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### **Shield-Kon® Grounding Connectors**

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# Thomas & Betts

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# Shield-Kon®

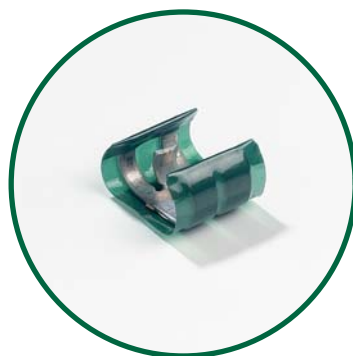
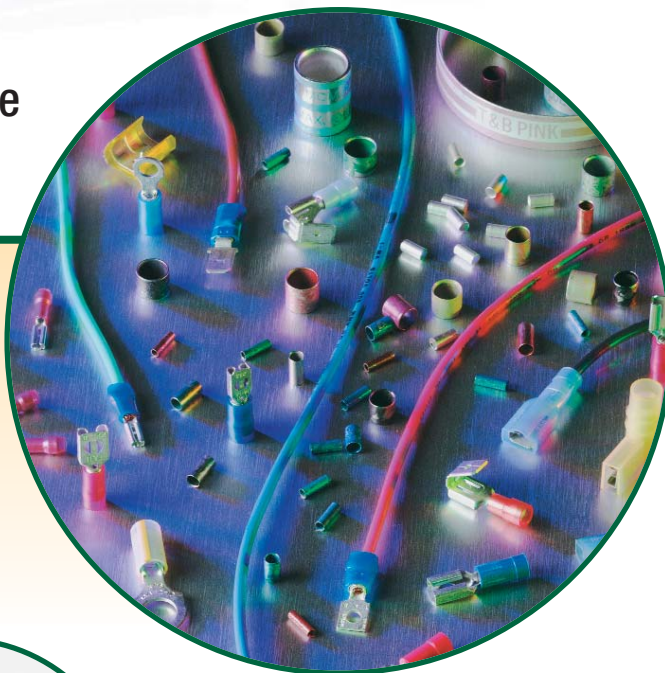
## Overview

### Shield-Kon® — Save time and money over traditional connection methods!

Wherever shielded cables and wires are fitted, there is the problem of finding a permanent, repeatable, safe, and quick connection of the braided shield.

Conventional connection methods use soldering, which is more time-consuming and more expensive, and can often result in damage to the dielectric or to the internal shield conductor caused by heat. Moreover, the use of lead-based soldering methods can be in conflict with the latest safety regulations.

The Shield-Kon® solution from Thomas & Betts involves a crimp technique for shield termination on shielded cables. The reliability of Shield-Kon® terminals has led to a specification for the aeronautical and space technology industry and for military applications (MIL-F-21608).



One-Piece Shield-Kon® Connector



Two-Piece Shield-Kon® Connector

### Thomas & Betts offers two solutions:

- The one-piece Shield-Kon® connector wraps around the shield and has a specific pocket for the ground wire
- The two-piece Shield-Kon® connector consists of two sleeves that are compressed between the shielded braid and the drain wire

### The essential advantages are clearly visible:

- Saves time and reduces assembly costs
- Safe monitoring
- Simple operation
- Low profile and compact connectors
- Tried and tested technology
- Quality grounded connections



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### Terminate shielded cable in seconds without heat or power!

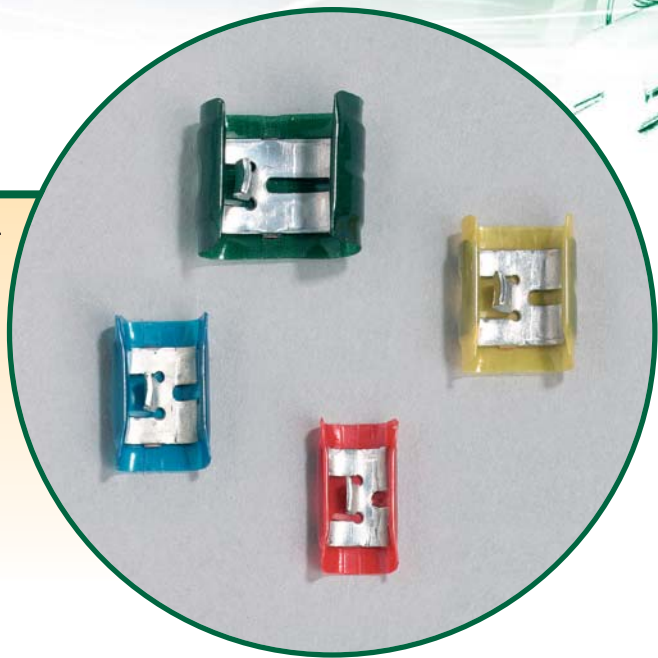
This solderless, wraparound connector terminates shielded cable in seconds... with uniform precision. It's particularly well suited for production work in aircraft, aerospace, and electronic industries where size and weight are important.

Once crimped, it provides a compact, lightweight, low-resistance, high-strength connection, which meets and exceeds the performance requirements of MIL-F-21608.

The connector works equally well on braided, wrapped, or foil shields and has the added advantage of being able to be used as a mid-span termination.

Only four sizes, which can be easily identified by the color of their insulation, are needed to cover a range of shielding diameters from .05" to .3".

