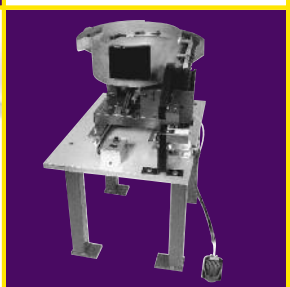
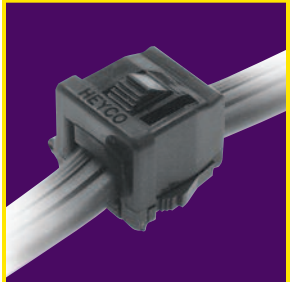


# Strain Relief Assembly Guide



# HEYCO®

a PennEngineering® Company



Reduce risk of carpal tunnel syndrome!

# Heyco® Lockit™ Strain Relief Pre-Assembly Equipment

**Pre-Assembly Equipment for Heyco Assembly-Friendly Lockit Series Strain Reliefs:**

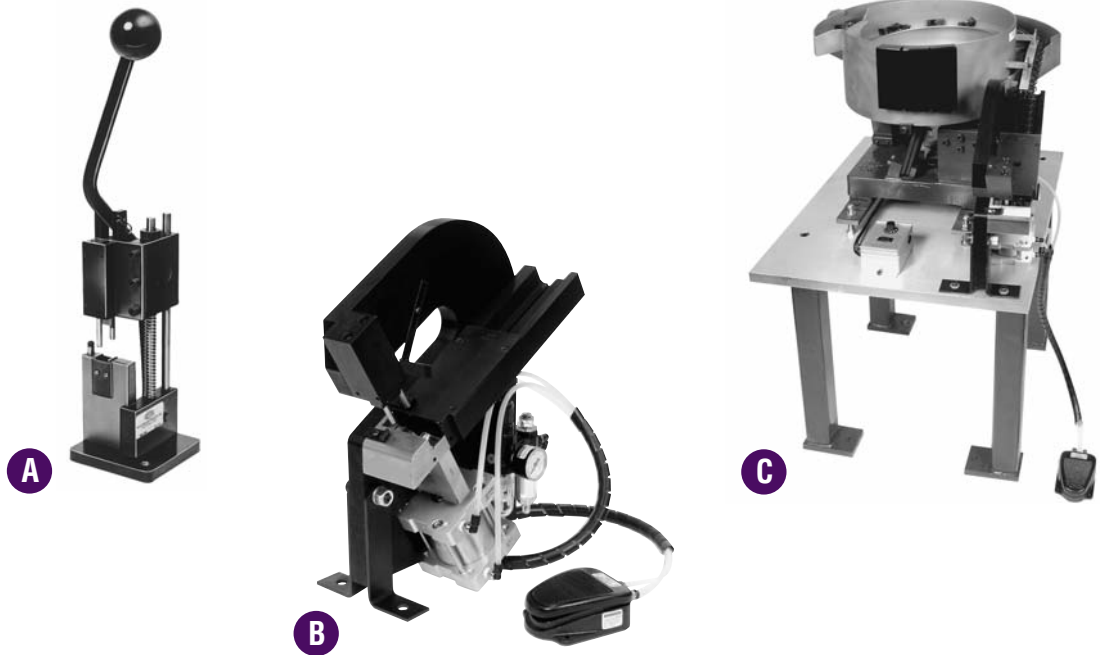
**RDD Lockits** – for “Double D” and Round Mounting Holes.

**ST Lockits** – for Rectangular Mounting Holes.

**Pre-Assemble Lockits onto cable for faster final assembly!**

***Watch this equipment in action at [www.Heyco.com](http://www.Heyco.com)***

*Click on our Strain Relief Bushings Section and then the video “Evolution of the Heyco Strain Relief Bushing” in the upper left most square.*



## **A** Headlock™ for RDD and ST Lockits

Assembly head for RDD and ST Lockit Strain Reliefs. Simply place a Lockit Strain Relief into the “U” opening of the assembly head. Then place the cable into the bushing body and close the head to secure the Lockit™ Strain Relief permanently onto the wire. This completed sub-assembly can then be installed with fingertip pressure into the application’s mounting hole—at a later time, in a different place, for lower installed cost!

