		Adjustable Strip-Off Length		Replacement Blade
	AWG	mm	Inches	mm	
ST-100	22-24	0.65-0.50	1 5/16" to 1 9/16"	33.33 to 39.68	SB-2224
ST-100-2426	24-26	0.50-0.40	1 15/16" to 1 11/16"	39.68 to 42.86	SB-2426
ST-100-2830	28-30	0.32-0.25	7/8" to 1 1/8"	22.22 to 28.57	SB-2830

## WIRE STRIPPER AND CUTTER



The JIC-1022 Wire Stripper and Cutter is designed to strip and cut the most commonly used stranded and solid wire gauges 10 to 22 AWG and 1.6-3 mm fiber jackets. The JIC-1626 Wire Stripper and Cutter is designed for 16 to 26 AWG wire. The JIC-2030 Wire Stripper and Cutter is designed for 20-30 AWG wire.

Other features include a coil spring opening to reduce fatigue, wire looping, bending holes conveniently located, black oxide finish, locking mechanism, and cutting surfaces that are hardened, tempered and ground for superior performance. 6 3/4" long and weighing just 4.5 ounces.

Part No.	Description
JIC-1022	Wire Stripper and Cutter 10-22 AWG
JIC-1626	Wire Stripper and Cutter 16-26 AWG
JIC-2030	Wire Stripper and Cutter 20-30 AWG

# COPPER WIRE CUT & STRIP TOOLS

## ADJUSTABLE PRECISION WIRE STRIPPERS OK-3907 SERIES



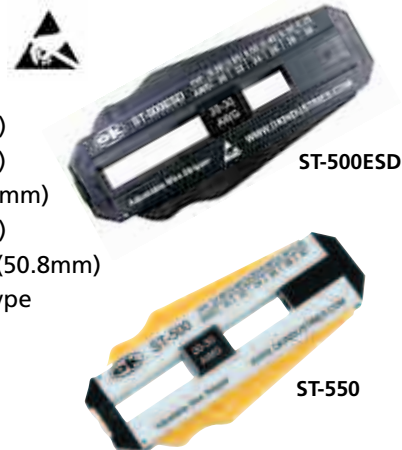
The OK-3907 Series from OK Industries is the industry's leading cut-and-strip tool for copper interconnect applications. Installers and telecom technicians enjoy its rugged construction, ergonomic plastic grips, and high-leverage handle design, which allows time savings through the simultaneous cutting of multiple wires. Blades are made from specially tempered spring steel for clean, nick-free wire stripping.

Part No.	Wire Size		Adjustable Strip-Off Length		Replacement Blade
	AWG	mm	Inchs	mm	
OK-3907-2224	22-24	0.65-0.50	1-1/2" to 1-3/4"	38.10 to 44.45	SB-2224
OK-3907-2426	24-26	0.50-0.40	1-1/2" to 1-3/4"	38.10 to 44.45	SB-2426
OK-3907-2830	28-30	0.32-0.25	7/8" to 1 1/8"	22.22 to 28.57	SB-2830

## ADJUSTABLE PRECISION WIRE STRIPPERS

These Precision Wire Strippers feature an adjustment dial that allows the operator to select one of six different settings. A calibrated wire stop can then be adjusted for the desired insulation strip length. In a single motion, the operator squeezes and pulls the tool. This action engages four specially hardened blades to cleanly cut the wire insulation while the pulling motion breaks the insulation / conductor bond.

- Adjustable to six wire gauges:
  - ST-450 26 to 36 AWG (0.40 to 0.12mm)
  - ST-500 20 to 30 AWG (0.80 to 0.25mm)
  - ST-500ESD 20 to 30 AWG (0.80 to 0.25mm)
  - ST-550 18 to 28 AWG (1.00 to 0.30mm)
- Calibrated Wire Stop adjustable to 2" (50.8mm)
- Clean, precise strip of any insulation type
- Lightweight-weighs 1 oz.
- Blade is hardened steel (RC58)
- Dimensions 3.9" x 1.6" x 0.6"  
(99 mm x 42 mm x 14 mm)



Part No.	ST-450	ST-500	ST-500ESD For ESD Use	ST-550
Wire Gauge	26-36 AWG 0.40 to 0.12mm	20-30 AWG 0.80 to 0.25mm	20-30 AWG 0.80 to 0.25mm	18-28 AWG 1.00 to 0.30mm
Housing Material	ABS	ABS	ESD Safe Polycarbonate	ABS

# DESOLDERING PUMPS

## HIGH-VACUUM DESOLDERING PUMPS

A specially engineered desolder pump made to exacting specifications and providing precise repeatable operation. Fitted with a Teflon Tip. 13" long including tip

### Features

- Durable corrosion resistant plastic construction.
- Precision metal plunger.
- Corrosion treated springs.
- Insulated vacuum pulse.
- Regulated return (1 millisecond  $\pm 30\%$ ).
- Uniform reset pressure (11in. lbs.  $\pm 20\%$ ).
- Cushioned shock reduction (pulse release to minimize board damage).



Part No.	Description
DP-100	High Vacuum Desoldering Pump
DP-200	High Vacuum Desoldering Pump, ESD Safe
DPT-100	1 Replacement Tip, DP-100/DP-140
DPT-200	1 Replacement Tip, DP-200

### Features

- Precision regulated return.
- Replaceable tip.
- Compact, anti-corrosive plastic housing.
- Precision metal plunger.
- Sealed vacuum chamber.
- Easy cleaning.
- 8" Long including tip



Part No.	Description
DP-140	Desoldering Pump
DPT-100	1 Replacement Tip, DP-100/DP-140

# BENCHTOP FUME ABSORBERS

## SA-9-115/ SA-9-E-115

- Aerodynamic hood design effectively draws irritating soldering fumes away from the work area.
- Carbon-impregnated filters trap a limited portion of the flux fumes.
- Compact size, low profile and adjustable stand allows convenient placement 6" to 8" (152 to 203mm) from work area.
- SA-9-E-115 feature static-dissipative housings.



SA-9-115

SA-9-E-115

### Benchtop

Part No.	Description
SA-9-115	Benchtop fume absorber, 115V AC with 3 filters
SA-9-E-115	ESD-Safe benchtop fume absorber, 115V AC with 3 filters

### Articulating Arm

Part No.	Description
SA-91	SA-9-115 with Articulating Arm, & Bracket
SA-91-E	SA-9-E-115 with Articulating Arm, & Bracket
SAK-90	Arm Assembly Kit Retro-fits SA-9/9-E to SA-91/SA-91-E
SAF-1	Replacement Filter Set, 3pcs.

## SA-91/ SA-91-E

- Articulating arm allows optimized positioning and saves bench space.
- Bench mounting clamp and 3 filters come complete with unit.
- SA-91-E features a static-dissipative housing.



SA-91

Specifications		
Part No.	SA-9-115 SA-9-E-115	SA-91 SA-91-E
Input Voltage	115V 60Hz	115V 60Hz
Maximum Air Volume	105 to 126 CFM	105 to 126 CFM
Activated Carbon Wt.	12g	12g
Unit Weight	2.2 lbs. (1 kg)	4 lbs. (1.8 kg)
Arm Length	-	24" (607mm)



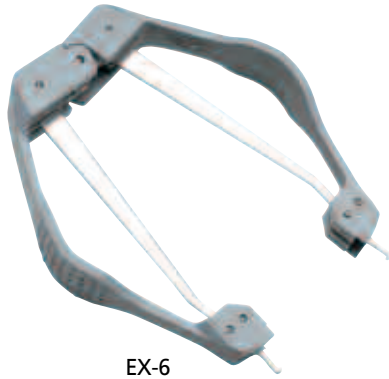
SAF-1

# IC INSERTION EXTRACTION TOOLS

## UNIVERSAL PLCC EXTRACTION TOOL EX-5/EX-6

### Features

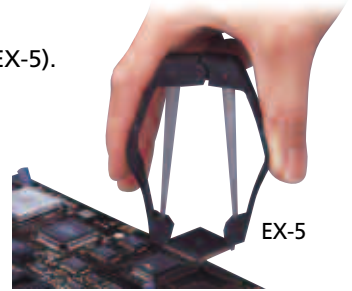
- Extracts a range of PLCC sizes from 20 pins through 128 pins from any socket without damage to the chip.
- Spring loaded one-hand design requires no pulling, just squeeze handles and chip is lifted from the socket.
- ESD safe handles for use on all static safe components (EX-5).
- Machined stainless steel for long-life (EX-5).
- EX-6 - ABS handles and stamped steel.



EX-6



STATIC SAFE



EX-5

Part No.	Description
EX-5	ESD safe PLCC extraction tool
EX-6	PLCC extraction tool

## INSERTION/EXTRACTION KIT WK-7

WK-7 kit includes DIP IC extractors and inserters to accommodate all IC's from 8 to 40 pins. All tools are CMOS safe and include grounding lugs where appropriate except EX-1. The kit consists of extractors EX-1 for 8-24 pin devices, and EX-2 for 24-40 pin ICs, plus inserters MOS-1416, MOS-2428, and MOS-40 for 14-16, 24-28 and 36-40 pin IC's respectively.

EX-1

EX-2

MOS-1416  
(.3" Pitch)

MOS-40  
(.6" Pitch)

MOS-2428  
(.6" Pitch)



### Kit Includes

- EX-1 Extraction Tool (8-24 Pins).
- EX-2 Extraction Tool (24-40 Pins).
- MOS-1416 Insertion Tool (14-16 Pins).
- MOS-40 Insertion Tool (36-40 Pins).
- MOS-2428 Insertion Tool (24-28 Pins).



S-340

### DIP/IC EXTRACTOR

This is a one-piece insulated spring steel extractor used to extract LSI, MSI and SSI devices from 8 to 24 pins. Will remove all types of DIP/IC's without bending pins. 4" long.

Part No.	Description
S-340	DIP/IC Extractor

Part No.	Description
WK-7	5 piece insertion/extraction kit

Note: WK-7 items may be purchased individually.

# PUNCHDOWN TOOLS

Insulation displacement connections to properly seat and trim wires used with connectors. Make effortless and uniform connections.