- Compact, low-profile connector
- One piece wraparound design
- Tough polyester insulation (Mylar® type)
- Inventory savings: only 4 sizes
- Transparent insulation, easily inspected
- MIL specified, industry-approved technology
- No heat or power required to install
- No damage to inner conductor
- Less installation time required
- Uniform, precise connection every time
- Low installed cost
- Mid-span termination possible, eliminating the need to demount a cable already installed

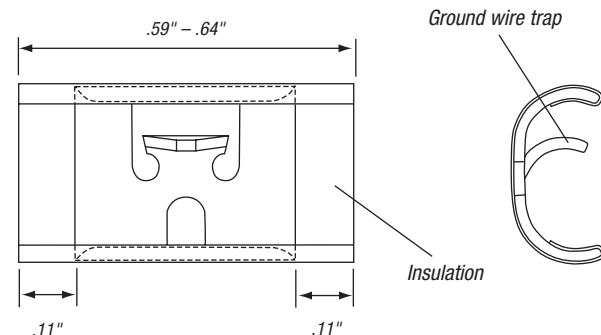
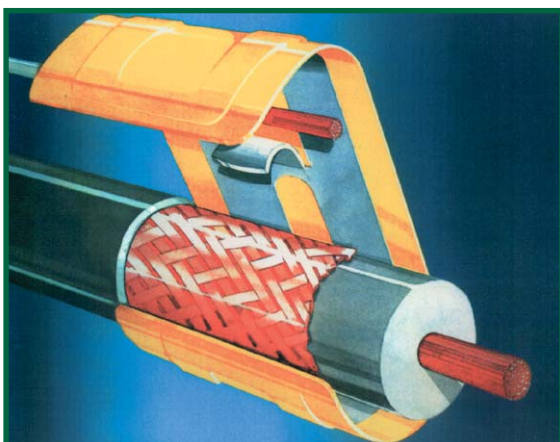


The one-piece Shield-Kon® connectors meet the MIL-F-21608 standards for the following environmental specifications:

#### Specifications

- Voltage Drop: 9 mV max. at 1A after environmental exposure
- Insulation Dielectric Strength: 500 VRMS at 60Hz for 1 minute
- Corrosion Resistance: 48 hours in 5% salt fog
- Pullout Strength: 15 lbs. min. for 22 AWG, and 19 lbs. min. for 20 AWG
- Vibration: 0.03" double amplitude between 10 and 55Hz for 6 hours on each of two axis
- Material: Copper, conform to CDA No. 110
- Plating: Tin, electro-plated (thickness 3 to 8 µm), in accordance with MIL-T-10727A
- Insulation: Polyester film (Mylar® type), color coded for size identification
- Temperature: -85° F to +257° F (-65° C to +125° C)

In addition, hypot tests have shown that the cable manufacturers' specified working voltage rating is maintained after the installation of Shield-Kon RSK connectors. It is, however, still advisable to evaluate the suitability of these connectors and verify their performance for the particular application.

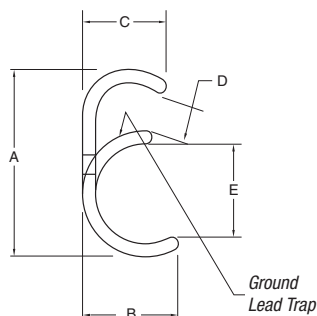


# Shield-Kon®

## One-Piece Connector

Maintains voltage and is easy to install!

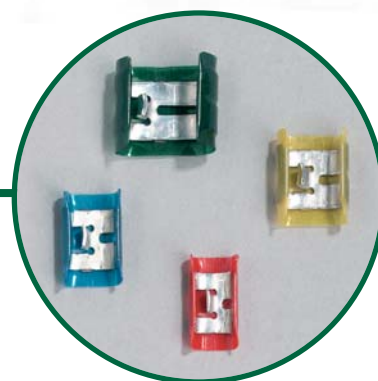
### Shield-Kon® RSK Connectors







#### How to use connector die and tool selection chart:

1. Use a calibrated measuring tool lightly over shield for most accurate measurement. Rotate shielded wire to pick up high spots on cable. Use "Shield Diameter" column to match the measured dimension.
2. Select connector and die for ERG740 tool.

**NOTE:** 1. Do not solder-dip ends of ground leads.  
2. For ground wire combinations not covered in table, consult Technical Service.



### One-Piece Shield-Kon® Connectors & Die Selection Table

CONNECTOR & COLOR CAT. NO.	SHIELD DIAMETER	METAL DIES FOR ERG740	GROUND WIRE RANGE	DIE GAUGE CAT. NO.	APPLICATION TOOL CAT. NO.
 <b>RSK101</b> <b>Red</b>	(1.27–1.78 mm) .050–.070 in.	<b>D-101A</b>	1 or 2 #24 AWG STR	<b>101AG</b>	Hand Tool ERG740
	(1.80–2.26 mm) .071–.089 in.	<b>D-101B</b>	or 1 #22 AWG STR	<b>101BG</b>	
 <b>RSK201</b> <b>Blue</b>	(2.29–2.54 mm) .090–.100 in.	<b>D-201C</b>	1 or 2 #22 AWG STR or 1 #20 AWG STR	<b>201CG</b>	
	(2.56–3.00 mm) .101–.118 in.	<b>D-201D</b>		<b>201DG</b>	
	(3.022–3.33 mm) .119–.131 in.	<b>D-201E</b>		<b>201EG</b>	
	(3.35–3.63 mm) .132–.143 in.	<b>D-201F</b>		<b>201FG</b>	
 <b>RSK301</b> <b>Yellow</b>	(3.66–4.11 mm) .144–.162 in.	<b>D-301G</b>	1 or 2 #22 AWG STR or 1 or 2 #20 AWG STR	<b>301GG</b>	
	(4.14–4.70 mm) .163–.185 in.	<b>D-301H</b>		<b>301HG</b>	
	(4.72–5.10 mm) .186–.201 in.	<b>D-301J</b>		<b>301JG</b>	
 <b>RSK401</b> <b>Green</b>	(5.13–5.84 mm) .202–.230 in.	<b>D-401K</b>	1 or 2 #20 AWG STR or 1 #18 AWG STR	<b>401KG</b>	
	(5.87–6.35 mm) .231–.250 in.	<b>D-401L</b>		<b>401LG</b>	
	(6.37–6.98 mm) .251–.275 in.	<b>D-401M</b>		<b>401MG</b>	
	(7.01–7.62 mm) .276–.300 in.	<b>D-401N</b>		<b>401NG</b>	