## **B** FootLock™

Assembly machine for RDD and ST Lockit Strain Reliefs. This foot-pedal activated assembly machine is identical to Autolock™, except that the gravity fed track is loaded by hand instead of by a vibratory bowl.

## **C** Autolock™ Semi-Automatic

Assembly machine for RDD and ST Lockit Strain Reliefs. Suitable for high volume production runs where batched sub-assemblies are desirable. Includes vibratory feeder bowl, track and head. The operator simply inserts the cable into the assembly head slot, then presses the foot pedal to secure the Strain Relief permanently onto the wire. This completed sub-assembly can be installed with fingertip pressure into the application’s mounting hole—at a later time, in a different place, for lower installed cost!

Equipment for European requirements (motor power ratings and shielding) available, consult Heyco.

For Lockit Strain Relief **Hand Pliers** see page 3, opposite.

# Heyco® Lockit™ Strain Relief Pre-Assembly Equipment Directory

Catalog page numbers in the chart below refer to our new Heyco Power Components Catalog

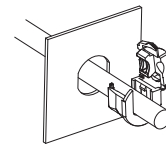


Part No. 0020  
(R 100)

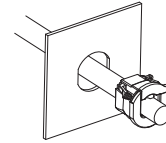
TO ASSEMBLE Lockit™ Strain Relief Series	Catalog Page Ref.	Hand Pliers	USE THE FOLLOWING PART NOS.			
			A Headlock	B Footlock	C Autolock	C† Eurolock
<b>RDD Lockits</b>						
RDD 100, RDD 100A	4-7	0026	ST16	ST14, ST14E†	ST13	ST13E
RDD 101, RDD 101A	4-5					
RDD 100-90, RDD 100A-90	4-10	0026	*	*	*	*
RDD 101-90, RDD 101A-90	4-9					
RDD 100-7, RDD 100A-7	4-8					
RDD 101-7	4-8					
RDD 200, RDD 200-2	4-7	0027	ST17	ST19	ST18	*
RDD 201, RDD 201-2	4-5					
RDD 301, RDD 301-2	4-6					
RDD 401	4-6					
RDD 200-90	4-10	0027	ST17-90	ST19-90	*	*
RDD 201-90	4-9					
RDD 301-90	4-9					
RDD 501	4-6	**	ST20	ST27	ST26	*
RDD 510	4-7	**	ST31	ST34	*	*
RDD 601	4-6	**	ST32	ST33	*	*
RDD 6N-2	4-5	**	ST32	ST33	*	*
<b>ST Lockits</b>						
ST 100L	4-12	0023	ST12	ST11	ST10	*
ST 100N	4-12	0020	OST1	OST4	OST3	OST3E
ST 101N	4-11					
ST 101A	4-13	0025	ST15	OST0	OST6	*
ST 200N	4-12	0073	OST7	OST9	OST8	*
ST 201N, ST 301N	4-11					

† ST14E guarding meets European standards.  
Eurolock **ST13E** and **OST3E** have a 230V 50/60 Hz rated motor.  
\*Consult Heyco for availability.  
\*\*Headlock, Footlock or Autolock required due to cable thickness.

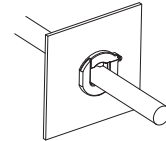
To use Hand Pliers with  
Lockit™ Strain Reliefs:



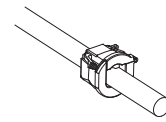
Position on Wire



Squeeze Pliers



Push into Double D (RDD)  
or Rectangular (ST)  
Mounting Hole



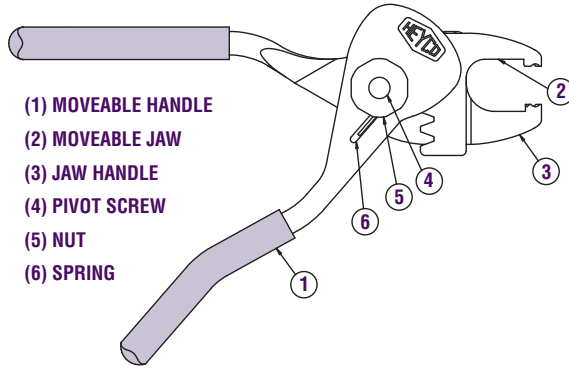
or Set Aside for Future  
Final Assembly

