

GelCap SL

Stub splice cover kit with connector for use with street lighting (1000 V)



Tyco Electronics' GelCap SL splice cover kits provide quick installation, dependable performance, and easy reentry for street lighting connections, but they have many other uses.

GelCap SL splice cover kits quickly and conveniently insulate, seal, and protect stub splice connections up to 1000 volts.

PowerGel sealant technology:

The GelCap SL splice cover kits feature revolutionary PowerGel sealant which provides an excellent moisture seal over a wide temperature range (-40°C to 105°C).

Innovative cap design and material:

The specially formulated material provides excellent abrasion resistance, insulation value, and UV resistance. In addition, the cap is clear to allow visual inspection of connector positioning during installation and connector performance during service life.

Range taking connector:

The special three wire connector is perfect for street light connections. There are two ports that accept wires from #14-2/0 AWG. Use these for the

feeder cable. There is a single port that accepts #14-6 AWG. Use this port to power the light.

Fast and easy installation:

GelCap SL splice cover kits provide the fastest installation. Simply push the cover down over the connection and snap the clamp closed. No extra materials or greases are required. The PowerGel sealant is already in the cap.

Easy to reenter:

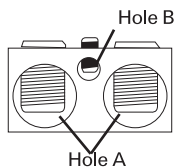
The GelCap SL splice cover kit's cover is easy to reenter because the PowerGel sealant pulls away leaving a clean connection. Reentry is also safer than other methods because no sharp objects or cutting tools are required for removal of the cap.

Other common uses for GelCap splice cover kits:

- Irrigation systems
- HVAC
- Outdoor lighting
- Motor Connections

Start saving money by using GelCap splice cover kits rather than the old, unreliable, and time consuming methods.

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Kit	Hole A		Hole B	
	Wire Range	Recommended Torque Values	Wire Range	Recommended Torque Values
GelCap-SL 2/0-3 Hole	#14-2/0 AWG (2-70 sq. mm)	120-180 in-lbs (13.6-20.3 N-m)	#14-6 AWG (2-10 sq. mm)	120-150 in-lbs (13.6-17 N-M)

Testing

Testing	Test Conditions
Chemical Resistance	ASTM D543, Sulfuric acid, Sodium Hydroxide, Transformer and motor oil
Ozone Resistance	ASTM D1149, 120 hours @40°C, 50pphm
Accelerated Aging	ASTM D2671
UV Resistance	ASTM G53, UVB, 4000 hours, 4 hour on/off cycle
Abrasion Resistance	2040 gm wt., 4000 cycles, 5% max thickness loss

Ordering Information

1. Selections are based on typical dimensions of low-voltage insulated cables.
2. Kits include UL Listed connectors for use with copper and/or aluminum conductors.
3. Each kit contains a gel filled cap, cap clamp, and connector.
4. Standard Package: 10 kits/box



600V/105°C

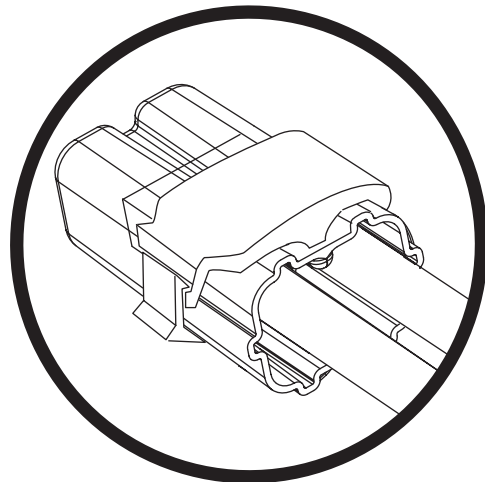
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Electronics

Energy Division

Product Installation Instructions

**GelCap SL Insulating
Splice Kit for 600V
Cable**



LISTED 90UF
Insulating Splice Cover
600V/105C

Raychem

Tyco Electronics Corporation
Energy Division
8000 Purfoy Road
Fuquay-Varina, NC 27526

PII-55194, Rev AA
PCN C04258-000
Effective Date: March 15, 2002

General Instructions

The following items should be included in this kit:

- 1 ea. Gel filled cap
- 1 ea. Clamp
- 1 ea. Connector

Suggested installation equipment:

- 3/8" Hex wrench
- 1/4" Hex wrench
- Cable preparation tools

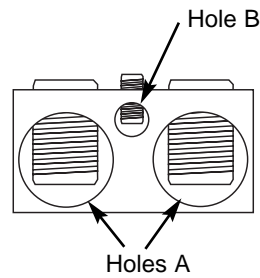
Installation Instructions

1. Product selection

Dimensions in inches (mm/metric)

Kit	Holes "A"		Hole "B"	
	Wire Range	Recommended Torque Values	Wire Range	Recommended Torque Values
GelCap-SL-2/0-3 Hole	#14 - 2/0 AWG (2 - 70 sq. mm)	120 - 180 in-lbs. (13.6 - 20.3 N-m)	#14 - 6 AWG (2 - 10 sq. mm)	120 - 150 in-lbs. (13.6 - 17 N-m)

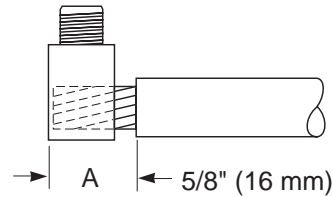
Connector



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2. Remove insulation and clean cables

Insulation removal length equals connector insertion depth (A).