CAT. NO.	COLOR	DIMENSIONS (IN.)					THICKNESS	STD. PKG.
		A	B	C	D	E		
RSK-101	Red	.31	.16	.18	.06	.15	.02	1,000
RSK-201	Blue	.38	.22	.18	.06	.18	.02	1,000
RSK-301	Yellow	.47	.28	.24	.07	.22	.03	1,000
RSK-401	Green	.69	.43	.37	.08	.37	.03	500

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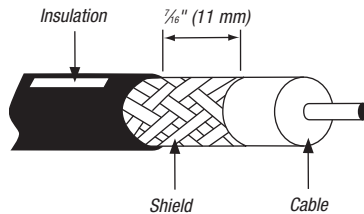
## One-Piece Connector Installation Methods & Procedures

Installation that's as easy as 1-2-3!

### Installation Methods

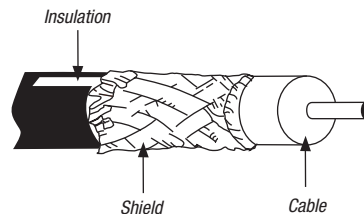
#### Standard Method

Use the standard method when the shielded cable or the inner conductors are embedded in a dielectric.



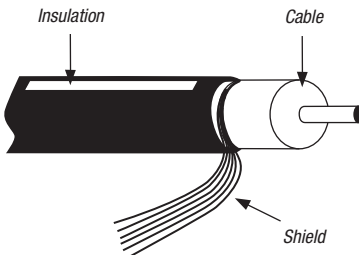
#### Fold-Back Method 1

If there is no common dielectric for several interior cables but the gaps are filled by textile threads or something similar, care should be taken to ensure that the insulating thickness of the individual cables is not less than 0.38 mm for PVC, and not less than 0.25 mm for Teflon. If this insulation thickness falls below this value, Fold-Back Method 1 should be used.



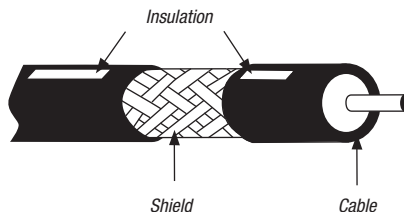
#### Fold-Back Method 2

Fold-Back Method 2 should be used if the cable shield is applied spirally or if a foil shield is being used.



#### Mid-Span Method

Enables installation anywhere along the cable.

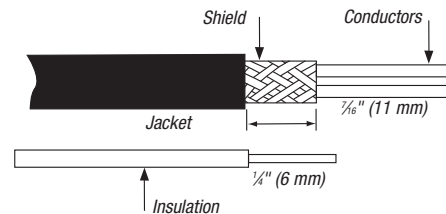


### Installation Procedure

#### Step 1

Prepare shielded wire and ground wire insulation as shown.

If two ground wires are required in a Shield-Kon® connection, twist both conductors before insertion into the connector.

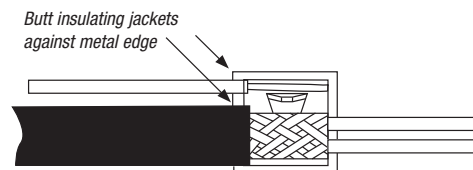


#### Step 2

Select the appropriate connector according to the size of the shielded cable (see **page H-4**). Place the ground wire around the trap hook and the shielded wire into the bottom of the connector.

When inserting the shielded cable and grounding wire, care must be taken to ensure that their insulation is overlapped by the connector's Polyester insulation film.

100% insulation is possible after crimping when the stripped length of outer jacket (visible shielding) is 1/16 inch (11 mm) maximum.

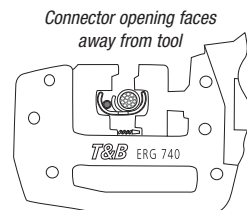


For a complete listing of One Piece Connectors see page H-4.

#### Step 3

Select the appropriate die set for the crimp tool, according to the size of the shielded cable (see **page H-4**) and mount the dies on the tool. Insert the connector (with the shielded cable and the ground wire) between the dies of the tool.

Squeeze the tool handles firmly to crimp the connector around the shielding and the ground wire.



For a complete listing of One Piece Connector Dies see page H-4.



# Shield-Kon®

## One-Piece Connector Tools

Comfort and versatility!

### Ergonomic Hand Tool

- Robust construction: metallic frame, partially covered with plastic
- Use with metal dies (see **page H-7**) for low-, medium- or high-volume applications
- All the dies are easily interchangeable (to be ordered separately)
- Parallel action crimp
- ShureStake® mechanism: once pressing has commenced, the tool can be re-opened only after successful completion of the crimping cycle
- Supplied in a plastic case with:
  - 1 tool
  - 1 benchmount stand for easier use in volume production
  - 1 gauge (Cat. No. RSK-LEHRE) for instant selection of the die and the connector to be used



#### ..... Specifications .....

- Dimensions of Tool: 8.27"L x 6.10"W x 0.98"H
- Weight of Tool: 1.04 lbs.
- Dimensions of Plastic Case: 9.65"L x 8.27"W x 2.17"H
- Weight of Plastic Case & Contents: 2.05 lbs.

CAT. NO.	DESCRIPTION	STD. PKG.
ERG740	Ergonomic Hand Tool	1

Everything you need  
in a handy kit!