**A REVOLUTIONARY ERGONOMIC DESIGN GUARANTEEING OPERATOR SAFETY & EFFICIENCY**

## EPB - 1000 Battery Punchdown Tool

- Ergonomically designed for worker safety
- Over 1,000 impacts between charges
- Hi/Low impact settings
- 90° Blade orientation adjustment
- Quick-easy blade lock and release
- Lightweight
- Measures 7.50"L x 6.75"H x 1.37"W
- Patented

### EPB-1000 TOOLS AND KITS

ITEM	DESCRIPTION
EPB-1000	Battery Punchdown Tool (Battery Not Included)
EPB-KIT1	Battery Punchdown Tool 115V Charger, Battery, plus 66 & 110 Blades
EPB-KIT2	Battery Punchdown Tool 230V Charger, Battery, plus 66 & 110 Blades



## EPB - 500 Manual Punchdown Tool



### EPB-500 TOOLS AND KITS

ITEM	DESCRIPTION
EPB-500	Punchdown Tool
EPB-KIT66	Punchdown Tool Plus 1 Blade (EPB-66)
EPB-KIT110	Punchdown Tool Plus 1 Blade (EPB-110)
EPB-KIT66110	Punchdown Tool Plus 2 Blades (EPB-66, EPB-110)

### EPB-1000 ACCESSORIES

PART NUMBER	DESCRIPTION
EPB-B	EPB-1000 NiMH Battery 3.6V
EPB-BC1	EPB-1000 115V Battery Charger
EPB-BC2	EPB-1000 230V Battery Charger



EPB-66 EPB-110 EPB-KR

### EPB STANDARD DOUBLE-ENDED BLADES

PART NUMBER	DESCRIPTION
EPB-66	66 Blade with & without cutter
EPB-110	110 Blade with & without cutter
EPB-KR	Krone Blade with & without cutter

# PLIERS-HEAVY DUTY

## HIGH LEVERAGE DIAGONAL CUTTER

Crafted for heavy-duty wire cutting and made of specially forged alloy steel designed for strength and cutting ability. Red plastic handle 8" long

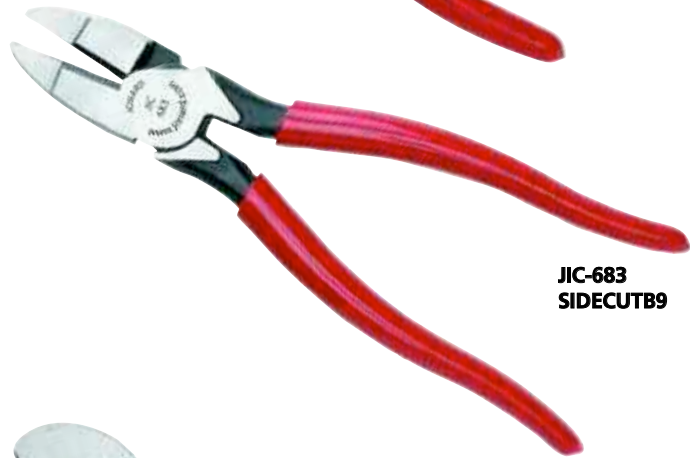


JIC-2288

JONARD P/N	DESCRIPTION
JIC-2288	High Leverage Diagonal Cutter

## LINEMAN'S B SIDE CUT PLIERS

Designed for heavy duty use in construction and maintenance work. These pliers are high leverage for cutting bolts, nails, and many gauges of wire including high-strength wire. Cutting edges cut clean and remain sharp. The cushioned-grip, comfortable handles are red plastic to approximately .007". 9 3/8" long. Also known as SIDECUTB9



JIC-683  
SIDECUTB9

JONARD P/N	DESCRIPTION
JIC-683	Lineman's B Side Cut Pliers

## HIGH LEVERAGE CABLE CUTTERS

High leverage design for superior cutting ability. Designed with a shear-type jaw for cutting aluminum and soft copper. Not for use on steel or ACSR type cables. Cuts up to 100-pair cables. Red plastic handle 9 1/2" long

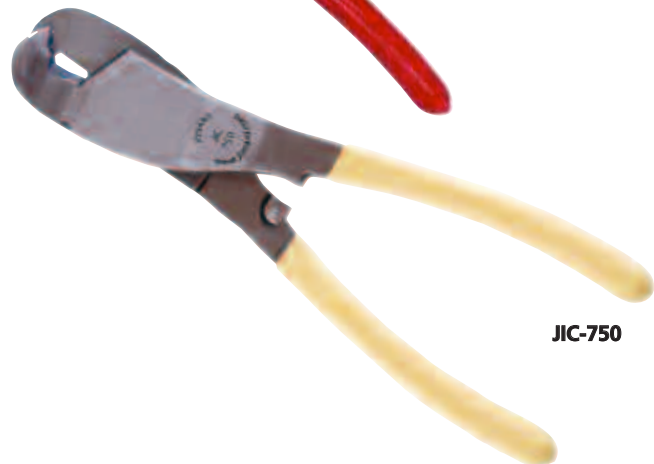


JIC-63050

JONARD P/N	DESCRIPTION
JIC-63050	High Leverage Cable Cutters

## 3/4" COAX CABLE CUTTER

Also known as a Banana Cutter, this cutter is designed to cut 3/4" coaxial cable. Tool cuts cleanly without compressed or frayed ends. Functions like a tube cutter – eliminates cable distortion during cable prep. NOT designed to cut steel cable. Yellow plastic handles. 8" long



JIC-750

JONARD P/N	DESCRIPTION
JIC-750	3/4" Coax Cable Cutter



# CRIMPING PLIERS



JIC-891  
PRESSINGC

## CONNECTOR-CRIMPING PLIERS WITH SIDE CUTTERS

Connector-Crimping Pliers with Side Cutters designed to press UG, UR, UY, 709 series connectors, crimping "B" type connectors, and AMP tel splice connectors. A special stop behind cut out prevents damage to connectors. Utilized on combinations of plastic and pulp insulated 19, 22, 24 and 26 gauge copper conductors as well as 20 gauge plastic insulated copper steel wire. Comes with side cutter and yellow plastic handle 6" long. Also known as PRESSINGC.

JONARD P/N	DESCRIPTION
JIC-891	Connector-Crimping Pliers with Side Cutters



JIC-22148

## COMBO CRIMPER LONG NOSE PLIERS

Five tools in one, combines crimper for UR/UY/UG, AMP tel splice connectors, 709 series connectors, crimping "B" type connectors and a long nose pliers. With a crusher, cutter, .030" stripping hole, and yellow plastic handle 6 7/8" long.

JONARD P/N	DESCRIPTION
JIC-22148	Combo Crimper Long Nose Pliers



JIC-056  
LONGNOSEG

## LONG NOSE G PLIERS

This plier is designed with a long nose to close 700, 701 & 702 style connectors. Knurled jaws to facilitate gripping wire, red plastic handle 6 5/8" long. Also known as LONGNOSEG.

JONARD P/N	DESCRIPTION
JIC-056	Long Nose G Pliers

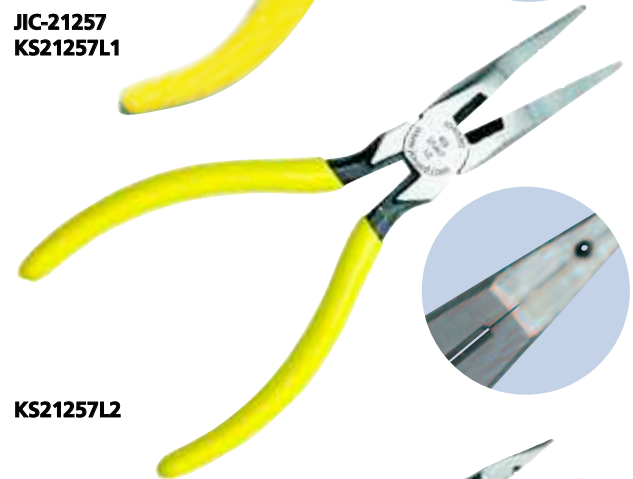
# LONG NOSE PLIERS



## TELECOM LONG NOSE PLIERS

Long nose have side cutting blades, a crushing slot, one .030" stripping hole, and a thin knurled nose to facilitate handling of the wire at the terminals. The comfortable handles are yellow plastic. 6 7/8" long. Also known as KS21257L1.

JONARD P/N	DESCRIPTION
JIC-21257	Telecom Long Nose Pliers



## LONG NOSE CUT CRUSH STRIP L2 PLIERS

Side cut pliers with crushing slot, one .030" stripping hole and a thin knurled nose to facilitate handling wire at the terminals. Aluminum oxide insulation coating on the outside nose surface. Yellow plastic handle, 6 7/8" long.

JONARD P/N	DESCRIPTION
KS21257L2	LONG NOSE L2 Cut Crush Strip Pliers



## LONG NOSE CUT CRUSH STRIP L3 PLIERS

Long nose with side cutter, crushing slot, one .030" stripping hole and a thin knurled nose to facilitate handling wire at the terminals. Yellow plastic handle. 6 3/16" long.

JONARD P/N	DESCRIPTION
KS21257L3	LONG NOSE L3 Cut Crush Strip Pliers



## LONG NOSE CUT CRUSH STRIP L4 PLIERS

Long nose with side cutter, crushing slot, one .030" stripping hole and a thin knurled nose to facilitate handling wire at the terminals. Aluminum oxide insulating coating on the outside nose surface. Yellow plastic handle. 6 3/16" long.

JONARD P/N	DESCRIPTION
KS21257L4	LONG NOSE L4 Cut Crush Strip Pliers

KS21257L4

# LONG & SHORT NOSE PLIERS



JIC-842

## TELECOM LONG NOSE D PLIERS

Pliers are for general use looping, bending and cutting. Grips small wires and parts and reaches into tight spaces. Jaws are knurled, serrated and have side cutting blades. Cushion gripped yellow plastic handle 6 7/8" long.

JONARD P/N	DESCRIPTION
JIC-842	Telecom Long Nose D Pliers

## LONG NOSE GENERAL USE PLIERS

Chain nose pliers for general use. Inner surface of the jaws are knurled near the end to facilitate gripping wire, binding post nuts etc. Orange plastic handle, 6 5/8" long. Ask for the DLONGNOSE which is identical to the BLONGNOSE but has an aluminum oxide insulating coating on the outside nose surface.

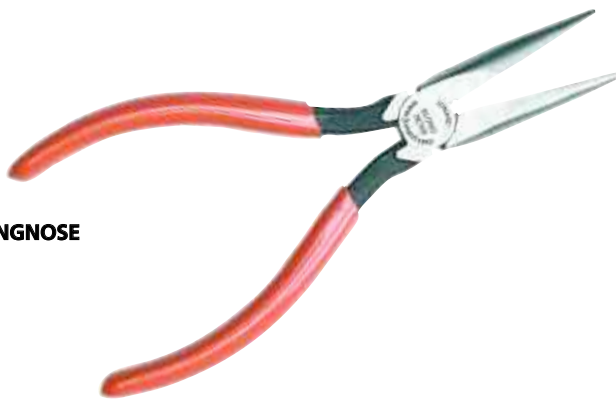


BLONGNOSE

JONARD P/N	DESCRIPTION
BLONGNOSE	Long Nose General Use Pliers

## LONG NOSE GRIPPING PRESSING PLIERS

Long nose pliers for gripping and pressing. Inner surface of the jaws are knurled near the end to facilitate gripping wire, binding post nuts etc. Aluminum oxide insulation coating on the outside nose surface. The inside gripping jaws are provided with mated grooves near the joint for use in pressing .032/.035" brass sleeves. Orange plastic handle, 6 5/8" long.

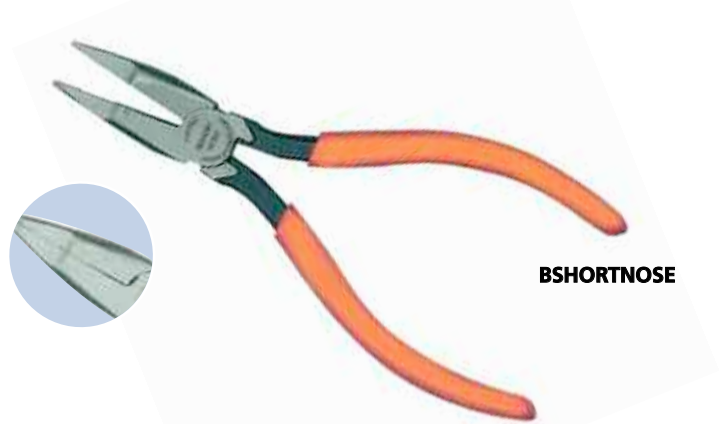


ELONGNOSE

JONARD P/N	DESCRIPTION
ELONGNOSE	Long Nose Gripping Pressing Pliers

## SHORTNOSE PLIERS

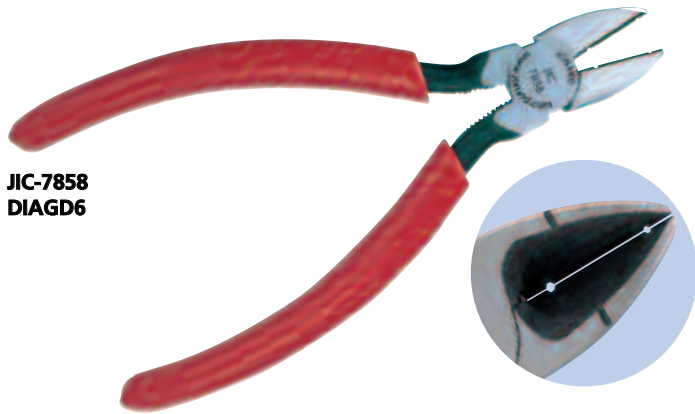
Intended for use in skinning 22-24 AWG wire and crushing insulation in nose slot. The front portion of the jaws is narrowed, and a portion of the inner face of one jaw is relieved to skin insulation from wire. The inner surface of the jaws are serrated to facilitate gripping wire. Orange plastic handle 6 3/16" long.