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3. Make connection

Insert conductors into connector and tighten screws according to the chart above.

4. Push sealing cap onto connection

A. Install clamp on cap. Verify proper placement of clamp by ensuring the two pins on the bottom edge of the clamp are mated with the holes of the cap as shown in Figure 1a.

B. Install cap by holding all wires and pushing the cap over the connection assembly until it goes no further. (Figure 1)

C. Snap clamp closed. If necessary, use pliers to snap clamp closed. See figure 2.

Figure 1: Push cap onto Connection

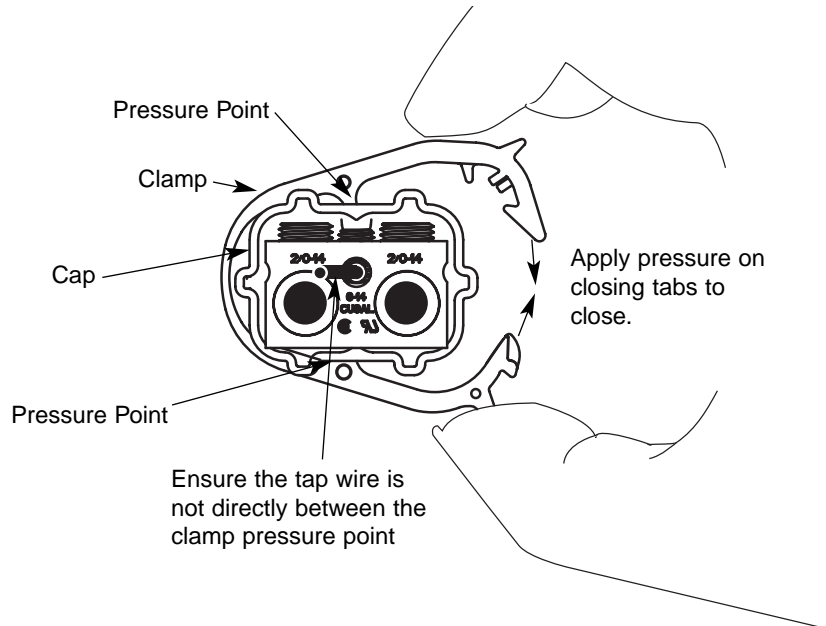
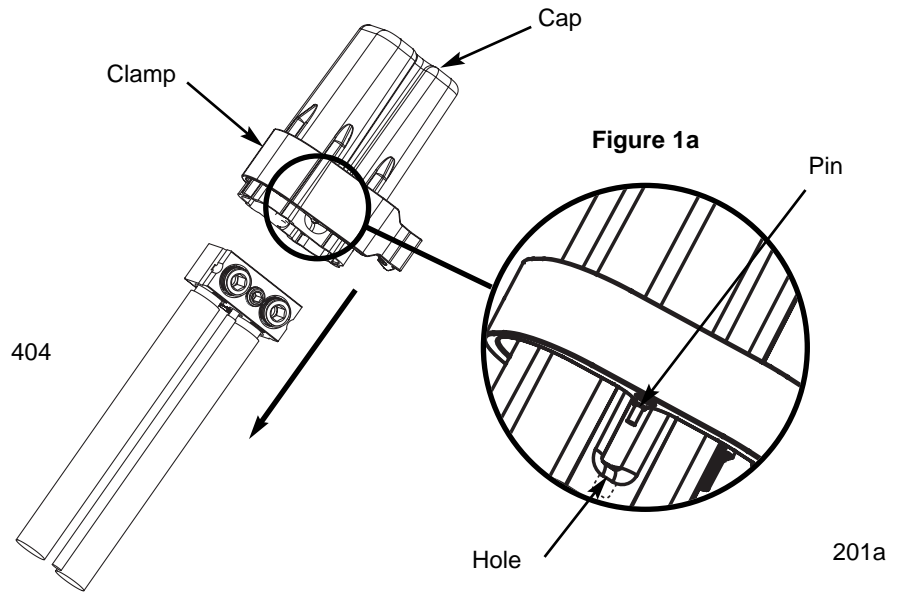
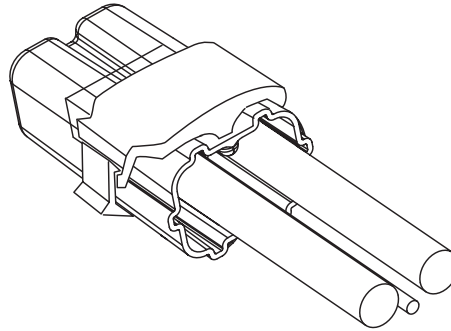


Figure 2: Clamp pressure points should fit into opposing grooves of cap and apply pressure between cables. Snap clamp closed.

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5. Inspect installation

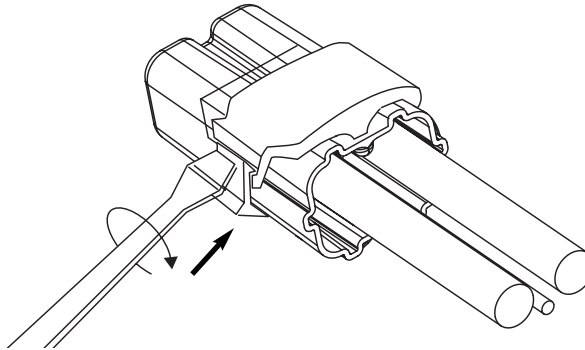
Gently pull on cap to be sure it is locked in place. Ensure cap covers connector and bare conductor. There should be no exposed metal. Clamp should be below connector. Ensure tap cable is not caught between pressure points of clamp. Installation is complete.