### Ergonomic Hand Tool Kit

Same as ERG740, but supplied in a plastic case with 1 tool, 1 benchmount stand for easier use in mass production, 1 RSK-LEHRE gauge for instant selection of the die, and 4 metal dies: D-101A, D-201C, D-301J, D-401M.



#### ..... Specifications .....

- Dimensions of Plastic Case: 9.65"L x 8.27"W x 2.17"H
- Weight of Plastic Case & Contents: 2.65 lbs.

CAT. NO.	DESCRIPTION	STD. PKG.
ERG740-01	Ergonomic Hand Tool Kit	1

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### Metal Dies for ERG740

- For mass production and medium to high volumes
- Made of hardened steel — does not wear
- Only for the ERG740 hand tool
- The Product Ref. is engraved on the upper part and on the lower part of the die set
- Marked with a dot having the same color as the corresponding connector
- Weight — approximately 2.6 oz.

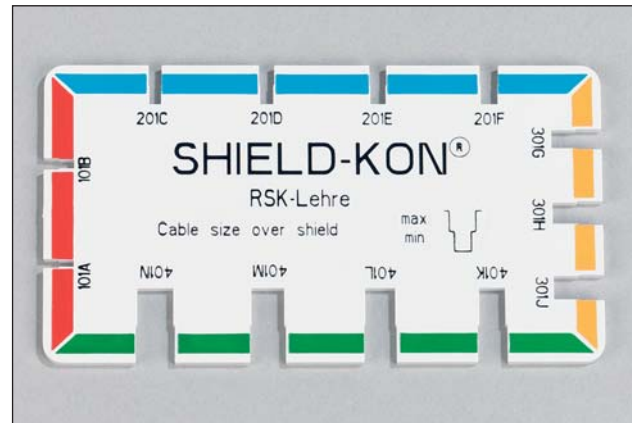


DIE CAT. NO.	DIE COLOR	SHIELD DIAMETER (IN.)	FOR CONNECTOR	STD. PKG.
D-101A	Red	.050-.070	RSK 101 Red	1
D-101B	Red	.071-.089	RSK 101 Red	1
D-201C	Blue	.090-.100	RSK 202 Blue	1
D-201D	Blue	.101-.118	RSK 202 Blue	1
D-201E	Blue	.119-.131	RSK 202 Blue	1
D-201F	Blue	.132-.143	RSK 202 Blue	1
D-301G	Yellow	.144-.162	RSK 301 Yellow	1
D-301H	Yellow	.163-.185	RSK 301 Yellow	1
D-301J	Yellow	.186-.201	RSK 301 Yellow	1
D-401K	Green	.202-.230	RSK 401 Green	1
D-401L	Green	.231-.250	RSK 401 Green	1
D-401M	Green	.251-.275	RSK 401 Green	1
D-401N	Green	.276-.300	RSK 401 Green	1

Order multiple is std. pkg.

Select the connectors you need quickly!

### RSK-LEHRE Gauge



The choice of the appropriate connector and die set mainly depends on the size of the shielded cable. The selection can be done very quickly with the RSK-LEHRE gauge.

- 1 Remove the outer jacket from the shielded cable, making the shielding visible.
- 2 Insert this stripped end of the cable into the slots located around the gauge. The correct slot will be found when the cable can slide only in the upper part of the slot. If the cable can slide completely to the bottom of the slot, you should try with the smaller adjacent slot.
- 3 Once the appropriate slot is found, the corresponding RSK connector is defined by the color of the strip around the slot, whereas the corresponding plastic die set is given by the number marked below the slot (for the metal die set, add prefix "D" to this number).
- 4 The table on page H-4 summarizes the different combinations of connector/die set, as well as the size of ground wire that can be used.

CAT. NO.	DESCRIPTION	STD. PKG.
RSK-LEHRE	Connector & Die Gauge	1

# Shield-Kon®

## Two-Piece Connector Overview

### Unique shield termination system gets the job done right!

The Shield-Kon® two-piece shield termination system from Thomas & Betts consists of two sleeves: an inner sleeve with a smaller diameter, and an outer sleeve that has a larger diameter but is shorter and less hard than the inner sleeve. All inner and outer sleeves are color-coded according to their size.

The conductors of the cable are inserted through the inner sleeve, whereas the shield (braided or foiled) and the ground wire are inserted between the two sleeves. The crimp operation is done by compressing the outer sleeve with a tool, while the inner sleeve provides mechanical protection for the inner conductors.

This unique shield termination system can be used with cables having a diameter of dielectric (after removing the outer insulation and the shield) between .043" and 2.87".

In the **"Hexagonal Range"** (diameters of dielectric between .043" and .38"), the outer sleeve is crimped with a hand tool and the result is a hexagonal-shaped crimp. This range is used to crimp shielded and coaxial cables.

The **"Circular Range"** for Multiple or Overall shielded cables, refers to larger diameters of dielectric (between .39" and 2.87") and owes its name to the circular shape of the crimp.



Circular Range



Hexagonal Range

### Two-piece connector — the Hexagonal Range

The Thomas & Betts hexagonal compression (for diameters of dielectric up to .37") is a reliable method for grounding, terminating, and insulating shielded and coaxial cable.

It has literally millions of installations in communications, aerospace, electronic, telephone, radio, and TV applications.

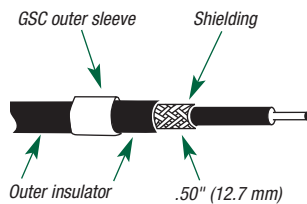


## Two-Piece Connector Installation Methods in the Hexagonal Range

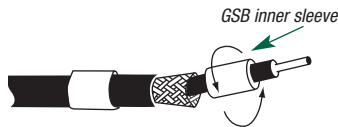
Quick and neat terminations made easy!