BSHORTNOSE

JONARD P/N	DESCRIPTION
BSHORTNOSE	Shortnose pliers

# DIAGONAL PLIERS



**JIC-7858  
DIAGD6**

## TELECOM DIAGONAL CUTTER PLIERS

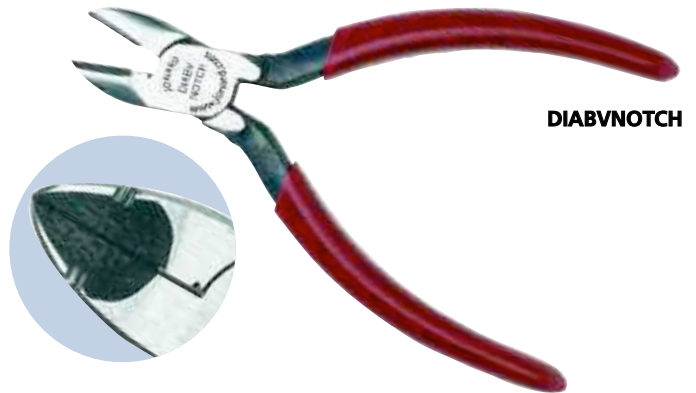
Tapered nose diagonal cutting pliers with standard-bevel knives with .030" and .045" skinning holes, with crusher used for multi-purpose wire work, with two V-shaped stripping notches. The comfortable handles are red plastic. 6 1/2" long. Also known as DIAGD6.

JONARD P/N	DESCRIPTION
JIC-7858	Telecom Diagonal Cutter Pliers

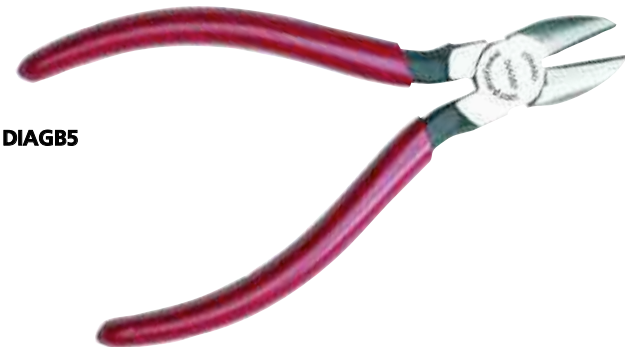
## DIAGONAL PLIERS – CRUSHING & SLITTING

Used for cutting soft copper conductors. Has a "V" shaped notch between jaws, near the joint, for crushing the flameproof type of insulation on distributing frame wire. Also provides a "W" shaped notch on the plier jaws for slitting textile insulation. Red plastic handle 5" long.

JONARD P/N	DESCRIPTION
DIABVNOTCH	Diagonal Pliers – Crushing & Slitting



**DIABVNOTCH**



**DIAGB5**

## DIAGONAL GENERAL USE PLIERS

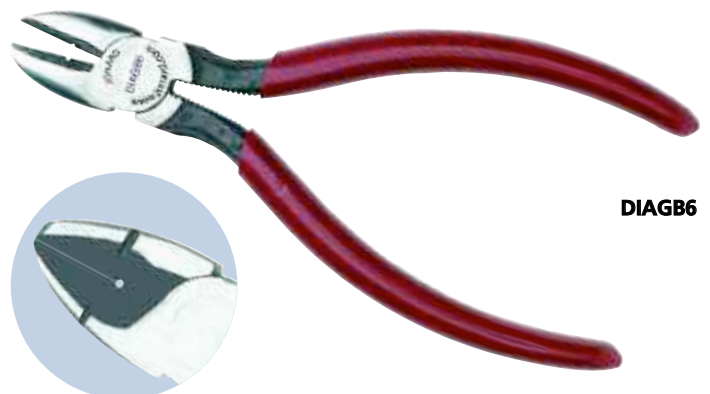
These are plain diagonal pliers for general use, for cutting soft copper conductors. Red plastic handle, 5 1/16" long.

JONARD P/N	DESCRIPTION
DIAGB5	Diagonal General Use Pliers

## DIAGONAL PLIERS – SKINNING & STRIPPING

Tapered nose diagonal cutting pliers with standard-bevel knives with one .045" skinning hole, crusher used for multipurpose wire work, and two V shaped stripping notches. Red plastic handle 6 1/16" long

JONARD P/N	DESCRIPTION
DIAGB6	Diagonal Pliers – Skinning & Stripping



**DIAGB6**

# SPECIALTY PLIERS



## FLUSH CUT PLIERS - JIC-453

A close cutting plier used to trim conductors from the 710 connector modules without leaving exposed conductors. Ideal for close trimming of gates and sprue on injection molded plastic parts. Jaw design aids in use in confined areas.

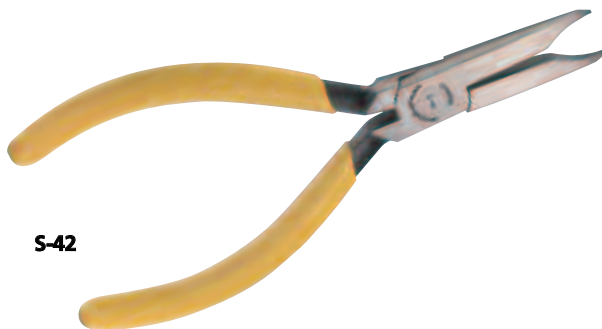
Turquoise color handle, plier is 4 1/2" long

JONARD P/N	DESCRIPTION
JIC-453	Flush Cut Pliers

## HEAT COIL PLIERS

Designed for installing and extracting heat coils, fuses and other cylindrical shaped components. The thin nosed jaw allows easy access to tight restricted areas. Yellow plastic handle, 5 1/8" long.

JONARD P/N	DESCRIPTION
PLS-5	Heat Coil Pliers



## LAMP CAP EXTRACTOR PLIER

For use in inserting and extracting switchboard lamp caps. Yellow plastic coated comfort design handles. Plier is 5" long.

JONARD P/N	DESCRIPTION
S-42	Lamp Cap Extractor Plier

## SLIP JOINT SIDE CUT PLIERS

For heavy-duty use. Polished head, black handles and flush bolt. Machined gripping teeth and 3/8" hardened wire cutter. 7 3/8" long.

JONARD P/N	DESCRIPTION
BCOMB	Slip Joint Side Cut Pliers



# CURVED NOSE & PUMP PLIERS



JIC-3026

## CURVED LONG NOSE PLIER

Nose is bent 70° for maximum visibility. Used in confined areas. Design includes knurled jaws for sure wrapping and looping. Comfortable ergonomic handles. Length 6 3/8" with yellow plastic handle.

JONARD P/N	DESCRIPTION
JIC-3026	Curved Long Nose Plier



JIC-3385

## CURVED NEEDLE NOSE PLIER

Nose is bent 60° for maximum visibility. Used in confined areas for bending and forming fine wire. Inside jaws and jaw edges are polished to prevent nicking the wire. Plier has a spring loaded ergonomic design. Length 5 1/2" with a dark blue plastic handle.

JONARD P/N	DESCRIPTION
JIC-3385	Curved Needle Nose Plier



JIC-5026

## PUMP PLIERS

Manufactured with a secure tongue and groove design for a non-slip grip (even under heavy pressure).

The jaws provide a wide range of openings with a smooth, positive interlock between halves. Handles are plastic coated, but are not insulated and do not protect against electric shock.

JONARD P/N	DESCRIPTION
JIC-5026	Pump Pliers 6" long
JIC-50210	Pump Pliers 10" long
JIC-50212	Pump Pliers 12" long



JIC-50210

# CATV & FIBER OPTIC TOOLS

## FIBER OPTIC STRIPPER THREE HOLE

Three hole Fiber Optic Stripper performs all common fiber stripping functions.

Strips the 1.6-3 mm fiber jacket down to the 900 micron buffer coating. The second hole strips the 600-900 micron buffer coating down to the 250 micron coating and the third hole is used to strip the 250 micron cable down to the 125 micron glass fiber. JIC-375 is 6" long.



JIC-375

JONARD	
P/N	DESCRIPTION
JIC-375	Fiber Optic Stripper- 3 Hole



JIC-175

## ERGONOMIC FIBER OPTIC STRIPPER

Used for stripping the 250 micron coating from the 125 micron optical fiber.

Preset at the factory so no adjustments are necessary.

Yellow plastic formed handles, tool is 6" long.

JONARD	
P/N	DESCRIPTION
JIC-175	Fiber Optic Stripper Ergonomic



JIC-125

## FIBER OPTIC STRIPPER

For stripping 250 micron buffer coating from 125 micron optical fiber. Preset at the factory so no adjustments are necessary. Yellow plastic dipped handles 5 3/16" long

JONARD	
P/N	DESCRIPTION
JIC-125	Fiber Optic Stripper

# CATV & FIBER OPTIC TOOLS



## THREE PIECE FIBER OPTIC KIT TK-375

Kit includes the JIC-375 Fiber Optic Stripper three hole, ES-1964 Electrician's Scissor, and convenient molded plastic pouch made of durable PVC material and will accommodate belts up to 2" in width.

JONARD P/N	DESCRIPTION
TK-375	3 Piece Fiber Optic Kit
H-35	Plastic Molded Pouch
JIC-375	Fiber Optic Stripper- 3 Hole
ES-1964	Electrician Scissor

## SPLICER'S KIT TK-400

This compact kit contains an ergonomic splicers knife, scissor and leather pouch. The knife features a 1 3/4" tough, cutlery-steel blade and a non-slip handle. The scissors are made of high carbon steel with scraper and file on one side and 2 stripping notches on the other. Both items fit securely in the leather pouch which can be mounted on belts up to 2" wide.

JONARD P/N	DESCRIPTION
TK-400	3 Piece Splicer's Kit
H-40	Leather Pouch
KN-7	Ergonomic Cable Splicing Knife
ES-1964	Electrician Scissor





# CATV & FIBER OPTIC TOOLS

## TELEPHONE INSTALLER SPLICER KIT TK-22148

Designed for stripping, splicing and crimping. The perfect kit for telephone installers. Kit contains the ES-1964 Electrician's Scissors, JIC-22148 Combo Crimper Long Nose Plier and the H-35 Pouch made of durable PVC material and will accommodate belts up to 2" in width.

JONARD P/N	DESCRIPTION
TK-22148	Telephone Installer Splicer Kit
H-35	Plastic Molded Pouch
JIC-22148	Combo Crimper Long Nose Plier
ES-1964	Electrician Scissor



## FIVE PIECE TELECOM INSTALLERS KIT TK-50

The perfect kit for simple installations—includes the basic necessities.