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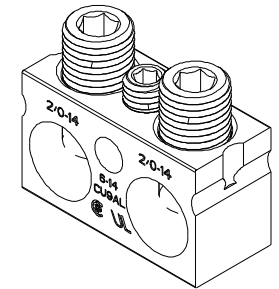
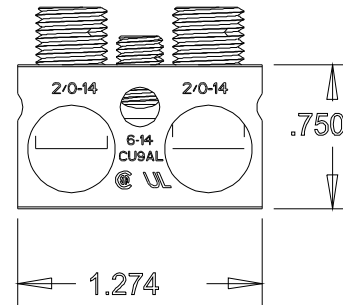
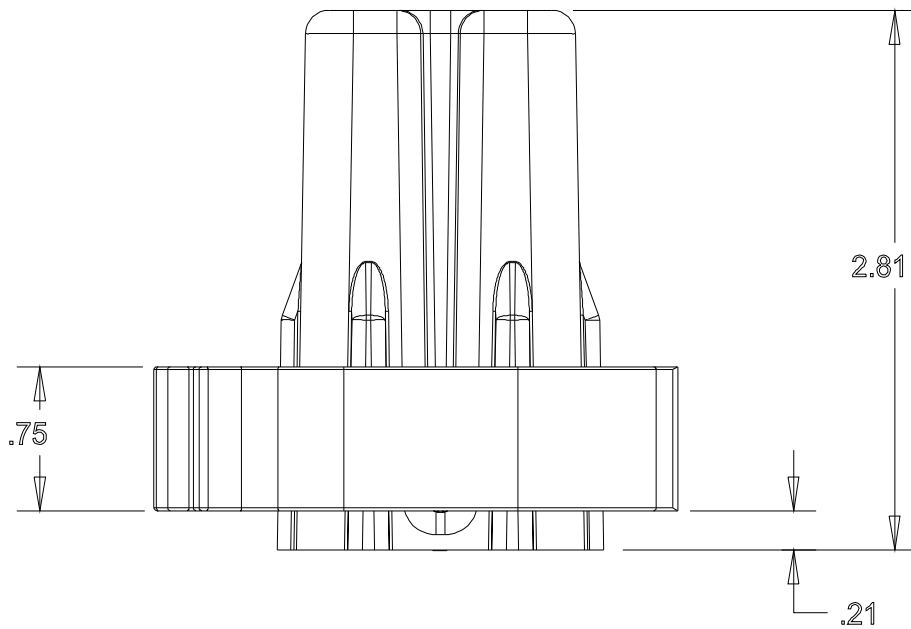
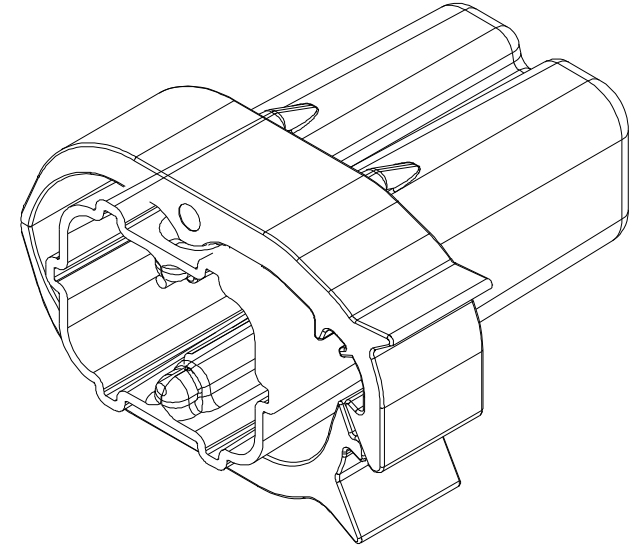
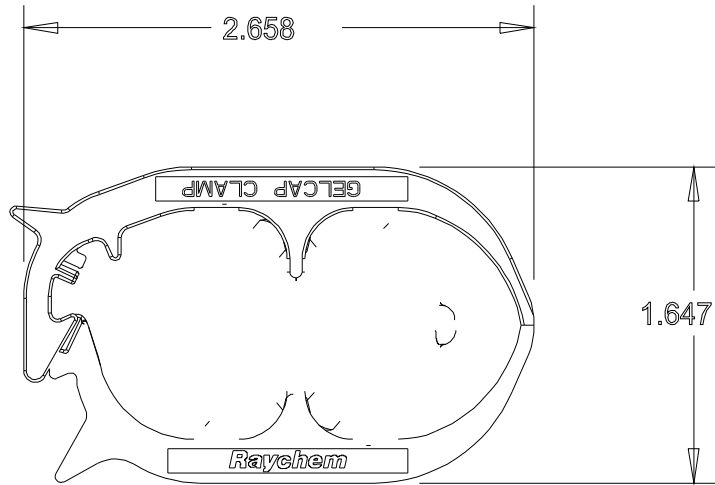
6. Removal

Insert screwdriver between closing tabs and twist to open the clamp. Remove cap slowly from connection allowing gel to stay in cap.