Three installation methods are possible in the hexagonal range for a quick, neat, and accurately completed termination... at a greatly reduced production cost.

### Method 1: Standard



- 1 After stripping the shield (.50" in length), slip the outer sleeve over the outer insulation. If this is too big, slip the outer sleeve on, after method described in method 3.



- 2 Widen the braided shield by gently rotating the inner conductor, then slip the inner sleeve under the braided shield.



- 3 Position the inner sleeve so that about .06" protrudes beyond the end of the braided shield.

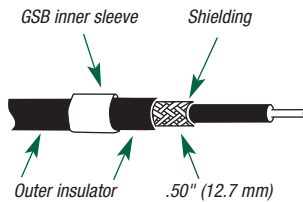


- 4 Slip the ground wire (22AWG-20AWG) under the outer sleeve (from the front or behind) and slip the outer sleeve over the braided shield.

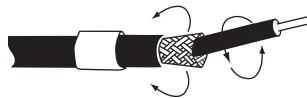


- 5 Position the outer sleeve and ensure that the ends of all wires in the braided shield and ground wire are covered.  
Crimp both sleeves with the correct tool and die. Finished.

### Method 2: Fold Back



- 1 After stripping the shield (.50" in length), slip the inner sleeve over the outer insulation.



- 2 Widen the braided shield by gently rotating the inner conductor.



- 3 Fold back the braided shield over the inner sleeve and slip the outer sleeve over the braided shield.

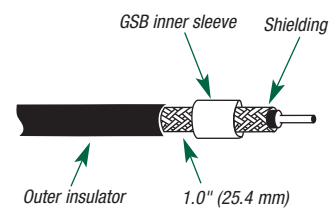


- 4 Slip the drain wire (22AWG-20AWG) under the outer sleeve (from the front or behind) and slip the outer sleeve over the braided shield.

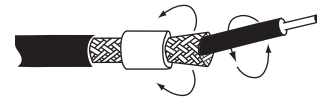


- 5 Position the outer sleeve and ensure that the ends of all wires in the braided shield and ground wire are covered.  
Crimp both sleeves with the correct tool and die. Finished.

### Method 3: Large Insulation



- 1 After stripping the shield (1.0" in length), slip the inner sleeve over the braided shield.



- 2 Widen the braided shield by gently rotating the inner conductor.



- 3 Fold back the braided shield over the inner sleeve and slip the outer sleeve over the braided shield.



- 4 Slip the ground wire (22AWG-20AWG) under the outer sleeve (from the front or behind) and slip the outer sleeve over the braided shield.



- 5 Position the outer sleeve and ensure that the ends of all wires in the braided shield and ground wire are covered.  
Crimp both sleeves with the correct tool and die. Finished.

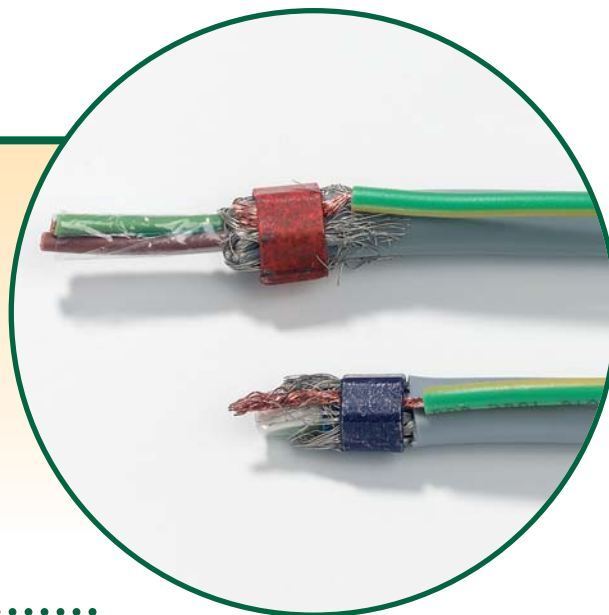
## Two-Piece Connector and Die Selection in the Hexagonal Range

Select connectors and dies  
in 3 easy steps!

The choice of the appropriate combination of inner sleeve, outer sleeve, and crimp tool/die will depend on the diameter of the dielectric.

However, a direct correlation with the diameter of the dielectric is not possible, because several different inner sleeves can be combined with the same outer sleeve (*according to the type of shield*).

With the directions shown **below**, a measuring instrument (*caliper*) is all that is required to make the right selection in 3 steps:



### 1. Selection of the inner sleeve (GSB)

- Strip the outer insulator and remove the shield
- Measure the maximum value of the diameter of the dielectric (diameter without shield) by gently rotating the cable. When doing so, it should be possible to turn the cable easily between the jaws of the caliper
- Add .01" to the measured value. The sum will give the Inner Diameter (I.D.) of the GSB inner sleeve
- In the table on **page H-11**, select the GSB inner sleeve having this I.D. or the nearest larger I.D.

### 2. Selection of the outer sleeve (GSC)

#### Normal method:

- Slide the selected inner sleeve underneath the shield of the cable
- Measure the maximum diameter with the shield over the inner sleeve
- Add .03" to the measured value. The sum will give the Inner Diameter (I.D.) of the GSC sleeve
- In the table on **page H-11**, select the GSC outer sleeve having this I.D. or the nearest larger I.D.

#### Quick method:

In most cases, a quicker method can be used to define the correct GSC outer sleeve:

- Once the appropriate GSB inner sleeve is found, the table on **page H-11** will give the Outer Diameter (O.D.) of this GSB sleeve
- Add .06" to this O.D. and the sum will give the Inner Diameter (I.D.) of the GSC sleeve
- In the table on **page H-11**, select the GSC sleeve having this I.D. or the nearest larger I.D.