Kit includes the M-216C/EX Can Wrench, KN-7 Ergonomic Cable Splicing Knife, ES-1964 Electrician's Scissors and the H-50 Pouch made of durable PVC material and will accommodate belts up to 2" in width.

JONARD P/N	DESCRIPTION
TK-50	Five Piece Telecom Installers Kit
H-50	Plastic Molded Pouch
KN-7	Ergonomic Cable splicing Knife
M-216C/EX	Can Wrench
JIC-22035	Probe Pick Spudger
ES-1964	Electrician Scissor

## CATV/TELECOM INSTALLERS KIT - TK-450

Assembled in a convenient, easy to carry Cordura case, this kit contains the basic service tools essential for equipment installation, repairs and cable preparations.



TK-450

Whether it's Fiber Optic, Coax, or Copper this versatile kit contains the perfect tools for today's demanding technician. The TK-450 Kit is perfect for the VOIP installer, Fiber Technician or Communications Specialist and comes with Jonard's lifetime warranty.

Each Kit contains: Cable Splicers Knife, Electrician's Scissors, Diagonal Plier, Crimper/Long Nose Plier, Lineman's Plier, Can Wrench, Booth Wrench, Speed Wrench, Probe Pick, Wire Stripper, Curved Needle Nose Plier, Coax Cable Cutter, Torque Wrench, Fiber Optic Stripper Three Hole. & Combination Wrench secured in a convenient easy to carry Cordura case.

JONARD P/N	DESCRIPTION
TK-450	CATV/Telecom Installers Kit

# CATV & FIBER OPTIC TOOLS



JIC-186

## ERGONOMIC FIBER OPTIC KEVLAR® CUTTER

High carbon stainless steel blades designed to cut Kevlar®, cabling insulation, tape, cable ties and other material.

Ergonomic handles for user comfort and durability. Adjustable joint screw under protective cap, serrated blades grip material, sharp and durable 6" long.

JONARD P/N	DESCRIPTION
JIC-186	Wire & Kevlar Cutting Shears



ES-1964

## ELECTRICIAN SCISSORS

The Electrician Scissors are designed for heavy duty use.

Made of high carbon steel with a special hardening process for greater durability and nickel plated for that professional look. Notched to strip 19 and 23 AWG wire and one blade is serrated. A scraper and file are on the back of the blade.

JONARD P/N	DESCRIPTION
ES-1964	Electrician Scissors



UC-8000

## UNIVERSAL CRIMPER

This fully ratcheted crimper offers exceptional performance. Designed for minimal closing force (higher crimp force produced with lower hand force), plus there is no break-over hand force making the last click easily achievable. The head is angled to lessen the need to bend the wrist awkwardly, die changes are made quickly and easily, ergonomic handles are dual component with a soft rubber insert plus the tool includes a built in safety release mechanism. Very durable steel housing accommodates both Fiber Optic and Coax dies.

JONARD P/N	DESCRIPTION
UC-8000	Universal Crimper
UC-8012	Universal Crimper with COAX Die
UC-8039	Universal Crimper with Fiber Optic Die
UCD-2045	Coax Crimping Die
UCD-2685	Fiber Optic Crimping Die

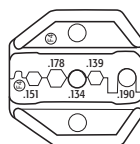


KN-7

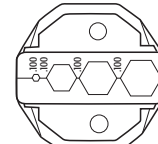
## CABLE SPLICING KNIFE

The tough cutlery steel blade is extremely sharp and cuts easily through many types of insulation. It hold its edge with repeated use and features a non-slip easy grip handle for better control and reduced hand fatigue. Blade length is 1 3/4" and overall length is 6 1/4"

JONARD P/N	DESCRIPTION
KN-7	Cable Splicing Knife



UCD-2685



UCD-2045

JONARD P/N		SPECIFICATIONS	CABLE SIZE
UCD-2685	Fiber Optic	.151"/.178"/.134"/.139"/.190" 3.84mm/4.52mm/3.40mm/3.53mm 4.83mm	Fiber Optic ST, SC, LC Connectors
UCD-2045	COAX	.068"/.262"/.324"/.360" 1.73mm/6.65mm/8.23mm/9.14mm	CATV "F" Connectors RG59/RG6

# CATV & FIBER OPTIC TOOLS

## THERMAL FIBER OPTIC STRIPPER FIXED BLADE

Thermo-mechanically remove coatings from optical fibers. High strength thermal stripper supports standard 125µm optical fibers, including 250 µm, 400 µm, and 900 µm coated fibers. The heater is adjustable to 200°C and facilitates stripping difficult and baked-on coatings. Adjustable temperature and time settings to adapt to a variety of different coatings. Compact design, weighs less than a pound. Includes A/C power supply, cord and cleaning brush. Platforms supplied separately.

## THERMAL FIBER OPTIC STRIPPER ADJUSTABLE BLADE

Thermo-mechanically remove coatings from optical fibers. High strength thermal stripper with adjustable stripping blade, which supports cladding diameters 40µm to 600 µm acrylate coated fibers with buffer diameters up to 1200 µm. The heater is adjustable to 200°C and facilitates stripping difficult and baked-on coatings. Adjustable temperature and time settings to adapt to a variety of different coatings. Compact design, weighs less than a pound. Includes A/C power supply, cord and cleaning brush. Platforms supplied separately.



TSAB-40



TSPE-125



TSPF-125

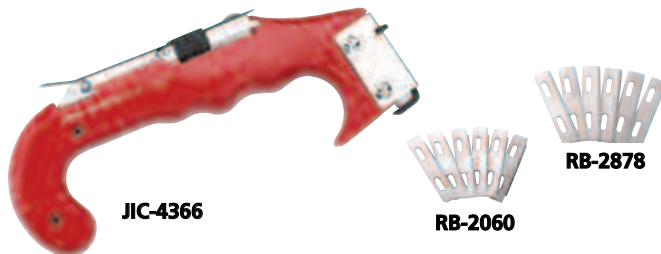


TSUC-40

For Fitel, Fujikura and Ericsson fiber holders use the corresponding platforms, for LDF and all others without fiber holders use the Jonard Universal Clamp.

JONARD P/N	DESCRIPTION
TSFB-125	Thermal Stripper Fixed Blade
TSAB-40	Thermal Stripper Adjustable Blade

JONARD P/N	DESCRIPTION
TSPE-125	Ericsson Style Platform
TSPF-125	Fitel/Fujikura Style Platform
TSUC-40	Universal Clamp



JIC-4366

RB-2060

RB-2878

## OPTICAL FIBER CABLE SHEATH STRIPPER & RING TOOL

Used for stripping and butting tight buffer optical fiber cables. Use one blade to butt PVC sheathing and use the second blade to strip the sheathing. Adjustable for .018" or .031" thick plastic, rubber or fabric insulation. Also known as CT2860.

JONARD P/N	DESCRIPTION
JIC-4366	Optical Fiber Sheath Stripper & Ring Tool
RB-2060/6	Pkg. of 6 Replacement Blades for ring feature of tool
RB-2878/6	Pkg. 6 replacement blades for stripper feature of tool



JIC-1022

## FIBER JACKET STRIPPER

The Wire Stripper and Cutter is designed to strip and cut the most commonly used stranded and solid wire gauges 10 to 22 AWG and 1.6-3 mm fiber jackets.

JONARD P/N	DESCRIPTION
JIC-1022	Fiber Jacket Stripper

# CATV TOOLS

## HOLLOW SHAFT NUT DRIVERS

These are full length hollow shaft nut drivers intended for working with long bolts. They are designed with cushion gripped ergonomic color coded handles. Handles provide greater torque and user comfort. Overall length 7"



ND-631



JONARD P/N	DESCRIPTION
ND-631	Nut Driver Set – 7 Piece 3/16", 1/4", 5/16", 11/32", 3/8", 7/16" & 1/2"
ND-630316	Nut Driver 3/16" (Black)
ND-63014	Nut Driver 1/4" (Red)
ND-630516	Nut Driver 5/16" (Yellow)
ND-6301132	Nut Driver 11/32" (Green)
ND-63038	Nut Driver 3/8" (Blue)
ND-630716	Nut Driver 7/16" (Brown)
ND-63012	Nut Driver 1/2" (Red)



CCS-1



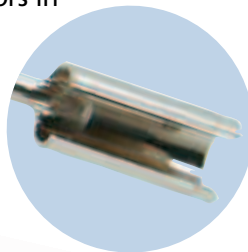
## COAXIAL CABLE STRIPPER

The CCS-1 strips coaxial cables for video installations. The black cartridge is used to strip RG59, RG6 & RG Quad coaxial cables. The gray cartridge strips RG7 & RG11 coaxial cables. The stop provides a pre-measured device for stripping the exact length you need, and the stripper has a convenient holder for the second cartridge giving you maximum flexibility. Both cartridges perform a 2-level strip for "F" Connector termination.

JONARD P/N	DESCRIPTION
CCS-1	Coaxial Cable Stripper

## BNC CONNECTOR TOOL

Designed to provide easy access to connectors in high density locations. The head is formed specifically for BNC connectors. The socket extends 8" from the handle and the overall length is 12".



RBNC-12

JONARD P/N	DESCRIPTION
RBNC-12	BNC Connector tool



RF-12

## F CONNECTOR TOOL

Designed to provide easy access to connectors in high-density locations. The head measures 7/16" and is used specifically for "F" connectors. The socket extends 8" from the handle, the overall length is 12" and the back of the handle has an insertion device to aid in making connections.

JONARD P/N	DESCRIPTION
RF-12	F Connector Tool

# CATV WRENCHES

## TORQUE WRENCH

Designed for "F" Connectors, these wrenches help prevent over tightening. An audible click tells you the connection has been properly achieved. These wrenches all have angle heads, sized for 7/16" F connectors and are designed with an ergonomic cushioned handle for user comfort and protection. The last two digits of the part number indicate the inch pounds of torque (either 20 or 30 inch pounds) and the first four letters indicate whether the head is a speed head or a full head (TWAF is full and TWAS is speed). Note that these wrenches work in tightening mode only. Torque wrenches are 6 1/2" long.

JONARD P/N	DESCRIPTION
<b>TWAF-71620</b>	Torque Wrench Full Head 20 Inch Pounds
<b>TWAS-71620</b>	Torque Wrench Speed Head 20 Inch Pounds
<b>TWAF-71630</b>	Torque Wrench Full Head 30 Inch Pounds
<b>TWAS-71630</b>	Torque Wrench Speed Head 30 Inch Pounds



**TWAF-71620**



**TWAS-71620**



**ASW-716**



**CW-716**

## SPEED WRENCH DOUBLE ENDED

ASW-716 measures 7/16" at both ends. ASW-12 measures 1/2" at both ends and ASW-916 measures 9/16" at both ends. Speed head makes tightening and loosening quick and easy, plus head is angled (15°) to ease access. Speed wrenches are 6 1/2" long.

High gloss chrome finish, and made of high carbon alloy steel.

JONARD P/N	DESCRIPTION
<b>ASW-12</b>	Speed Wrench double Ended 1/2"
<b>ASW-716</b>	Speed Wrench double Ended 7/16"
<b>ASW-916</b>	Speed Wrench double Ended 9/16"

## COMBINATION WRENCH

Wrench measures 7/16" at both the open end and box end. Both ends have an angle offset (15°) to ease access in confined areas. The box end offers 12 points of contact. High gloss chrome finish and made of chrome vanadium steel. Tool is 6 5/8" long.