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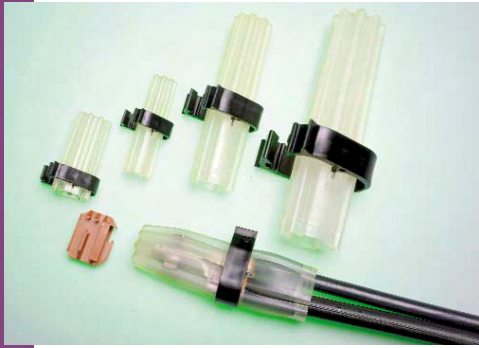
The Information contained in these installation instructions is for use only by installers trained to make electrical power installations and is intended to describe the correct method of installation for this product. However, Tyco Electronics has no control over the field conditions which influence product installation. It is the user's responsibility to determine the suitability of the installation method in the user's field conditions. Tyco Electronics' only obligations are those in Tyco Electronics' standard Conditions of Sale for this product and in no case will Tyco Electronics be liable for any other incidental, indirect or consequential damages arising from the use or misuse of the products. Raychem and GelCap are trade marks of Tyco Electronics Corporation.



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REV	PCR #	DATE	BY	CKD
Raychem		8000 PURFOY RD. FUQUAY-VARINA, N.C. 27526		
TITLE: GELCAP-SL ASSEMBLY REF DIMENSIONS				
DWG. NO. GC1			REV. 1.0	

Cold-applied motor connection kits



GelCap

Motor connector kit (1000V)

GelCap motor connector kits quickly and conveniently insulate, seal, and protect stub splice connections up to 1000 volts. The robust yet compact design was engineered to handle the harsh environment of motor connections.

GelCap connector kits are equally well suited to many other connection applications including street light connections.

The specially formulated material provides excellent abrasion resistance, insulation value, and UV resistance. In addition, the cap is clear to allow visual inspection of connector positioning during installation and connector performance during service life. Each cap size is designed to fit a wide range of cable sizes. The expandable design keeps the cap as small as possible and allows it to expand only as much as needed to fit on large cable.

Gelcap connector kits provide the fastest installation. Simply push the cover down over the connection and snap the clamp closed. No extra materials or greases are required. The PowerGel sealing gel is already in the cap.

Common uses for GelCap connector kits

- Street lights
- Over wire nuts for sealing
- Irrigation systems
- HVAC
- Outdoor lighting

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Selection information (dimensions in inches/millimeters)

Catalog number	Feeder Conductor Size (mm ²)	Max. Bolt Dimensions		Max. Lug Dimensions		Cap length (nominal)
		Width (A)	Length (B)	Total Length (C)	Barrel Length (D)	
GelCap 1*	#16 – #10 AWG (1.5 – 5)	.375 (10)	.500 (13)	1.00 (25)	0.5 (13)	2.8 (71)
GelCap 2	#8 – #2 AWG (8 – 35)	.625 (16)	1.00 (25)	2.00 (51)	1.0 (25)	3.5 (89)
GelCap 3	#2 – #4/0 AWG (35 – 105)	.850 (22)	1.30 (33)	3.00 (76)	1.5 (38)	6.0 (152)
GelCap 4	250 – 500 kcmil (125 – 250)	1.100 (28)	1.85 (47)	5.00 (127)	2.0 (51)	8.0 (203)

* For wire sizes #16 – #10 the unique design of the GelCap motor connector 1 kit saves space by allowing all three phase connections to be installed in one cover.

For cold applied in-line splices see GelWrap splice closure, page 28 GILS, page29, or RVS, page30.

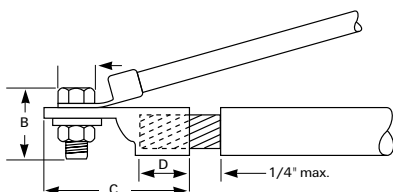
Product Performance

The Tyco Electronics' GelCap connector kit meets the following requirements:

Testing	Test Conditions
Chemical Resistance	ASTM D543, Sulfuric acid, Sodium hydroxide, Transformer and motor oil
Ozone Resistance	ASTM D1149, 120 hours @40°C, 50pphm
Accelerated Aging	ASTM D2671
UV Resistance	ASTM G154, UVB, 4000 hours, 4 hour on/off cycle
Abrasion Resistance	2040 gm wt., 4000 cycles, 5% max thickness loss

Ordering information

1. Select appropriate catalog number based on the motor feeder cable, motor pigtail leads of the same size or smaller are suitable. GelCap connector kit selections are based on typical dimensions of low-voltage insulated cable.
2. Kits do not contain connectors.
3. Kit contents: GelCap - 1, One gel filled cap, one cap clamp, and one phase separator. Kit is designed for 3 phases in one cap. GelCap -2, 3, 4: three gel filled caps and three cap clamps.
4. Standard package: 5 kits/box
5. Related Product Information: [EDR-5334](#) Test Report



600 V/105°C

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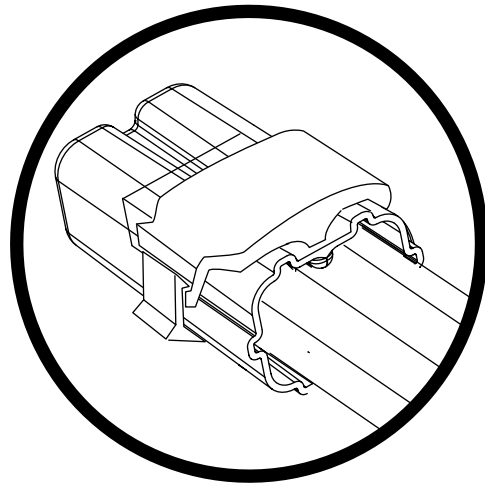
Electronics

Energy Division

Product Installation Instructions

GelCap Insulating Splice Cover for 600V Cable

GelCap Splice Cover Size 1.



