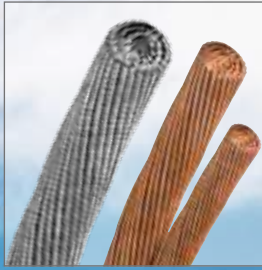
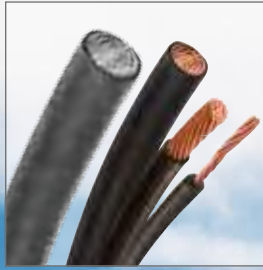


WIRE PULLING GRIP GUIDE

FOR DISTRIBUTION AND TRANSMISSION APPLICATIONS



Bare Conductor



Covered Conductor



Wire Rope



Guy Strand



KLEIN TOOLS[®] 
For Professionals... Since 1857™

DISTRIBUTION 1-2

BARE CONDUCTORS 1

COVERED CONDUCTORS 2

WIRE ROPE (STEEL) 3

GUY STRAND & EHS 4

WIDE RANGE GRIPS 5

TRANSMISSION..... 6-13

ACSR6-7

AAC.....8-9

ACSS 10-11

ACSS/TW 12-13

RELATED PRODUCTS 14

RECOMMENDED CARE 15

COMMON OVERHEAD APPLICATIONS 16-17



Original Klein® Grip, patented in 1892

⚠WARNINGS:

- Grips are to be used for temporary installation, not for permanent anchorage.
- When used on or near energized lines, ground, insulate or isolate grip before pulling.
- Do not exceed rated capacity.
- Always match proper size and type of grip to application.
- Before each use, clean jaw area and inspect grip for proper operation to avoid slippage.

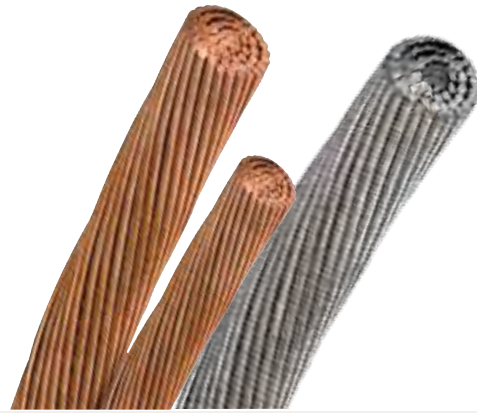
Grip Recommendation

Klein Tools offers a free service of recommending the proper grip for a particular application based on a sample of cable. All that is required is a minimum 6'-9" (2-3 meters) length of cable.

If there is ever a question about the safe condition of any grip, contact Customer Service at **847.821.5500** or **800.553.4676** or email **HiSupport@kleintools.com**.

BARE CONDUCTORS

Grip	Outside Diameter	Safe Load
1613-35	#6-#8 Copper	4,500 lbs. (2,041 kg)
1656-20	.20" - .40" (5.08 mm - 10.16 mm)	4,500 lbs. (2,041 kg)
1656-30	.31" - .53" (7.88 mm - 13.46 mm)	4,500 lbs. (2,041 kg)
1656-40	.53" - .74" (13.46 mm - 18.79 mm)	8,000 lbs. (3,629 kg)
1656-50	.74" - .86" (18.80 mm - 21.84 mm)	8,000 lbs. (3,629 kg)
1656-60	.86" - .96" (21.84 mm - 24.38 mm)	8,000 lbs. (3,629 kg)