JONARD P/N	DESCRIPTION
<b>CW-716</b>	Combination Wrench

# CAN, BOOTH, LINESMAN WRENCHES



## CAN SOCKET WRENCH

Double end can socket wrench, 3/8" and 7/16" hex, orange plastic handle in either our standard or ergonomic design. Used in placing fuses in cable terminals and connecting wires to fuses and binding posts. The walls on both sockets are thin enough so they can be used to work locking devices on most terminals and cabinets. 7" long.

JONARD P/N	DESCRIPTION
M-216C/EX	Ergonomic 1" Dia. Handle, Hex Outer Socket
M-216C/REX	Ergonomic 1" Dia. Handle, Round Outer Socket
M-216C/RX	Standard Handle, Round Outer Socket
M-216CS22	Ergonomic 1" Dia. Handle, Hex Outer Socket with 22 AWG Stripper Blade

## BOOTH WRENCH

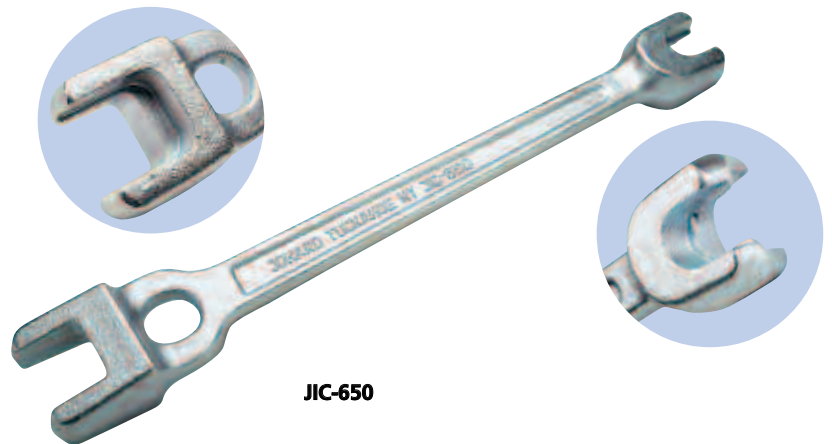
Tamperproof hex screwdriver, also known as a booth wrench or security wrench. It features a 1" diameter screwdriver handle, 5/32" hex shaft with a hole drilled in the tip for use with security tamperproof screws used for telephone and CATV applications. BW-532 Booth Wrench is 9" long and the BW-532-3 Booth Wrench is 6" long.

JONARD P/N	DESCRIPTION
BW-532	Booth Wrench -Ergonomic design 9"
BW-532-3	Booth Wrench -Ergonomic design 6"

## LINEMAN'S B WRENCH

Forged and heat treated, this wrench is used on pole line hardware. It is open-end double-end type with two sizes of openings at each end and an oval hole for turning pole steps. The end openings accommodate nuts for 3/8", 1/2", 5/8" and 3/4" bolts and the head of the 1/2" drive screw. The faces of the wrench openings are offset to provide handle clearance. 13" Long.

JONARD P/N	DESCRIPTION
JIC-650	Lineman's B Wrench



JIC-650

# INSULATED TOOLS

Jonard Insulated Tools are manufactured to IEC 60900 Standards for hazardous work environments. Our tools are tested to 10,000 VAC and rated for 1,000 VAC live use.



1000V  
IEC 60900



TK-110INS



TK-70INS

JONARD P/N	DESCRIPTION
<b>TK-110INS</b>	11 Piece Insulated Tool Kit Kit contains: 7 Screwdrivers as shown plus INP-1072, INP-2065, INP-3062 & INP- 4065

JONARD P/N	DESCRIPTION
<b>TK-70INS</b>	7 Piece Insulated Screwdriver Set Screwdriver Set contains: 3 Philips, 4 Slotted as shown below

## INSULATED SCREWDRIVERS- SLOTTED HEAD



JONARD P/N	DESCRIPTION
<b>INS-475</b>	3/32 X 3 Slotted Screwdriver
<b>INS-4100</b>	1/8 X 4 Slotted Screwdriver
<b>INS-6150</b>	1/4 X 6 Slotted Screwdriver
<b>INS-8175</b>	5/16 X 7 Slotted Screwdriver

## INSULATED SCREWDRIVERS- PHILLIPS HEAD



JONARD P/N	DESCRIPTION
<b>INS-180</b>	#1 X 3 Phillips Screwdriver
<b>INS-2100</b>	#2 X 4 Phillips Screwdriver
<b>INS-3150</b>	#3 X 6 Phillips Screwdriver

## INSULATED WIRE STRIPPER



JONARD P/N	DESCRIPTION
<b>INP-4065</b>	Wire Stripper 6 1/2" Long

## INSULATED PLIERS



JONARD P/N	DESCRIPTION
<b>INP-2082</b>	Long Nose Plier 8 1/4" Long
<b>INP-2065</b>	Long Nose Plier 6 1/2" Long



JONARD P/N	DESCRIPTION
<b>INP-3062</b>	Diagonal Plier 6 1/4" Long
<b>INP-3072</b>	Diagonal Plier 7 1/4" Long

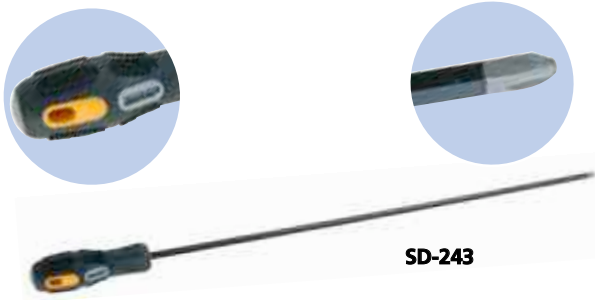


JONARD P/N	DESCRIPTION
<b>INP-1080</b>	Lineman's Combo Plier 8" Long
<b>INP-1072</b>	Lineman's Combo Plier 7 1/4" Long
<b>INP-1065</b>	Lineman's Combo Plier 6 1/2" Long

## Care and Use Guide for Insulated Tool

Tools are not recommended for use on energized circuits. Work should only be performed by qualified professionals. Do not use this tool if the insulation becomes damaged in any way. Tools must be kept clean and dry. Always inspect before use. Do not touch the uninsulated portion of the tool or any conductive object when either might make contact with an energized source. Always wear approved eye & clothing protection. Only use tools for their designed purpose and always follow OSHA 1910.333 (c)(2) and NFPA 70E 2004 when doing electrical work. Failure to observe proper safety precautions may result in serious injury or death.

# TELECOMMUNICATION TOOLS



SD-243

## 24 INCH LONG #3 PHILLIPS HEAD SCREWDRIVER

This 24" long #3 Phillips Head Screwdriver is designed for use when you need an extra long screwdriver to reach the diodes in back of the various rectifiers. Made of chrome vanadium steel with a matte finish and a custom ergonomic tri-color handle.

JONARD P/N	DESCRIPTION
SD-243	#3 Philips Head Screwdriver 24" long



JIC-4473

SB-2426

SB-2224

SB-2830

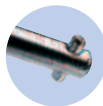
## WIRE STRIPPER & CUTTER

The latest development in wire stripping & cutting. Simply place the wire in the stripping slot. Squeeze and pull. The wire is stripped and cut to the exact length required. Comes with cushioned ergonomic grips, interchangeable blades 22-24 AWG and 24-26 AWG. Supplied assembled.

JONARD P/N	DESCRIPTION
JIC-4473	Wire Stripper & Cutter
SB-2224	Replacement Blade 22-24 AWG
SB-2426	Replacement Blade 24-26 AWG
SB-2426	Replacement Blade 24-26 AWG
SB-2830	Replacement Blade 28-30 AWG



JIC-719A



## T KEY TOOL

*Pay telephone Tool*

The key is used to release the housing and door locking mechanism of the no. 1A type coin telephone sets 2 1/2" long.

JONARD P/N	DESCRIPTION
JIC-719A	T Key Tool



SD-63

## SCREWDRIVER, JEWELER'S TYPE

Used to terminate the battery back up in the fiber ONT. Screwdriver has concave swivel knob to fit the finger and hexagonal shape to prevent rolling. Solid blade made of high quality hardened tool steel. .100" blade width. 4" long.

JONARD P/N	DESCRIPTION
SD-63	Jeweler's Screwdriver



M-724A

## WIRE EXTRACTOR

Metal tool with insulated handle to remove wire from quick-connect clips and 66 & 110 terminal blocks. 3/16" diameter with a .052" slot width. 5 1/2" long.

JONARD P/N	DESCRIPTION
M-724A	Wire Extractor



JIC-139B

## COIN LEVELING TOOL

*Pay telephone Tool*

Tool used for leveling coins in coin collectors when the coin receptacle becomes so full as to interfere with operation of the collector. May also be used to measure the degree of fullness by means of a calibrated scale and metal slider. 7" long.

JONARD P/N	DESCRIPTION
JIC-139B	Coin Leveling Tool



S-339

## LAMP EXTRACTOR

Mechanical type extractor used to remove or insert miniature lamps with bayonet type bases in panels and switchboards by firmly and gently grasping lamps. Grasp lever includes a return spring for fast lamp insertion and removal. Lamp grasp is limited to 5/16" to prevent shorts. Handle diameter 1/2". 4" long.

JONARD P/N	DESCRIPTION
S-339	Lamp Extractor



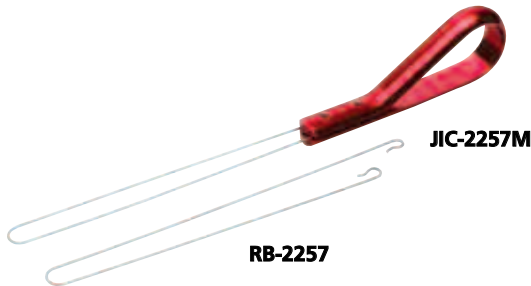
# TELECOMMUNICATION TOOLS



## CABLE SEWING NEEDLE-METAL

Durable red anodized aluminum handle with curved notched sewing needle. Designed to harness or lace multiple lead bundles. 5 3/4" long. Replacement needles are also available.

JONARD P/N	DESCRIPTION
JIC-287	Cable Sewing Needle
RB-287/6	Pkg. of 6 Replacement Needles



## WIRE LOOP PULLER-METAL

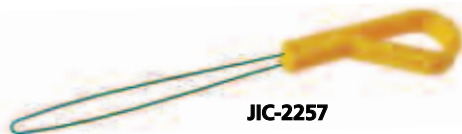
Durable red anodized aluminum handle facilitates pulling wire through terminal blocks, rings on main frame or fanning strip holes. JIC-2257M overall length is 8 1/2" and JIC-2257M-12 overall length is 15"

JONARD P/N	DESCRIPTION
JIC-2257M	Wire Loop Puller Overall Length 8 1/2"
JIC-2257M-12	12" Wire Loop Puller Overall Length 15"
RB-2257/6	Pkg. of 6 Replacement Loops for JIC-2257M only

## CABLE RING TOOL

This cable ring tool is designed for cutting the sheathing of inside type plastic, fabric or rubber covered cable 3/16", 1/4", 3/8", & 1/2". Durable metal handle. Tool is supplied with 1 replacement blade. 5 1/2" long.

JONARD P/N	DESCRIPTION
JIC-2060	Cable Ring Tool
RB-2060/6	Pkg. of 6 Replacement Blades



## WIRE LOOP PULLER- INSULATED

Xylan insulated wire loop puller facilitates pulling wire through terminal blocks, rings on main frame, or fanning strip holes. The yellow plastic lightweight handle fits snugly and is easy to hold in your hand. 8" long.

JONARD P/N	DESCRIPTION
JIC-2257	Wire Loop Puller

## CABLE SEWING NEEDLE-INSULATED

Xylan insulated cable sewing needle has a yellow lightweight molded grip handle that will harness or lace multiple lead bundles. 5 1/2" long.