LISTED 90UF
Insulating Splice Cover
600V/105C

Raychem

Tyco Electronics Corporation
Energy Division
8000 Purfoy Road
Fuquay-Varina, NC 27526

PII-55152, Rev AC
PCN 134042-000
Effective Date: August 28, 2002

Kit Contents

- 1 ea. Gel filled cap
- 1 ea. Clamp
- 1 ea. Phase separator

Installation Instructions

This installation instruction applies only to GelCap 1 sealing caps. A different installation instruction is required for GelCap 2, 3, and 4 sealing caps.

1. Product selection

Table 1 - UL Listed Connector / Cap Selection Guide

Kit	Conductor Size	Max. Bolt Dimensions		Max. Lug Dimensions	
		Width (A)	Length (B)	Total Length (C)	Barrel
GelCap-1	# 16 to # 10 AWG	.375"	.500"	1.00"	0.5"
GelCap-2	# 8 to # 2 AWG	.625"	1.00"	2.00"	1.0"
GelCap-3	# 2 to # 4/0 AWG	.850"	1.30"	3.00"	1.5"
GelCap-4	250 to 500 mcm	1.100"	1.85"	5.00"	2.0"

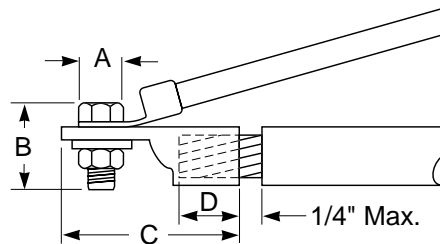
General Use Guide

Check kit selection with cable dimensions in Table 1. If the conductors are not the same size, select kit based on largest conductor.

For pin and socket connectors, dimensions must be within dimensional guidelines shown in Table 1.

2. Remove insulation

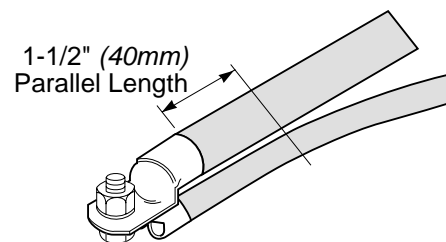
See Table 1 above for maximum bolt (A,B) and lug (C,D) dimensions. Insulation removal length equals connector insertion depth/barrel length (D).



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3. Install lugs; make connection

Install lugs on cables. Bolts should be inserted through the hole of the smallest lug first. Leads must be parallel for a minimum of 1-1/2" (40mm) beyond the end of the longest lug.



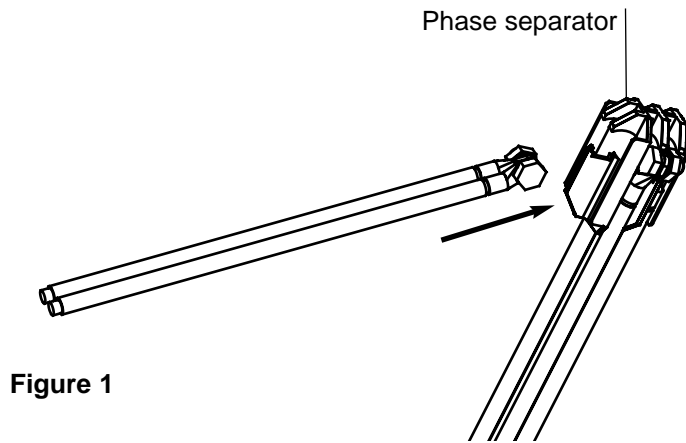
1863

Installation Instructions

4. Place connections on phase separator

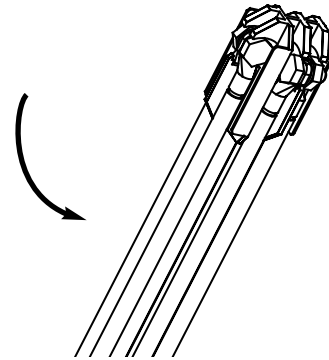
Place each of the phase connections on the phase separator as follows:

- A. Insert connection in the connection area (Figure 1).
- B. Rotate cables so they are adjacent to the phase separation wall (Figure 2).
- C. Pull down so the crotch of each phase connection "hangs" on the phase separator (Figure 3).



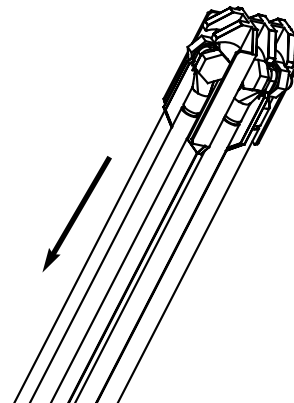
101

Figure 1



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Figure 2



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Figure 3

5. Push sealing cap into connection

A. Install cap by holding all wires and pushing the cap over the phase separator and connection assembly until it goes no further. Be sure the connections remain in place on the phase separator. Hold cap in place for 5 seconds. (Figure 4)

B. Verify proper placement of clamp by ensuring the two pins on the bottom edge of the clamp are mated with the holes of the cap as shown in Figure 4a.