STRAIN RELIEF  
ASSEMBLY



# Heyco® Original Strain Relief Bushing Assembly Pliers Instructions and Spare Parts

Part No.  
0022 (R 29) &  
0030 (R 30)



- (1) MOVEABLE HANDLE
- (2) MOVEABLE JAW
- (3) JAW HANDLE
- (4) PIVOT SCREW
- (5) NUT
- (6) SPRING

DESCRIPTION	SPARE PART NO.		
	for 0022 R 29 Plier	for 0030 R 30 Plier	Drawing Ref. No.
<b>Part Type</b>			
Grips	0037	0047	1
Pivot Screw	0036	0046	4
Nut	0032	0032	5
Spring	0031	0031	6

## Part No. 0022 (R 29)

Pliers are shipped set for a 1/4" (6,4 mm) opening.

## Part No. 0030 (R 30)

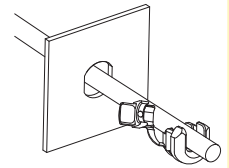
Pliers are shipped set for a 37/64" (14,7 mm) opening.

These two Pliers will assemble the majority of our **Heyco Original Strain Relief Bushings** (see Directory, opposite). If adjustment is necessary, follow the instructions below:

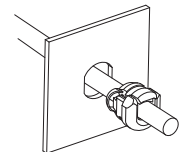
- A. Remove Nut (5) and Spring (6).
- B. Close Pliers and lift off Movable Handle (1).
- C. Move Jaw (2) to desired opening (see Directory, opposite).
- D. Reassemble Handle (1) in **closed** position so that the gear teeth engage.
- E. Open Pliers and replace Spring (6) with short end in deepest recess, long end in Handle groove.
- F. Replace and secure Nut (5).

See opposite page for alternative jaw openings.

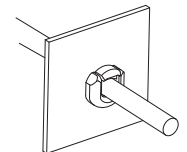
To use Hand Pliers with  
Original Strain Reliefs:



Position on Wire



Squeeze Pliers

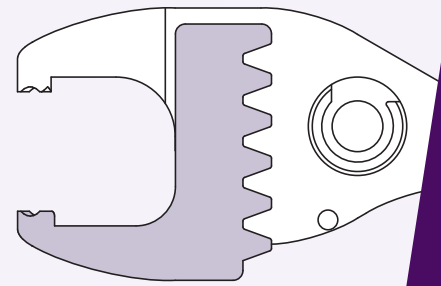


Push into Double D  
Mounting Hole

For Original Strain Relief **Assembly Air Tools**, see page 6.

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# Heyco® Original Strain Relief Bushing Assembly Pliers Directory and Jaw Settings Guide



Catalog page numbers in the chart below refer to our new Heyco Power Components Catalog