JONARD P/N	DESCRIPTION
JIC-3209	Cable Sewing Needle



## STRAIGHT METAL NEEDLE

This "Chicago type" straight metal needle is designed for cable sewing. This tool, made of the finest steel is for anyone in the cable industry. Needle is .016" thick and 12" long.

JONARD P/N	DESCRIPTION
JIC-284	Straight Metal Needle

# WIRE WRAPPING TOOLS

The solderless connection by wire wrapping technique is now a standard method of making connections to terminals in high density electronic equipment. A wire wrapped connection is made by coiling the wire around the sharp corners of a terminal under mechanical tension. A distinct advantage of wire wrapping is the ease with which a wire may be removed from a terminal to correct errors or modify wiring. An unwrap tool is slipped over the terminal, engaging the first turn of the connection. Rotating the tool, the connection is removed in seconds, without damage to the terminal.



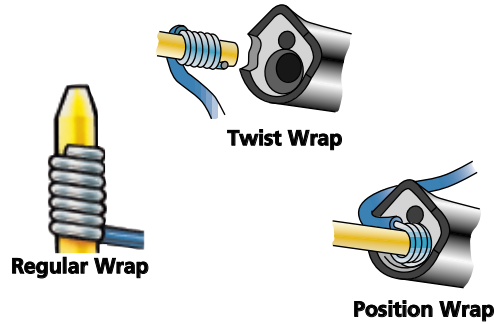
**WG-350L  
Lexan®**



**WG-350  
Aluminum**



**WG-350INS  
Insulated**



## MANUAL WIRE WRAPPING GUNS ERGONOMICALLY IMPROVED

Hand operated wrapping guns use interchangeable bits and sleeves. Tools can provide up to 10 revolutions per squeeze of the trigger, and accommodate wire sizes from 22-32 AWG. All three guns are used for production line and field service use in the electronics and telecommunications industries.

The plastic gun (WG-350L) offers the advantage of light weight.

The metal gun (WG-350) provides greater durability.

The insulated metal gun (WG-350INS) has the added features of 1000 volt dielectric strength protection.

JONARD P/N	DESCRIPTION
<b>WG-350L</b>	Wire Wrapping Gun, Plastic
<b>WG-350</b>	Wire Wrapping Gun, Metal
<b>WG-350INS</b>	Wire Wrapping Gun, Insulated Metal

See page 43 for complete listing of bits and sleeves.

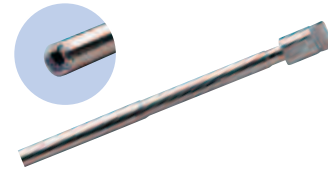
# WIRE WRAPPING TOOLS

## WIRE WRAPPING BITS AND SLEEVES STANDARD 3" LONG

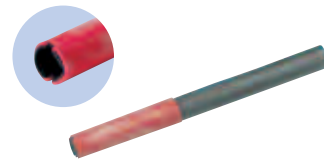
Bits conform to terminal height, width and wire size combinations. Sleeves are insulated to prevent shorting of adjacent connections.

### WIRE WRAPPING 3" LONG BITS & SLEEVES

JONARD BIT P/N	SLEEVE P/N	WIRE GAUGE	HOLE DIA.	HOLE DEPTH
BW-2224	SW-2224	22-24	.075	.807
BW-2600	SW-2426	26	.075	1.000
BW-3032	SW-3032	30-32	.040	.750



BW-2224



SW-2224

## WIRE WRAPPING BITS AND SLEEVES 5" LONG

These 5" bits and sleeves are designed for wire wrapping in tight and confined areas requiring deep penetration. Their 5" length ensures proper connections in hard to reach locations.

### WIRE WRAPPING 5" LONG BITS & SLEEVES

JONARD BIT P/N	SLEEVE P/N	WIRE GAUGE	HOLE DIA.	HOLE DEPTH
BW-22005	SW-22245	22	.075	.750
BW-24005	SW-24265	24	.075	.750
BW-26005	SW-24265	26	.075	.750



BW-24005



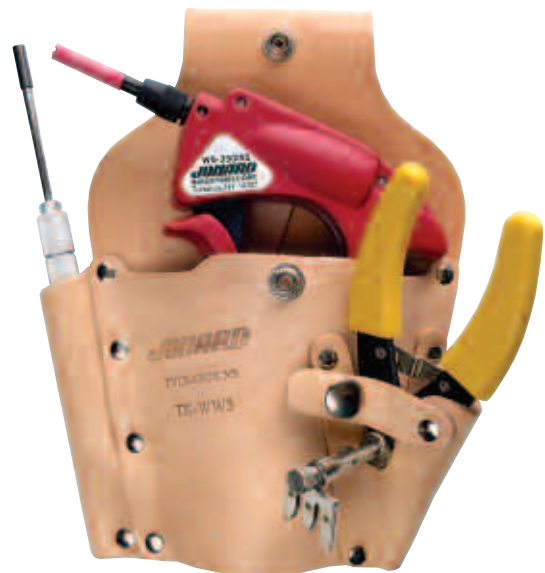
SW-22245

## TK-WW5 5-PIECE WIRE WRAPPING TOOL KIT

This is a complete field service telecom installation kit and is also used by technicians working at a main distributing frame.

### WIRE WRAPPING KIT

JONARD P/N	DESCRIPTION
TK-WW5	Wire Wrapping Kit
TKC-WW5	Leather Holster for TK-WW5



TK-WW5  
(complete kit)

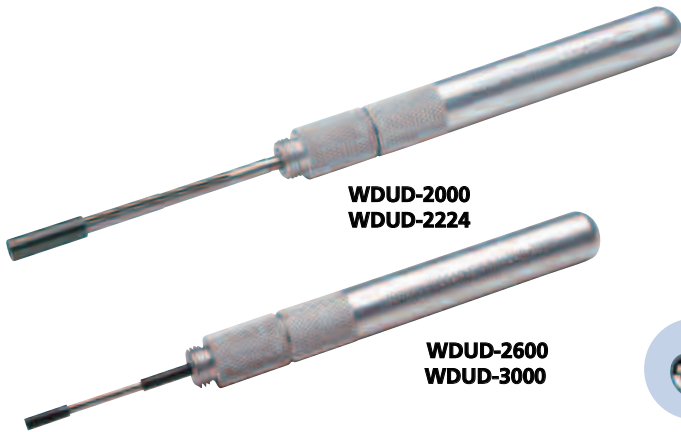


SW-2224 BW-2224 WDUD-2224

JIC-4473

WG-350INS

# WIRE WRAPPING TOOLS

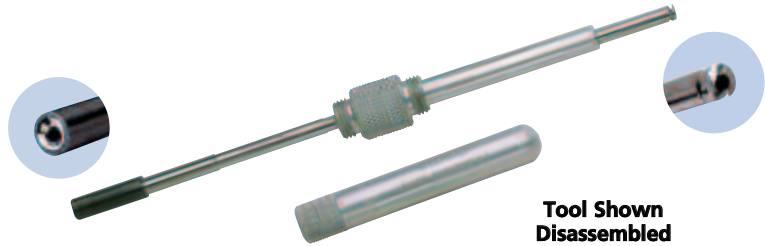


WDUD-2000  
WDUD-2224

WDUD-2600  
WDUD-3000

## HAND WRAP & UNWRAP TOOLS

These wire wrapping tools do the job of two. These two sided tools allow for quick change of wrapping to unwrapping and back, while the unused side serves as a handle. 6" long.



Tool Shown  
Disassembled

JONARD P/N	WIRE GAUGE	WRAPPING TERMINAL HOLE DIA.	WRAPPING TERMINAL HOLE DEPTH	UNWRAPPING TERMINAL HOLE DIA.	UNWRAPPING HOLE DEPTH
WDUD-2000	20	.075"	1.000"	.070"	1"
WDUD-2224	22-24	.075"	.807"	.070"	1"
WDUD-2600	26	.040"	.750"	.038"	1"
WDUD-3000	30	.036"	.750"	.038"	1"



## DSL INSULATED WRAP & UNWRAP TOOL

Specifically designed for DSL (Digital Subscriber Line) connections. The wrapping side is designed for 24-26 AWG wire, and the unwrap side is designed for 20-26 AWG wire. Comes with an insulated handle for dielectric protection.

JONARD P/N	WIRE GAUGE	WRAPPING TERMINAL HOLE DIA.	WRAPPING TERMINAL HOLE DEPTH	UNWRAPPING TERMINAL HOLE DIA.	UNWRAPPING HOLE DEPTH
WDUD-26DS	24-26	.075"	.750"	.070"	1"



WD-2224

## HAND WRAPPING TOOLS

These tools with a metal handle are for left and right hand use and are compact and versatile. 6" long.

JONARD P/N	DESCRIPTION
WD-2224	Hand Wrapping tool for 22-24 gauge wire with a .075" diameter hole

# WIRE WRAP/UNWRAP TOOLS

## HAND WRAPPING TOOLS

Wire wrapping tool has a handle and shell, covered with a sleeve of insulating material. With a .073" diameter x .750" deep hole to accommodate a terminal. 5" long.

JONARD P/N	DESCRIPTION
WDI-2426	Hand Wrapping Tool 24-26 gauge

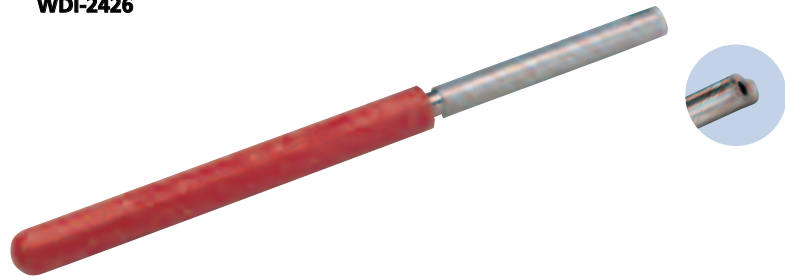


WDI-2426

## HAND WRAP TOOL

This manual wire wrapping tool allows you to make uniform, gas-tight solderless wrapped connections with 22 and 24 gauge wire. Red handle. 5" long.

JONARD P/N	DESCRIPTION
JIC-22681	Hand Wrap Tool

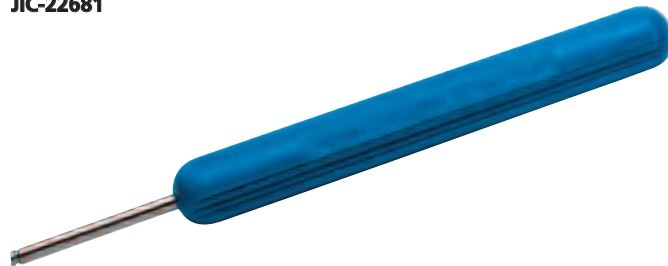


JIC-22681

## HAND UNWRAPPING TOOL

This manual wire unwrapping tool consists of a threaded steel bit and blue plastic handle. A terminal hole is provided to accommodate terminals with cross-section dimensions up to .032 x .062 inches. 5" long.