C. Snap clamp closed. If necessary, use pliers to snap clamp closed.

Figure 4: Push cap onto connection

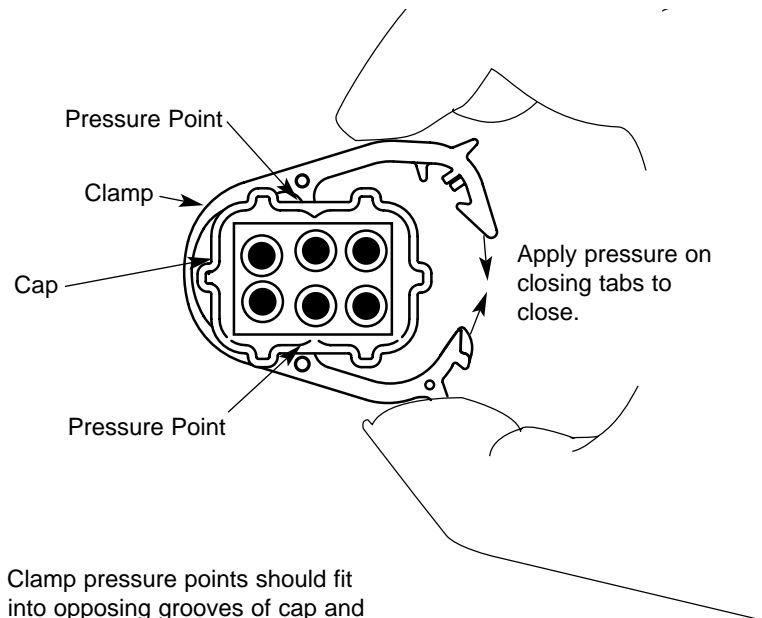
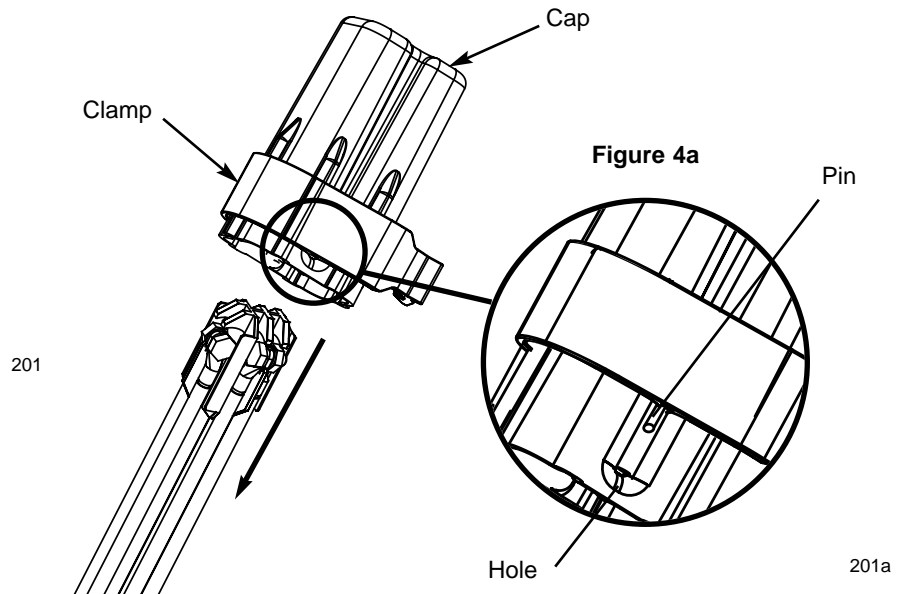
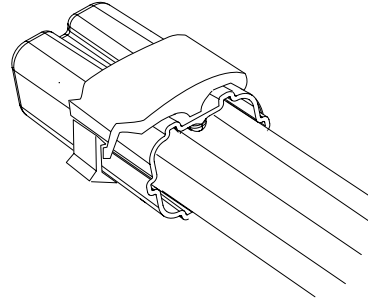


Figure 5: Clamp pressure points should fit into opposing grooves of cap and apply pressure below phase separator. Snap clamp closed.

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6. Inspect installation

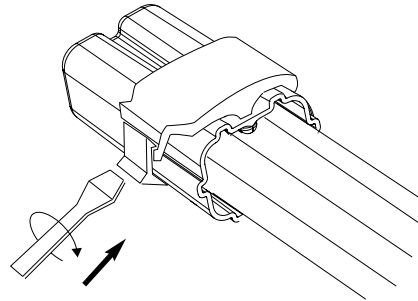
Gently pull on cap to be sure it is locked in place. Check to verify that each phase connection is in place on phase separator. Ensure cap covers lugs and bare conductor. There should be no exposed metal. Clamp should be below phase separator. Installation is complete.



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7. Removal

Insert screwdriver between closing tabs and twist to open the clamp. Remove cap slowly from connection allowing gel to stay in cap.



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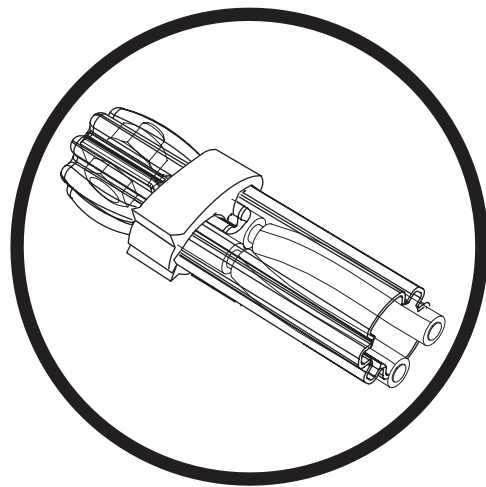
Electronics

Raychem

Product Installation Instructions

GelCap Insulating Splice Cover for 600V Cable

This instruction provides procedure for installation of GelCap splice covers sizes 2, 3, and 4.