MOUNTING HOLE DIA.		Page No.	HEYCO ORIGINAL STRAIN RELIEFS		PLIER JAW OPENING				
in.	mm.		Strain Relief Description for Flat Cables	Page No.	Strain Relief Description for Round Cables	in.	mm.		
<b>Use PART NO. 0022 R 29 Plier</b>									
.375	9,5	4-19	SR302-1, SR300-1, SR 2P-4, SR 2L-1	4-21	SR 2M-1	No Opening			
.437	11,1	4-23	SR 2P-5			11/32	8,7		
		4-19	SR 3P-4, SR 3W-1, SR 3L-1						
.500	12,7	4-23	SR 3P-5			11/32	8,7		
		4-26	SR 13-1						
		4-19	SR 4P-4, SR 4N-4, SR 4K-4, SR 4L-4	4-21	SR 5MN-3, SR 5M-3, SR 5N-4, SR 5P-4				
		4-19	SR 4K-1, SR 4L-1	4-21	SR 5L-1, SR 5P3-4, SR 6W-1				
		4-19	SR 5W-1, SR 5KN-4, SR 5K-4						
		4-20	SR 4N-6, SR 4K-6						
.560	14,2	4-23	SR 4N-5	4-23	SR 5N-5	11/32	8,7		
		4-24	SR 4N-7	4-24	SR 5N-7, SR 5P-7				
		4-26	SR 14-1	4-25	SR 15-1				
		4-20	SR 30-1	4-21	SR 30-1A, SR 30-1B				
.625	15,9	4-26	SR 16-1, SR 20-1, SR 20L-1			11/32	8,7		
		4-20	SR 6N4-4, SR 6P4-4	4-21	SR 6N-4, SR 6P-4, SR 6N2-4, SR 6N3-4				
		4-23	SR 6K-5	4-21	SR 6P3-4, SR 6L-1			4-23	SR 6P-5, SR 6P2-5, SR 6N3-5, SR 6P3-5
				4-24	SR 6N-7, SR 6P-7, SR 6N3-7, SR 6P3-7				
				4-25	SR 10N-2, SR 10-2, SR11-2, SR 11K-2				
4-28	SR 6P10 CEE, SR 6P30 CEE	4-28							
.750	19,1	4-20	SR 33-1	4-22	SR 7P-2	19/32	15,1		
		4-24	SR 7P-7						
		4-26	SR 23-1	4-25	SR 17-2				
.875	22,2	4-20	SR 34-2, SR 31-2	4-22	SR 7K-2, SR 7KR-2, SR 7W-2, SR 7L-2	19/32	15,1		
		4-26	SR 24-1	4-22	SR 31-2, SR 8P-2, SR 8L-1				
<b>Use PART NO. 0021 R 291 Plier – for .040" (1,0 mm) panel thickness Strain Reliefs</b>									
.437	11,1	4-19	SR 3A-4			11/32	8,7		
.500	12,7	4-20	SR 4A-6			11/32	8,7		
		4-26	SR 14A-1						
<b>Use PART NO. 0030 R 30 Plier – more leverage for thicker cables</b>									
.750	19,1	4-20	SR 33-1	4-22	SR 7P-2	37/64	14,7		
		4-24	SR 7P-7						
		4-26	SR 23-1	4-25	SR 17-2				
.875	22,2	4-20	SR 34-2, SR 31-2	4-22	SR 7K-2, SR 7KR-2, SR 7W-2, SR 7L-2	37/64	14,7		
		4-26	SR 24-1	4-22	SR 31-2, SR 8P-2, SR 8L-1				
1.093	27,8	4-26	SR 21-2	4-22	SR 9P-2, for 1-3/32" (27,8 mm) MH	27/32	21,4		
				4-22	SR 9P-2, for 1-3/16" (30,2 mm) MH	1-7/64	28,2		
<b>Use PART NO. 0028 R 301 Plier – for SR 7N-2 and SR 8N-2 only</b>									
.750	19,1			4-22	SR 7N-2	37/64	14,7		
.875	22,2			4-22	SR 8N-2				

For Original Strain Relief Assembly Air Tools, see page 6.



# Heyco® Original Strain Relief Bushing Air Tool, Air Tool Jaws & Replacement Parts

## Ordering Procedure for Air Tools:

- On the tabular chart, locate the panel mounting hole diameter and Original Strain Relief Bushing that you are using.
- The appropriate Air Tool is shown on the same line.
- Jaws may be purchased separately, see the two right most PART NO. columns.
- Bench Mount Kit **Part No. OT02** provides the necessary components to convert a hand Air Tool to a bench mounted unit. The bench Air Tool can be mounted in any convenient position on the assembly area work surface. The unit is foot activated, leaving the operator's hands free. See below.
- For Original Strain Relief **Assembly Pliers**, see pages 4 and 5.