JONARD P/N	DESCRIPTION
JIC-20551	Manual Wire Unwrapping Tool

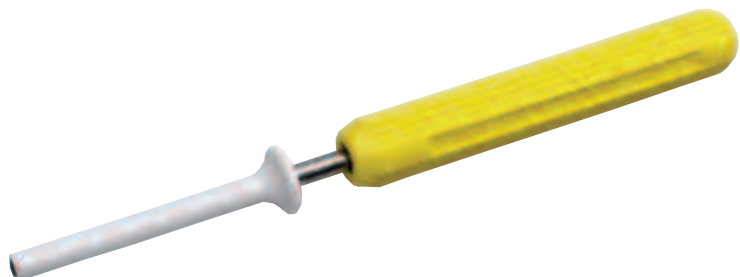


JIC-20551

## SLEEVED UNWRAPPING TOOL

This versatile unwrapping tool with a funnel-shaped spring loaded sleeve. This is a single ended insulated tool with a yellow plastic handle used for 20-26 gauge wire. 5 1/2" long.

JONARD P/N	DESCRIPTION
UD-2224	Sleeved unwrapping tool

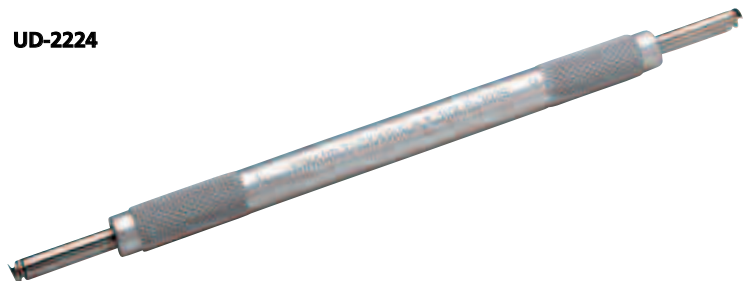


UD-2224

## HAND UNWRAPPING TOOLS

These double ended tools with a metal handle are for left and right hand use. 6" long.

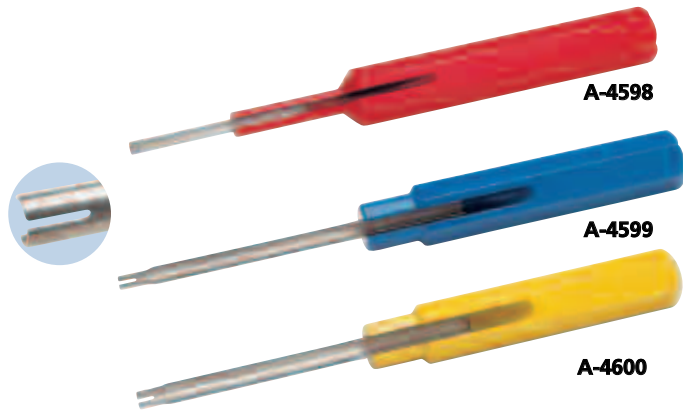
JONARD P/N	DESCRIPTION
UDLR-2026	Hand unwrapping tool for 20-26 wire with a .070" diameter hole
UDLR-2432	Hand unwrapping tool for 24-32 wire with a .040" diameter hole



UDLR-2026

UDLR-2432

# CONNECTOR TOOLS



JONARD P/N	MILITARY STANDARD (MS)	COLOR CODE	CONTACT SIZE	INCHES
A-4598	MS24256-A20	RED	20	0.040"
A-4599	MS24256-A16	BLUE	16	0.063"
A-4600	MS24256-A12	YELLOW	12	0.093"
<b>KA-260 Insertion Tool Kit (contains above 3 tools) in leather case</b>				

## CONNECTOR INSERTION AND EXTRACTION TOOLS

These tools service virtually all connectors conforming to Mil-C-26482, Mil-C-26500 with front release contacts made by such manufacturers as Amp, Amphenol, Bendix, Burndy, Cannon, Cinch, Continental, Elco, Flight, Pyle National and Deutsch. These tools contain strong, durable, stainless steel probes & color coded handles.



JONARD P/N	MILITARY STANDARD (MS)	COLOR CODE	CONTACT SIZE	INCHES
R-4601	MS24256-R20	RED	20	0.040"
R-4602	MS24256-R16	BLUE	16	0.063"
R-9461	MS24256-R12	YELLOW	12	0.093"
<b>KR-260 Removal Tool Kit (contains above 3 tools) in leather case</b>				

## PIN EXTRACTOR

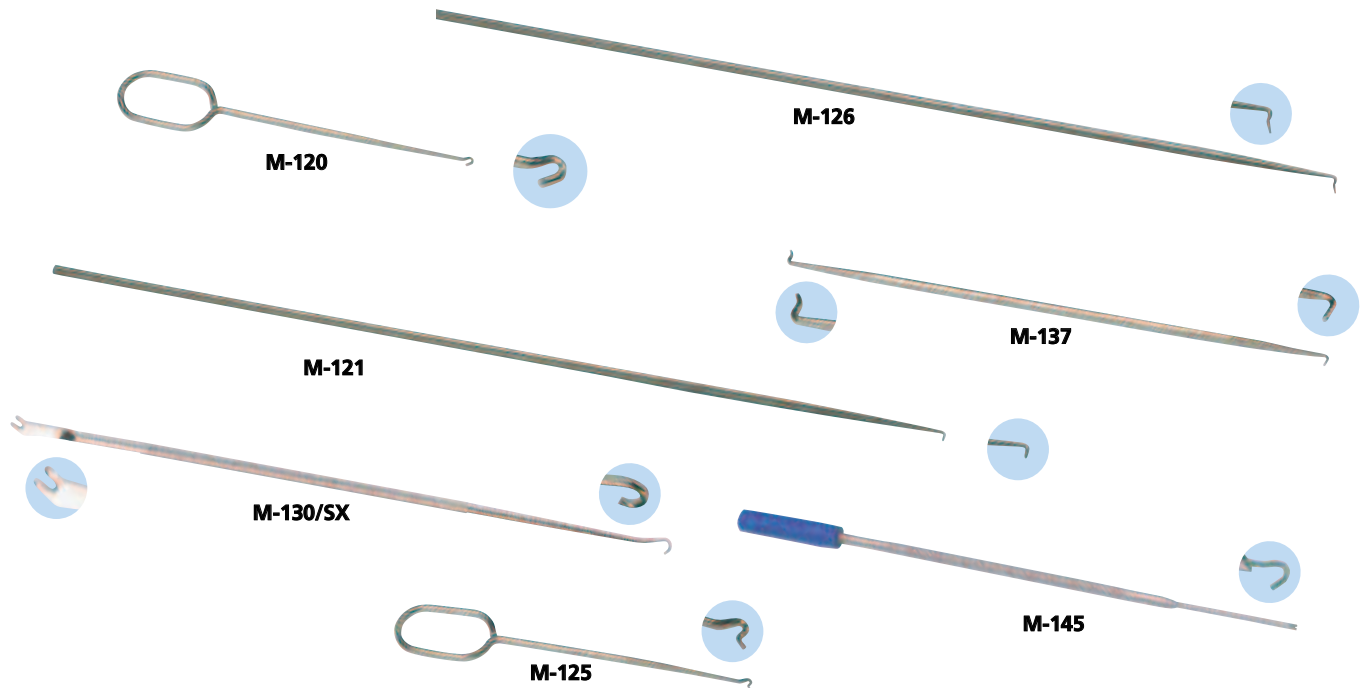
A plunger style pin extractor for pushing pins out from behind the connector blocks for contact sizes 16-20. 3" long.

JONARD P/N	DESCRIPTION
R-5926	Pin Extractor



# ALIGNMENT TOOLS SPRING HOOKS/CLIP SETTER

Used for inserting, removing and adjusting fine springs and other small parts in tight areas. Indispensable for precision work in production and maintenance of precision production, electronics, electromechanics and even maintenance jobs. All spring hooks are tapered to a fine point. Produced of the finest quality high carbon steel with a nickel-plated finish. We will custom design Spring Hooks to meet your specific requirements.



**M-120** Pull Hook with looped handle for maximum control 6" long.

**M-121** Pull Hook for difficult to reach areas, 11" long.

**M-125** Push Hook with looped handle for maximum control 6" long.

**M-126** Push Hook for difficult to reach areas, 11" long.

**M-130/IX** Pull Hook and lifter. With an insulated grip. 8" long.

**M-130/SX** Pull Hook and lifter. With a knurled grip. 8" long.

**M-137** Push & Pull 2 sided Hook, 7" long.

**M-145** Captive Spring Hook. Spring loaded hook is exposed by depressing plunger on top of tool. Internal spring retracts hook automatically. This hook is ideal for capturing small wires, springs or parts and holding them. 7" long.

JONARD P/N	DESCRIPTION
M-120	Pull Hook
M-121	Push Hook
M-125	Push Hook

JONARD P/N	DESCRIPTION
M-126	Push Hook
M-130/SX	Pull Hook

JONARD P/N	DESCRIPTION
M-137	Push & Pull Hook
M-145	Captive Spring Hook

## CLIP SETTER

Clip Setter used for setting and withdrawing E and C clips with a inside diameter of .156" min. and thickness of .025" min. Max inside diameter of 3" and thickness of .093" One end of this tool has a hook with leaf spring tension for removing the clip. Other end of tool has leaf spring for holding clip in position to insert. Narrow shape allows access to confined places. This tool is 6 3/4" long .275" wide and 1/16" thick.



JONARD P/N	DESCRIPTION
CS-1022	Clip Setter

# ALIGNMENT TOOLS



AT-3112



AT-6241

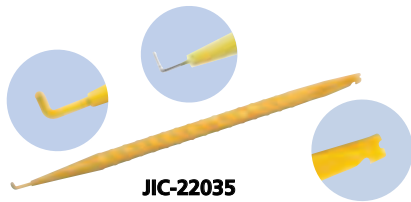


AT-3767

## SPUDGER

Plastic pencil type tool tapered to a point on one end and screwdriver tip on other end. Used to form, shape, guide, spudge and separate fine computer wire terminals, telephone wires and cables. Also used for breaking solder bridges, probing or positioning loose components. Made of a high impact non-conductive thermoplastic material. 6" double ended 5/16" diameter long.

JONARD P/N	DESCRIPTION
AT-3112	Spudger



JIC-22035

## ALIGNMENT TOOL

2-in1 nonconductive Alignment Tool 1/4" in diameter, stepped down to 5/32" in diameter. Ideal for most variable capacitors, coils and resistors. Also used to harness and separate fine wire terminals in computers, telephones and cables. Made of non-conductive thermoplastic material. 7" long.

JONARD P/N	DESCRIPTION
AT-6241	Alignment Tool



AT-3767

AT-6241

JIC-22035

AT-3112

S-389

## PROBE PICK

Tough resilient yellow nylon probe "spudger". One end is tapered to a 1/16" diameter point having an insulated "L" shaped wire hook extension. The other end tapers to a flat, 3/16" wide and 1/16" thick, with 2 small notches. Used in electrical contacts. 7" long.

JONARD P/N	DESCRIPTION
JIC-22035	Insulated Probe Pick
JIC-22035NT	Uninsulated Probe Pick

## ALIGNMENT TOOL KIT

This 5 piece pocket kit contains a selection of the most popular non-conductive tools for aligning and adjusting components.

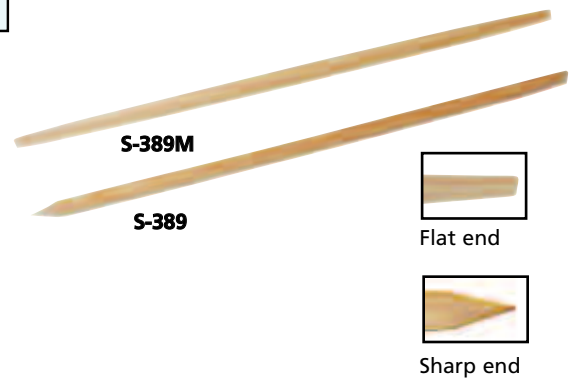
AT-3767 Trimpot, AT-6241 Alignment Tool, AT-3112 Spudger, S-389 Orange Stick, JIC-22035 Probe Pick

JONARD P/N	DESCRIPTION
TK-AT5	Alignment Tool Kit

## TRIMPOT

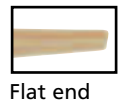
Double ended Trimpot with a hex (allen) steel .050" and 3/32" long steel screwdriver tip. Ideal for aligning, adjusting, calibrating and fine tuning of electronic circuitry, potentiometers, oscilloscopes and electronic equipment. Made of a high impact non-conductive thermoplastic material. 5" long.