LISTED 90UF
Insulating Splice Cover
600V/105C

Energy Division

Raychem
Tyco Electronics - Energy
8000 Purfoy Road
Fuquay-Varina, NC 27526

PII-55148, Rev AD
PCN 004180-000
Effective Date: Oct 5, 2006

The following items should be included in this kit:

- 3 Gel filled caps
- 3 Clamps

Installation Instructions

1. Product selection

Table 1 - UL Listed Connector / Cap Selection Guide

Kit	Conductor Size	Max. Bolt Dimensions		Max. Lug Dimensions		
		Width (A)	Length (B)	Total Length (C)	Barrel Length (D)	Tang Length (E)
GelCap 1*	# 16 to # 10 AWG	.375"	.500"	1.00"	0.5"	
GelCap 2	# 8 to # 2 AWG	.625"	1.00"	2.00"	1.0"	1.0"
GelCap 3	# 2 to # 4/0 AWG	.850"	1.30"	3.00"	1.5"	1.5"
GelCap 4	250 to 500 mcm	1.100"	1.85"	5.00"	2.0"	3.0"

*GelCap 1 insulating splice cover is designed for 3 phases in one cap and requires a different installation instruction.

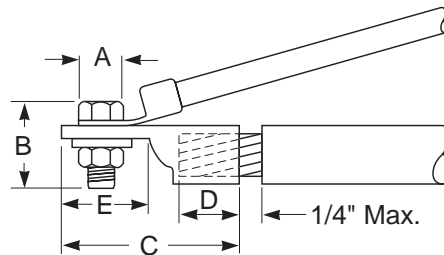
General Use Guide

Check kit selection with cable dimensions in Table 1. If the conductors are not the same size, select kit based on larger conductor.

For split bolt or pin and socket connectors, dimensions must be within dimensional guidelines shown above.

2. Remove insulation

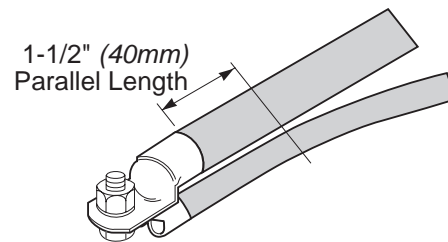
See Table 1 above for maximum bolt (A+B) and lug dimensions (C+D+E). Insulation removal length equals connector insertion depth/barrel length (D).



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3. Install lugs

Install lugs on cables. Bolts should be inserted through the tang of the smallest lug first. Leads must be parallel for a minimum of 1-1/2" (40mm) beyond the end of the longest lug.



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Installation Instructions

4. Push cap onto connection

A. Before installing cap, ensure the two pins on the bottom edge of the clamp are mated with the holes on the cap as shown in Figure 1a.

B. Align cap so pressure points of clamp will align with crotch of cables as shown in Figure 2.

C. Install cap by pushing onto connection until it goes no further. Hold cap in place 5 seconds.

D. Snap clamp closed. If necessary, use pliers to snap clamp closed.

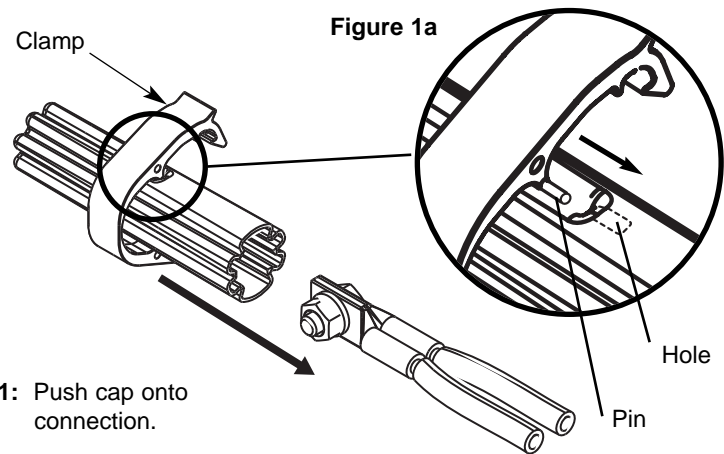


Figure 1: Push cap onto connection.

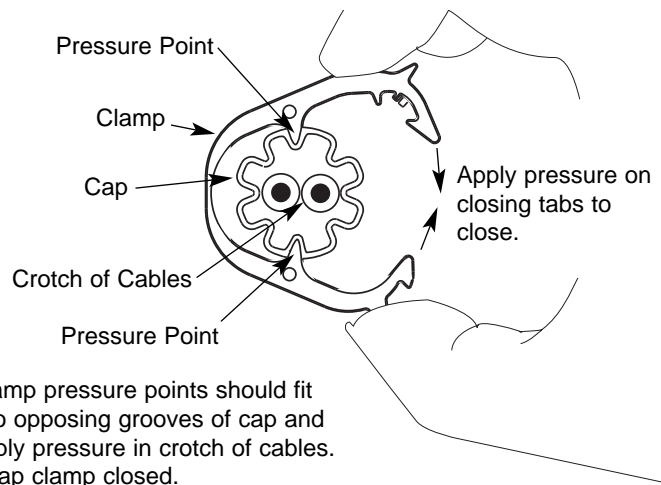
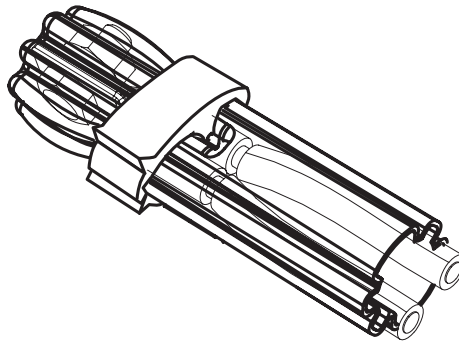