STRAIN RELIEF ASSEMBLY

## Air Tool and Air Tool Jaws Directory

PANEL HOLE DIAMETER		FOR ORIGINAL STRAIN RELIEF BUSHINGS	AIR TOOL PART NO. inc. Jaws	JAW PART NO. *	
in.	mm.			Upper	Lower
.375	9,5	2L-1, 2M-1, 2P-4, 2P-5	0171	OT47	OT48
		3A-4	0173	OT49	OT50
.437	11,1	3L-1, 3P-4, 3P-5, 3W-1, 13-1	0175	OT51	OT52
		4A-6, 14A-1	0177	OT53	OT54
		4K-1, 4K-4, 4K-6, 4L-1, 4L-4, 4N-4, 4N-5, 4N-6, 4N-7, 4P-4, 5L-1, 5M-3, 5MN-3, 5N-4, 5N-5, 5N-7, 5P-4, 5P-7, 5P3-4, 6W-1, 14-1, 15-1	0179	OT55	OT56
.562	14,3	5K-4, 5KN-4, 5W-1, 16-1	0181	OT59	OT60
.625	15,9	6K-5, 6L-1, 6N-4, 6N-7, 6N2-4, 6N3-4, 6N3-5, 6N3-7, 6N4-4, 6P-4, 6P-5, 6P-7, 6P2-5, 6P3-4, 6P3-5, 6P3-7, 6P4-4, 6P10, 6P30, 10N-2, 10-2, 11-2, 11K-2	0183	OT61	OT62
		7N-2	0185	OT63 <sup>1</sup>	OT64 <sup>2</sup>
.750	19,0	7P-2, 7P-7, 17-2	0187	OT65 <sup>1</sup>	OT66 <sup>2</sup>
		7K-2, 7KR-2, 7L-2, 7W-2, 8L-1, 8P-2, 24-1, 31-2, 34-2	0189	OT67 <sup>1</sup>	OT68 <sup>2</sup>
.875	22,2	8N-2	0193	OT71 <sup>1</sup>	OT72 <sup>2</sup>
		300-1, 302-1	0191	OT69	OT70
.375x.625	9,5x15,9	20-1, 20L-1, 30-1, 30-1A, 30-1B	0195	OT73	OT74
.750 x .875	19,0 x 22,2	23-1, 33-1	0197	OT75	OT76 <sup>2</sup>

<sup>1</sup>Secondary (upper) Jaw style. When ordering additional spacer may be required (P/N OT36[2]).

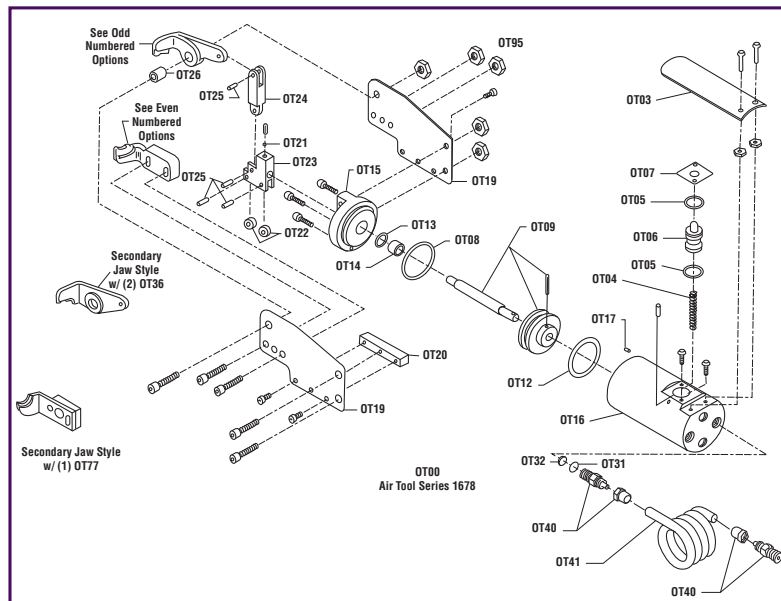
<sup>2</sup>Secondary (lower) Jaw style. When ordering additional spacer may be required (P/N OT77[1]).

\*Jaw part number if purchased separately. See drawing below.