JONARD P/N	DESCRIPTION
AT-3767	Trimpot



S-389M

S-389



Flat end



Sharp end

## ORANGE STICKS

Static free double ended economical tool made of birch wood. Used for cleaning electrical components and separating contact points, fine wires and other delicate components. 3/16" diameter x 7" long. The S-389 has one end tapered to a point and the other end to a flat screwdriver type tip. The S-389M has both ends tapered with a flat screwdriver type tip.

JONARD P/N	DESCRIPTION
S-389/10	Orange Sticks Point & Flat end Pk. of 10
S-389/100	Orange Sticks Point & Flat end Pk. of 100
S-389M/10	Orange Sticks 2 Flat ends Pk. of 10
S-389M/100	Orange Sticks 2 Flat ends Pk. of 100

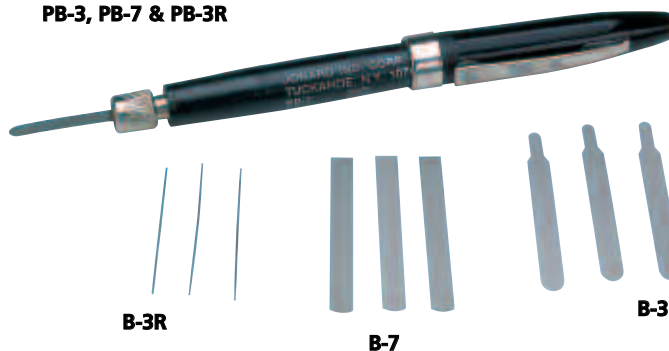


# BURNISHERS

## POCKET TYPE BURNISHERS

Adjustment of flexible blade-length and rigidity - is possible by varying depth in chuck. Supplied with replaceable blades stored in pen barrel at other end. Plastic barrel and cap made of sturdy plastic for dielectric work. Length 4 1/2", diameter 3/8". Blades are 3/16" Wide x 1 1/2" long. Rods are .020" diameter x 1 1/4" long.

PB-3, PB-7 & PB-3R



JONARD	
P/N	DESCRIPTION
PB-3	Pen With 6 Blades .0035" Thick
PB-3R	PB-3 plus 6 abrasive rods .020"
PB-7	Pen With 6 Blades, .007" thick
B-3/25	Pkg. 25 Replacement Blades for PB-3 (.0035")
B-3R/25	Pkg. 25 Replacement Rods for PB-3R (.020")
B-7/25	Pkg. 25 Replacement Blades for PB-7 (.007")

**D-200 Coarse (grit for rapid cleaning),** .019" Thick, two diamond faces, green shaft.

**D-300 Medium (grit for intermediate size contacts),** .017" Thick, two diamond faces, red shaft.

**D-400 Fine (grit for small sensitive contacts),** .011" Thick, single diamond face, blue shaft.

**K-234,** Three assorted spatulas in a leather case.

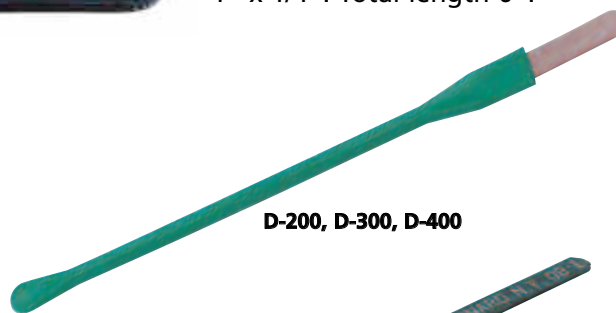
## DIAMOND BURNISHERS

K-234



These diamond contact burnishing spatulas consist of uniform abrasive diamond particles, set in a special metal for precise effective cleaning, polishing and burnishing with minimum pressure, so very little metal is removed. Diamond face 1" x 1/4". Total length 6".

JONARD		
P/N	DESCRIPTION	
D-200	Diamond Burnisher	Coarse
D-300	Diamond Burnisher	Medium
D-400	Diamond Burnisher	Fine
K-234	Diamond Burnisher	Assortment Kit

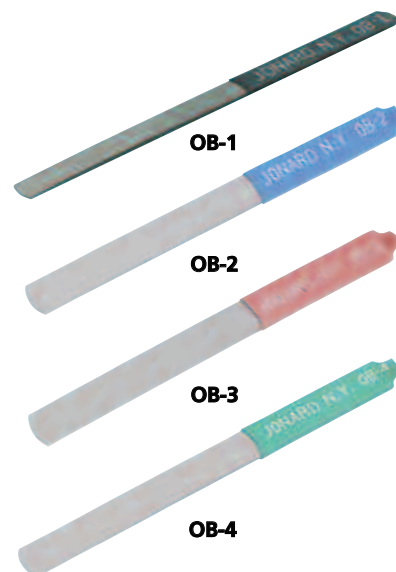


D-200, D-300, D-400

## CONTACT BURNISHERS

Plastic insulated handles for working on live contacts. Tools are packaged in a clear plastic vial for protection from grease and moisture.

JONARD	
P/N	DESCRIPTION
OB-1/3	<b>For Fine Contacts.</b> Black handle 3/16" wide, .007" thick. 3" long, Package of 3
OB-1/12	<b>For Fine Contacts.</b> Black handle 3/16" wide, .007" thick. 3" long, Package of 12
OB-2/12	<b>For Extra Sensitive Points.</b> Blue handle. 1/4" wide, .007" thick. 3" long, Package of 12
OB-3/12	<b>For General Purpose Contacts.</b> Red handle. 1/4" wide, .010" thick. 3" long, Package of 12
OB-4/12	<b>For Industrial Use.</b> Green handle. 1/4" wide. .020" thick 3" long, Package of 12



OB-1

OB-2

OB-3

OB-4

# FORCE GAUGES TENSION PUSH-PULL GAUGES

Jonard force gauges are all ergonomically designed and have become the industry standard for measuring force. Our 3 different lines of force gauges are used by a multitude of industries and these gauges are being used in over 1000 different applications for measuring, calibrating, standardizing, testing and evaluating.

Measurement is extremely simple. Just place point of gauge arm perpendicular to the force to be measured. Reading can be taken in both directions - clockwise and counter-clockwise. Gauges offer extreme precision and durability. The measuring springs are made of hard tempered annealed beryllium copper. All gauges equipped with maximum reading pointer. Tolerance  $\pm .01$  (Reading + Maximum Scale Reading.)



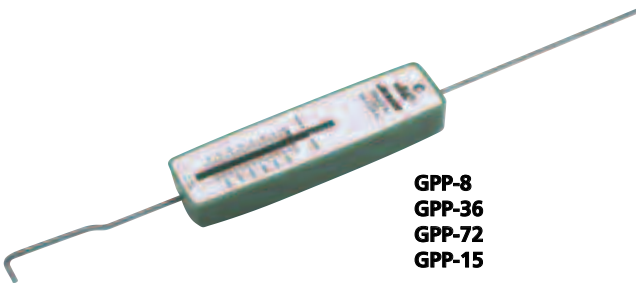
**Small Gauges**  
(Flat Tip, Dial Diameter 1 1/2")

JONARD PART NO.	RANGE IN GRAMS	GRADUATION IN GRAMS
GD-1	0-10	.25
GD-3	4-35	1.00
GD-5	5-50	1.00
GD-10	10-100	2.00
GD-15	15-150	5.00
GD-25	30-250	10.00
GD-30	40-350	10.00

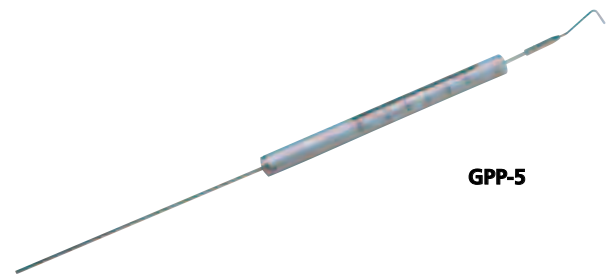


**Large Gauges**  
(Round Tip, Dial Diameter 2 1/2")

JONARD PART NO.	RANGE IN GRAMS	GRADUATION IN GRAMS
GD-50	60-500	20.00
GD-100	100-1000	25.00
GD-200	200-2000	50.00
GD-400	400-4000	100.00



**GPP-8  
GPP-36  
GPP-72  
GPP-15**



**GPP-5**

## ECONOMY PUSH-PULL TENSION GAUGES

These high impact polystyrene cased instruments accurately measure push pull forces. Gauge is graduated in two scales: grams and ounces. Precision springs. Full scale accuracy is held to  $\pm 1$  graduation. Size: 1 1/2" wide x 1" deep x 14" long.

JONARD P/N	AVOIRDUPOIS CAPACITY	METRIC CAPACITY
GPP-8	8 oz. x 0.25 oz.	220 g x 5 g
GPP-36	36 oz. x 0.5 oz.	1,020 g x 20 g
GPP-72	72 oz. x 1 oz.	2,025 g x 25 g
GPP-15	15 lb. x 4 oz.	6,804 x 100 g

## PUSH-PULL PRECISION TENSION GAUGE

Precision, compact tubular-type mechanical force gauge slender shape permits its use in confined areas. Gauge is graduated in two scales: grams and ounces. Precision springs individually are calibrated. Full scale accuracy and permanent calibration is held to  $\pm 1$  graduation. Construction is brass with satin chrome finish. Size: 1/2" diameter x 15" long.

JONARD P/N	AVOIRDUPOIS CAPACITY	METRIC CAPACITY
GPP-5	1 lb X 1 oz.	500 g X 50 g

# KNOCKOUT KIT

**REMOVE PANEL KNOCKOUTS WITHOUT CUTTING HOLES IN THE DRYWALL**  
(For use on electrical, security, alarm, and datacom panels)



**PATENT  
PENDING**

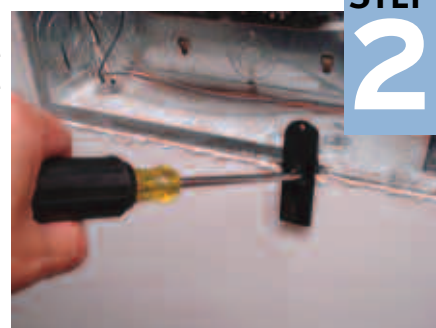
JONARD P/N	Description
WBK-100	Knockout Kit

After removing the panel cover place the panel buddy on the edge of the panel in front of knockout to be removed.



**STEP  
1**

Next insert the modified screwdriver through the hole and between the drywall under the knockout.



**STEP  
2**

Push to loosen the knockout.



**STEP  
3**

Using the screwdriver, remove the panel knockout.



**STEP  
4**

**WARNING:** Do not use near live circuits. Intended for use by licensed professionals.

## LIFETIME WARRANTY

This product is warranted to be free from defects in materials and workmanship for the normal life of the product. For complete details visit: [www.jonard.com](http://www.jonard.com)

## Tools for Telecom, Fiber Optics, CATV, Wireless and Electronics Industries

**Installation • Maintenance • Repair**



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