Figure 2: Clamp pressure points should fit into opposing grooves of cap and apply pressure in crotch of cables. Snap clamp closed.

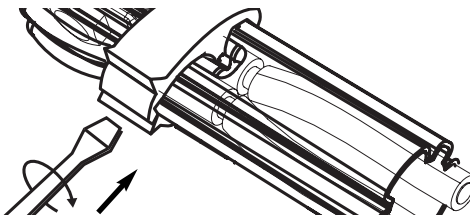
5. Inspect installation

Gently pull on cap to be sure it is locked in place. Ensure cap covers lugs and bare conductor. There should be no exposed metal. Clamp should be below bolt and nut area. Installation is complete.



6. Removal

Insert screwdriver between closing tabs and twist to open the clamp. Remove cap slowly from connection allowing gel to stay in cap.



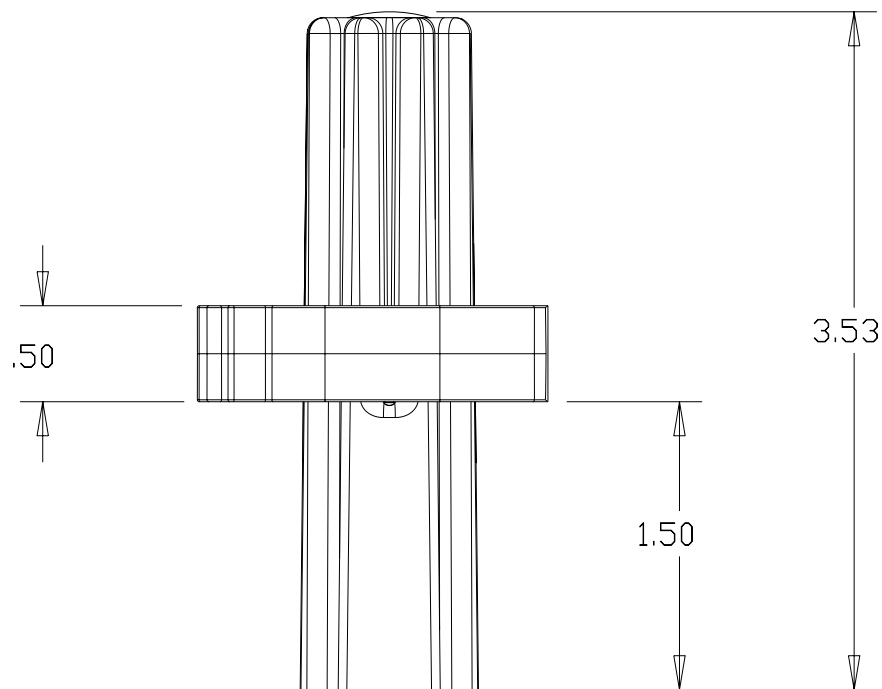
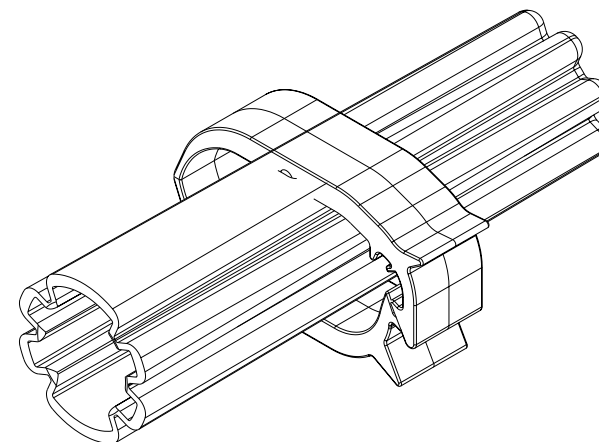
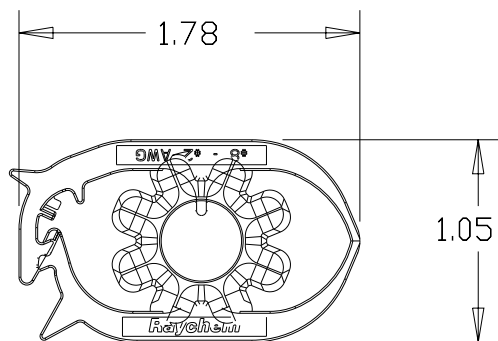
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REFERENCE ONLY
SCALE: 1/1

REV	PCR #	DATE	BY	CKD
<i>Raychem</i>		8000 PURFOY RD. FUQUAY-VARINA, N.C. 27526		
TITLE: GEL CAP #2 ASSEMBLY REF DIMENSIONS				
DWG. NO. GC2			REV. 1.0	

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2

1