## Air Tool Replacement Parts



Part No. OT02 Bench Mount Kit shown installed with Heyco Air Tool



# Heyco® Snap-In Cordgrip Strain Reliefs

**No Assembly Equipment Required!**



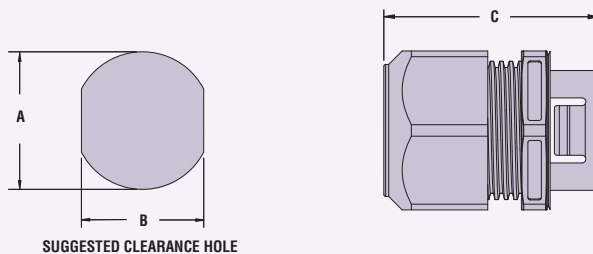
## Straight-Thru for Round Cables

For Panels from .062" (1,6 mm) to .125" (3,2 mm) Thick

*The Ultimate in Snap-in Strain Relief Protection*

WILL FIT THESE CABLES				PART NO.	DESCRIPTION	UL or UR	PANEL DIMENSIONS						Mounting Hole Plug Part No.
Minimum Diameter		Maximum Diameter					A Mounting Hole	B To Prevent Rotation		C Max O.A. Length			
in.	mm.	in.	mm.					in.	mm.	in.	mm.		
.065	1,7	.220	5,6	<b>M4802</b>	RSCG 500	UL	.500	12,7	.450	11,4	1.21	30,7	2491
.115	2,9	.250	6,4	<b>M4800</b>	SCG 500	UL	.500	12,7	.450	11,4	1.21	30,7	2491
.065	1,7	.187	4,8	<b>M4808</b>	RSCG 625	UL	.625	15,9	.550	14,0	1.30	33,0	2497
.105	2,7	.312	7,9	<b>M4806</b>	SCG 625	UL	.625	15,9	.550	14,0	1.30	33,0	2497
.069	1,8	.250	6,4	<b>M4814</b>	RSCG 750	UL	.750	19,1	.660	16,8	1.48	37,6	2503
.230	5,8	.395	10,0	<b>M4812</b>	SCG 750	UL	.750	19,1	.660	16,8	1.48	37,6	2503
.095	2,4	.260	6,6	<b>M4820</b>	RSCG 875	UL	.875	22,2	.770	19,6	1.46	37,1	2509
.170	4,3	.450	11,4	<b>M4818</b>	SCG 875	UL	.875	22,2	.770	19,6	1.46	37,1	2509
.180	4,6	.440	11,2	<b>M4826</b>	RSCG 1000	UL	1.000	25,4	.875	22,2	1.62	41,1	*
.260	6,6	.546	13,9	<b>M4824</b>	SCG 1000	UL	1.000	25,4	.875	22,2	1.62	41,1	*
.250	6,4	.485	12,3	<b>M4832</b>	RSCG 1093	UL	1.093	27,8	.970	24,6	1.75	44,5	2717
.485	12,3	.709	18,0	<b>M4830</b>	SCG 1093	UL	1.093	27,8	.970	24,6	1.75	44,5	2717
.250	6,4	.485	12,3	<b>M4838</b>	RSCG 1125	UL	1.125	28,6	1.000	25,4	1.75	44,5	2717
.485	12,3	.709	18,0	<b>M4836</b>	SCG 1125	UL	1.125	28,6	1.000	25,4	1.75	44,5	2717
.490	12,4	.787	20,0	<b>M4844</b>	RSCG 1250	UL	1.250	31,8	1.125	28,6	2.05	52,1	*
.590	15,0	.920	23,4	<b>M4842</b>	SCG 1250	UL	1.250	31,8	1.125	28,6	2.05	52,1	*
.490	12,4	.787	20,0	<b>M4850</b>	RSCG 1375	UL	1.375	34,9	1.250	31,8	2.05	52,1	*
.590	15,0	1.000	25,4	<b>M4848</b>	SCG 1375	UL	1.375	34,9	1.250	31,8	2.05	52,1	*
.787	20,0	1.020	25,9	<b>M4856</b>	RSCG 1500	UL	1.500	38,1	1.375	34,9	2.23	56,6	*
.865	22,0	1.180	30,0	<b>M4854</b>	SCG 1500	UL	1.500	38,1	1.375	34,9	2.23	56,6	*
.787	20,0	1.020	25,9	<b>M4862</b>	RSCG 1750	UL	1.750	44,5	1.625	41,3	2.28	57,9	*
.865	22,0	1.260	32,0	<b>M4860</b>	SCG 1750	UL	1.750	44,5	1.625	41,3	2.28	57,9	*
1.000	25,4	1.240	31,5	<b>M4868</b>	RSCG 2000	UL	2.000	50,8	1.875	47,6	2.41	61,2	2959
1.230	31,2	1.560	39,6	<b>M4866</b>	SCG 2000	UL	2.000	50,8	1.875	47,6	2.41	61,2	2959
1.160	29,5	1.350	34,3	<b>M4874</b>	RSCG 2375	UL	2.375	60,3	2.250	57,2	2.50	63,5	*
1.450	36,8	1.560	39,6	<b>M4872</b>	SCG 2375	UL	2.375	60,3	2.250	57,2	2.50	63,5	*

Standard color black.  
\*Consult Heyco.