### 3. Selection of the die

Dies for GSB/GSC Shield-Kon® can be found on **page H-11**.

Tools for GSB/GSC Shield-Kon® can be found on **page H-12**. See GSC outer sleeve table.

## Two-Piece Grounding Connectors and Dies for the Hexagonal Range

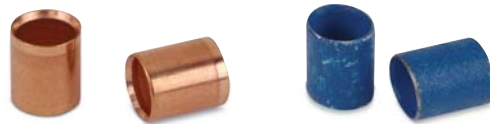
Stay grounded with easy-to-install connectors!

### Connector Inner and Outer Sleeves



Non-Insulated Inner Sleeve — Cat. GSB

- Hard bronze inner sleeve is installed under braid
- Length  $\frac{3}{8}$ "
- Tin plated per MIL-T-10727A



Non-Insulated Outer Sleeve — Cat. GSC

- Soft bronze outer sleeve slips over the braid and ground wire
- Length  $\frac{1}{4}$ "
- Tin plated per MIL-T-10727A

CAT. NO.	COLOR CODE	I.D. (IN.)	O.D. (IN.)	MILITARY SPEC. NO.	STD PKG.	TOOLS							
						CAT. NO.	COLOR CODE	I.D.	O.D.	DIE NOS. FOR WT440/WT540*	DIE NOS. FOR 11901A	MILITARY SPEC. NO.	STD. PKG.
Inner Sleeves													
GSB046	Gray	.046	.075	21981-046	1,000	GSC101	Gray	.101	.124	4419	11989	21980-101	1,000
GSB058	Yellow	.058	.083	21981-058	1,000	GSC128	Blue	.128	.152	4400	11970	21980-128	1,000
GSB063	Red	.063	.088	21981-063	1,000	GSC149	Purple	.149	.179	4401	11971	21980-149	1,000
GSB071	Green	.071	.096	21981-071	1,000	GSC156	Yellow	.156	.193	4402	11972	21980-156	1,000
GSB080	Blue	.080	.103	21981-080	1,000	GSC175	Blue	.175	.215	4403	11973	21980-175	1,000
GSB090	Orange	.090	.113	21981-090	1,000	GSC187	Orange	.187	.227	4406	11976	21980-187	1,000
GSB096	Purple	.096	.119	21981-096	1,000	GSC194	Red	.194	.226	4406	11976	21980-194	1,000
GSB101	Yellow	.101	.124	21981-101	1,000	GSC199	Gray	.199	.235	4406	11976	21980-199	1,000
GSB109	Red	.109	.131	21981-109	1,000	GSC205	Yellow	.205	.245	4408	11978	21980-205	1,000
GSB115	Gray	.115	.146	21981-115	1,000	GSC219	Green	.219	.250	4408	11978	21980-219	1,000
GSB124	Green	.124	.145	21981-124	1,000	GSC225	Purple	.225	.256	4409	11979	21980-225	1,000
GSB128	Gray	.128	.152	21981-128	1,000	GSC232	Orange	.232	.263	4410	11980	21980-232	1,000
GSB134	Orange	.134	.156	21981-134	1,000	GSC261	Yellow	.261	.297	4411	11981	21980-261	1,000
GSB149	Blue	.149	.179	21981-149	1,000	GSC275	Gray	.275	.306	4412	11982	21980-275	1,000
GSB156	Red	.156	.193	21981-156	1,000	GSC281	Purple	.281	.331	4414	11984	21980-281	1,000
GSB165	Gray	.165	.194	21981-165	1,000	GSC287	Blue	.287	.327	4414	11984	21980-287	1,000
GSB175	Green	.175	.215	21981-175	1,000	GSC297	Green	.297	.335	4414	11984	21980-297	1,000
GSB187	Yellow	.187	.227	21981-187	1,000	GSC312	Yellow	.312	.362	4415	11985	21980-312	1,000
GSB194	Blue	.194	.226	21981-194	1,000	GSC327	Gray	.327	.372	4416	11986	21980-327	1,000
GSB205	Orange	.205	.245	21981-205	1,000	GSC348	Orange	.348	.393	4417	11987	21980-348	1,000
GSB219	Gray	.219	.250	21981-219	1,000	GSC359	Purple	.359	.399	5450	—	21980-359	1,000
GSB225	Yellow	.225	.256	21981-225	1,000	GSC375	Yellow	.375	.406	5451	—	21980-375	1,000
GSB232	Red	.232	.263	21981-232	1,000	GSC405	Red	.405	.453	5452	11988	21980-405	1,000
GSB250	Green	.250	.281	21981-250	1,000	GSC415	Blue	.415	.463	5452	11988	21980-415	1,000
GSB261	Blue	.261	.297	21981-261	1,000	GSC425	Gray	.425	.475	5454	—	—	1,000
GSB266	Gray	.266	.297	21981-266	1,000	GSC460	Gray	.460	.510	5456	—	21980-460	1,000
GSB275	Orange	.275	.306	21981-275	1,000	GSC500	Green	.500	.550	5457	—	21980-500	1,000
GSB281	Yellow	.281	.331	21981-281	1,000	*Dies 4419 to 4417 are for WT440. Dies 5450 to 5457 are for WT540. Order multiple is standard package							
GSB287	Gray	.287	.327	21981-287	1,000								
GSB297	Red	.297	.335	21981-297	1,000								
GSB312	Purple	.312	.362	21981-312	1,000								
GSB348	Orange	.348	.400	21981-348	1,000								
GSB375	Blue	.375	.406	21981-375	1,000								

\*Dies 4419 to 4417 are for WT440. Dies 5450 to 5457 are for WT540.