- Unique fingers securely lock into a range of panel sizes without use of locknut.
- Smooth, rounded interior edges for ease of installation.
- Limited intrusion into enclosure where access is tight.
- Rotation prevented when used in "Double D" mounting holes.
- Easy to install—no tools required.
- Ratchet design of sealing nut assembly provides superior anti-vibration and ensures a firm grip on the cable.
- Available in multiple sizes for cable diameters ranging from .065" (1,7 mm) to 1.560" (39,6 mm).
- We recommend using the fitting with the smallest maximum diameter that will fit your application.
- Meet UL strain relief requirements without bending or kinking the cable.
- Though similar in appearance and function to Heyco-Tite Liquid Tight Cordgrips, Snap-In Cordgrip Strain Reliefs may not be liquid tight at the panel interface. For our complete range of **Liquid Tight** Cordgrips with Integral Sealing Ring, see Section 3 of our new, full line **Heyco Power Components Catalog**.
- Use **Heyco Mounting Hole Plugs** to fill blank/unused Mounting Holes and thus allow for a single panel design for multiple applications.
- **No Assembly Equipment Required.**

Materials  
Certifications

6/6 Nylon w/Buna N Sealing Gland  
UL Recognized under Underwriters' Laboratories File E51579  
CSA Certified by Canadian Standards Association File 093876

Flammability Rating  
Temperature Rating

94V-2  
-22°F (-30°C) to 212°F (100°C)

*Quick Specs*

# Heyco® Lockit™ RDD and ST Strain Relief Bushings

## UL Approved Round Wire Types

Lockit™ Strain Reliefs for Round Cables									
Mounting Hole →				Will Fit Electrical Knock-outs					
	11,5 x 13,0 mm	17,5 x 17,5 mm		.625" (15,9 mm) Ø	.875" (22,2 mm) Ø			1.109" (28,2 mm) Ø	
UL DIA. RANGE →	.220" - .290" 5,6 - 7,4 mm	.290" - .360" 7,4 - 9,1 mm	.355" - .420" 9,0 - 10,7 mm	.220" - .290" 5,6 - 7,4 mm	.290" - .385" 7,4 - 9,8 mm	.340" - .430" 8,6 - 10,9 mm	.420" - .450" 10,7 - 11,4 mm	.525" - .600" 13,3 - 15,2 mm	.600" - .700" 15,2 - 17,8 mm
LOCKIT Variety →	ST 101N*	ST 201N*	ST 301N*	RDD 101** RDD 101-7 RDD 101-90	RDD 201** RDD 201-2 RDD 201-90	RDD 301** RDD 301-2 RDD 301-90	RDD 401**	RDD 501**	RDD 601**
UL TYPE									
S	X	X	X	X	X	X	X	X	X
SE	X	X	X	X	X	X	X	X	X
SEO	X	X	X	X	X	X	X	X	X
SE00									X
SE00W	X	X	X	X	X	X	X		X
SE0W	X	X	X	X	X	X	X		X
SJ	X	X	X	X	X	X	X	X	X
SJE								X	
SJE00W	X	X	X	X	X	X	X		
SJE0W	X	X	X	X	X	X	X		
SJO	X	X	X	X	X	X	X	X	X
SJ00	X	X	X	X	X	X	X	X	X
SJ00W	X	X	X	X	X	X	X		
SJ0W	X	X	X	X	X	X	X		
SJT								X	X
SJTE00W	X	X	X	X	X	X	X		
SJTE0W	X	X	X	X	X	X	X		
SJTO	X	X	X	X	X	X	X	X	
SJTO0	X	X	X	X	X	X	X	X	
SJTO0W	X	X	X	X	X	X	X		
SJTOW	X	X	X	X	X	X	X		
SJTW	X	X	X	X	X	X	X		
SO	X	X	X	X	X	X	X	X	X
SO0	X	X	X	X	X	X	X	X	X
SO0W	X	X	X	X	X	X	X		
SOW	X	X	X	X	X	X	X		
SRDT									X
ST									X
STO								X	X
STO0								X	X
STO0W									X
STOW									X
SV	X	X	X	X	X	X	X		
SVE	X	X	X	X	X	X	X		
SVE0	X	X	X	X	X	X	X		
SVO	X	X	X	X	X	X	X		
SVO0	X	X	X	X	X	X	X		

Consult Heyco for UL Type designations not shown.  
 \* UL approved for Cable Diameter Range.  
 \*\* UL approved for Cable Diameter Range and Type.



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