Order multiple is standard package

Order multiple is standard package

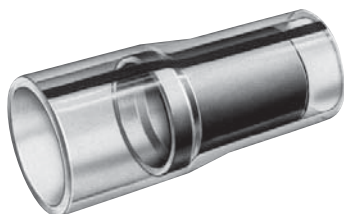


# Shield-Kon®

## Insulated Two-Piece Grounding Connectors, Dies and Tool for the Hexagonal Range

Nylon-insulated Shield-Kon® connectors for added insulation protection.

### Insulated Connector Outer Sleeve



Insulated Outer Sleeve — Cat. GSR

- Use with GSB inner sleeves
- Soft bronze outer sleeve with nylon insulation over the braided groundwire

CAT. NO.	COLOR CODE	I.D.	O.D.	TOOLS		MILITARY SPEC. NO.	STD. PKG.
				DIE NOS. FOR WT440/WT540*	DIE NOS. FOR 11901A		
Insulated							
GSR101	Gray	.101	.124	4400	11970	18121-101	500
GSR128	Blue	.128	.152	4401	11971	18121-128	500
GSR149	Purple	.149	.179	4403	11973	18121-149	500
GSR156	Yellow	.156	.193	4406	11976	18121-156	500
GSR175	Blue	.175	.215	4408	11978	18121-175	500
GSR187	Orange	.187	.227	4410	11980	18121-187	500
GSR194	Red	.194	.226	4410	11980	18121-194	500
GSR199	Gray	.199	.235	4410	11980	18121-199	500
GSR205	Yellow	.205	.245	4411	11981	18121-205	500
GSR219	Green	.219	.250	4411	11981	18121-219	500
GSR225	Purple	.225	.256	4411	11981	18121-225	500
GSR232	Orange	.232	.263	4412	11982	18121-232	500
GSR261	Yellow	.261	.297	4414	11984	18121-261	500
GSR275	Gray	.275	.306	4415	11985	18121-275	500
GSR281	Purple	.281	.331	4417	11987	18121-281	500
GSR287	Blue	.287	.327	4417	11987	18121-287	500
GSR297	Green	.297	.335	4417	11987	18121-297	500
GSR312	Yellow	.312	.362	5451	—	18121-312	100
GSR327	Gray	.327	.372	5452	11988	18121-327	100
GSR348	Orange	.348	.393	5452	11988	18121-348	100
GSR359	Purple	.359	.399	5452	—	18121-359	100
GSR375	Yellow	.375	.406	5453	—	18121-375	100
GSR405	Red	.405	.453	5455	—	18121-405	100
GSR415	Blue	.415	.463	5455	—	18121-415	100
GSR460	Gray	.460	.510	5458	—	18121-460	100
GSR500	Green	.500	.550	5459	—	18121-500	100

\*Dies 4400 to 4417 are for WT440. Dies 5451 to 5459 are for WT540

Order multiple is standard package

### WT440 and WT540 Ratchet Hand Tools



- Parallel-action hand tools
- MIL-specified
- Frame, with the option of interchangeable steel dies
- A versatile tool, one frame with a selection of dies covers the whole range of shield diameters in the Hexagonal Range
- ShureStake® mechanism: once pressing has started, the tool can be re-opened only after successful completion of the crimping cycle
- Packaging: wood box containing 1 frame (dies to be ordered separately, see selection chart on **page H-11** and **above** for Die Nos.)

#### Specifications

##### WT440

- Length: 8"
- Weight: 1.0 lbs
- Dies: Series 4400

##### WT540

- Length: 10.4"
- Weight: 1.19 lbs.
- Dies: Series 5450

CAT. NO.	DESCRIPTION	STD PKG.
WT440	Ratchet Hand Tool	1
WT540	Ratchet Hand Tool	1

**Thomas & Betts**

[www.tnb.com](http://www.tnb.com)

##### United States

Tel: 901.252.8000  
800.816.7809  
Fax: 901.252.1354

##### Technical Services

Tel: 888.862.3289

## Two-Piece Connector for the Circular Range

### Terminate multiple-conductor shielded cable quickly and easily!

#### The design advantages are:

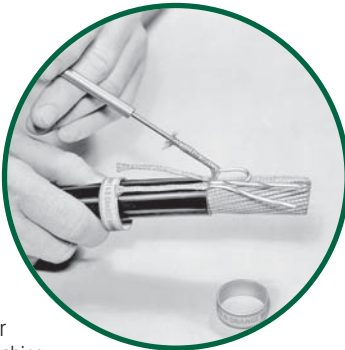
- Positive selection of inner and outer sleeves and installing die by a complete color-coded system
- A more reliable grounding termination because only one ground wire connection is made — conventional daisy chain jumper method is eliminated
- Smaller, more compact bundle is easy to inspect
- Only one ground wire is required; however, additional ground wires may be used if needed
- Smooth insulator protects conductor insulation
- With one stroke of the tool, the interlace die will produce a 360° compression, uniformly securing all individual shields around the connector

The Shield-Kon® Connector System for multiple-conductor shielded cable is based on the principle of cold swaging. It utilizes a two-piece compression connector color-coded to match the proper die. The connector consists of a hard brass collector inner ring with a tough, smooth insulator and a soft copper compression outer ring. Each set of rings and matching installing die will connect a minimum of five shielding braids with one ground wire. The maximum number of braids is limited only by the space between the inner and outer rings.

### Multi-Shielded Cable Connector Installation Procedure

#### Step 1

After overall insulation is removed to expose shielded cables, each conductor must be freed from the shielding braid. The Thomas & Betts lead extractor tool simplifies this operation by pushing the inner conductor through an opening in the shielding braid. The braid is then folded back until all conductors are freed.



#### Step 2

Flattened shielding braids are evenly distributed around the periphery of the inner collector ring.



#### Step 3

Position outer compression ring over the flattened shielding braid, locating it over the center of the inner collector ring. Braid may be trimmed even with the edge of the outer compression ring before or after compression. Ground wire or wires may be inserted between the outer compression ring and the shield prior to compression.



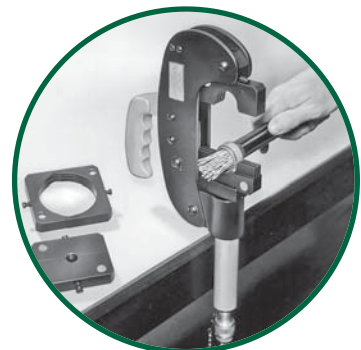
#### Step 4

Selection of compression dies is determined by color coding on rings. The dies are color coded to match the rings. The appropriate dies are easily inserted or removed by depressing die-locking button shown.



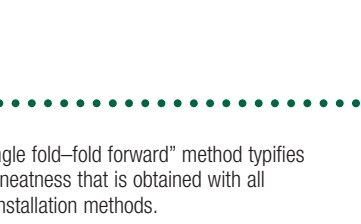
#### Step 5

The prepared cable is placed in the installing die and compressed. Tool operates on hydraulic power output, developing 9800 ±200 psi operating pressure.



#### Step 6

Completed installation of the "single fold-fold forward" method typifies the reliability, compactness, and neatness that is obtained with all Thomas & Betts recommended installation methods.



Connectors come full circle with circular connectors!

### Two-Piece Connectors for Multiple Conductor Shielded Cable

#### Specifications

##### Inner Sleeve

- Material: Copper alloy ASTM B135
- Finish: Electro tin-plated (per MIL-T-10727A)

##### Outer Sleeve

- Material: Copper ASTM B188
- Finish: Electro tin-plated (per MIL-T-10727A)

#### Connector and Die Selection in the Circular Range

The choice of the appropriate combination of inner ring, outer ring, and crimp tool/die depends on the overall diameter of the inner conductors (underneath the shield).

In the case of the Circular range, there is a direct correlation between the diameter of the inner conductors and the inner and outer rings. With the directions (shown below), a measuring instrument (caliper) is all that is required to make the right selection.



#### Selection of the GSB Inner Ring

- Measure the maximum value of the overall diameter of the inner conductors (underneath the flattened shield) by gently rotating the cable. When doing so, it should be possible to turn the cable easily between the jaws of the caliper
- Add 0.060" to the measured value. The sum will give the Inner Diameter (I.D.) of the GSB inner ring
- In the table, select the GSB inner ring having this I.D. or the nearest larger I.D.

#### Selection of the GSC Outer Ring and of the Die

Once the appropriate GSB inner ring is found, the table (below) immediately gives the corresponding GSC outer ring and the appropriate die for the 13640 Hydraulic Head.

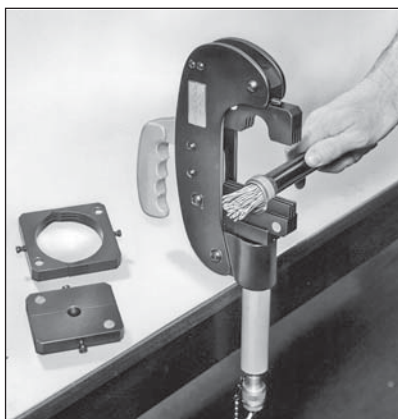
CAT. NO.	I.D. (IN.)	O.D. (IN.)	COLOR CODE	STD. PKG.	CAT. NO.	I.D. (IN.)	O.D. (IN.)	DIES NOS. FOR 13640	COLOR CODE	STD. PKG.
<b>Inner Ring</b>					<b>Outer Ring</b>					
GSB430	.430	.500	Red	50	GSC590	.590	.670	GS590	Red	50
GSB550	.550	.620	Blue	50	GSC710	.710	.790	GS710	Blue	50
GSB670	.670	.750	Gray	50	GSC840	.840	.920	GS840	Gray	50
GSB810	.810	.880	Brown	50	GSC1010	1.010	1.090	GS1010	Brown	50
GSB920	.920	1.000	Green	50	GSC1130	1.130	1.210	GS1130	Green	50
GSB1040	1.040	1.120	Pink	50	GSC1250	1.250	1.330	GS1250	Pink	50
GSB1122	1.122	1.192	Orange	50	GSC1332	1.332	1.412	GS1332	Orange	50
GSB1224	1.224	1.294	Purple	50	GSC1440	1.440	1.520	GS1440	Purple	50
GSB1353	1.353	1.423	Yellow	50	GSC1563	1.563	1.643	GS1563	Yellow	50
GSB1425	1.425	1.545	Red	50	GSC1670	1.670	1.750	GS1670	Red	5

Order multiple is std pkg

Order multiple is std pkg

### Hydraulic Head Installing Tool

- 3.5 ton nominal pressure (output)
- For 2-piece Shield-Kon® terminals in the circular range
- Coupling for quick assembly
- Requires a 9,800 psi (approx. 690 bar) operating service pressure
- Quick interchangeable steel dies (to be ordered separately, see above for die selection)
- Interlace die with 360° compression—provides uniform pressure around circumference of connector



All the 2-piece Shield-Kon® in the circular range need to be crimped with the 13640 hydraulic head equipped with the appropriate die.

CAT. NO.	DESCRIPTION	STD. PKG
13640	Installing Head (order dies separately)	1
13606	Hand-Foot Pump	1
13600	Electric Hydraulic Pump	1
13620	Hand Switch	1
13589A	Foot Switch	1
13619	Hydraulic Hose 10 ft.	1
13760	Air-Operated Hydraulic Pump	1

Order multiple is std pkg