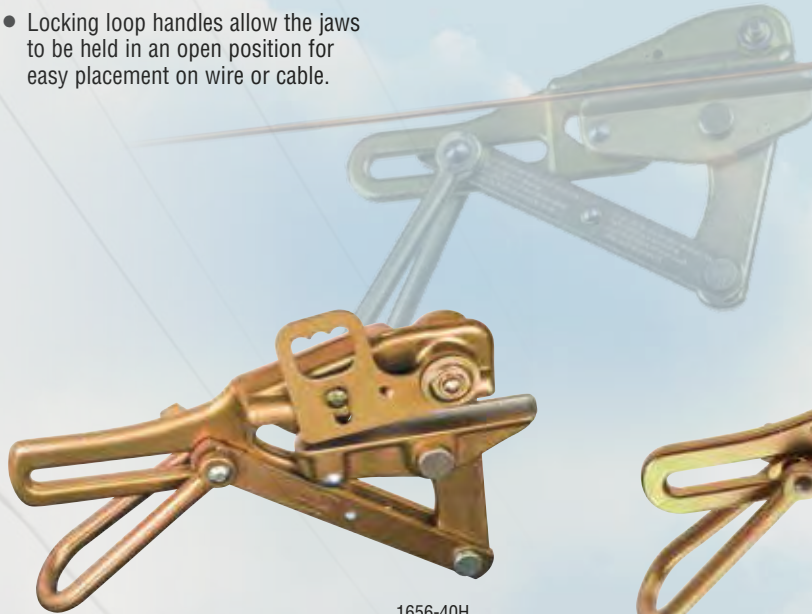
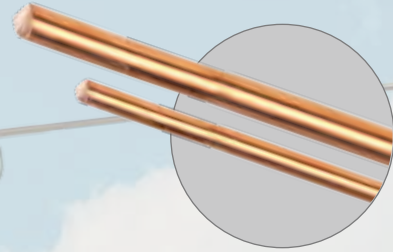


Pulls #6 and #8 bare copper wire without damaging or deforming the cable. 1613-35

Chicago™ Grips

Authentic Chicago Grips are designed for use on aluminum, copper and ACSR.

- Locking loop handles allow the jaws to be held in an open position for easy placement on wire or cable.



1656-40H



1656-30

Cat. No.	Hot Latch Model No.	Hot Latch/Spring Model No.	Min. to Max. Cable Diameter inches (mm)	Jaw Length	Approx. Weight Each
4,500 lbs. (2,041 kg) Maximum Safe Load					
1613-35	1613-35H	NA	#6 and #8 AWG Bare Copper	4-3/16" (106 mm)	6.25 lbs. (2.8 kg)
1656-20	1656-20H	S1656-20H	.20" - .40" (5.08 mm - 10.16 mm)	4" (102 mm)	3.0 lbs. (1.36 kg)
1656-30	1656-30H	S1656-30H	.31" - .53" (7.88 mm - 13.46 mm)	4-3/4" (121 mm)	3.75 lbs. (1.70 kg)
8,000 lbs. (3,629 kg) Maximum Safe Load					
1656-40	1656-40H	S1656-40H	.53" - .74" (13.46 mm - 18.79 mm)	5-1/2" (140 mm)	8.30 lbs. (3.76 kg)
1656-50	1656-50H	S1656-50H	.74" - .86" (18.80 mm - 21.84 mm)		
1656-60	1656-60H	S1656-60H	.86" - .96" (21.84 mm - 24.38 mm)		

COVERED CONDUCTORS

Grip	Outside Diameter	Safe Load
1659-20	.20" - .40" (5.1 mm - 10.2 mm)	4,500 lbs. (2,041 kg)
1659-30	.31" - .53" (7.9 mm - 13.5 mm)	4,500 lbs. (2,041 kg)
1659-40	.49" - .79" (12.45 mm - 20.1 mm)	8,000 lbs. (3,629 kg)
1659-50	.79" - 1.0" (20.1 mm - 25.6 mm)	8,000 lbs. (3,629 kg)



Coming in 2016

A grip specifically designed to pull spacer cable or tree wire like Hendrix®.

Chicago™ Grips for Covered Cable “Smiley Jaw”

- Specially machined serpentine jaws allow use on insulated conductors.
- Eliminates necessity of stripping insulation from conductor.



1659-30

Hendrix® is a registered trademark of Marmon Utility, LLC.

Cat. No.	Min. to Max. Cable Diameter inches (mm)	Jaw Length	Approx. Weight Each
4,500 lbs. (2,041 kg) Maximum Safe Load			
1659-20	.20" - .42" (5.08 mm - 10.67 mm)	4-3/16" (106 mm)	3 lbs. (1.36 kg)
1659-30	.31" - .50" (7.87 mm - 12.70 mm)	4-3/4" (121 mm)	3.75 lbs. (1.70 kg)
8,000 lbs. (3,629 kg) Maximum Safe Load			
1659-40	.49" - .79" (12.45 mm - 20.07 mm)	5-11/16" (144 mm)	7.75 lbs. (3.52 kg)
1659-50	.79" - 1.0" (20.07 mm - 25.56 mm)		

WIRE ROPE (STEEL)

Grip	Outside Diameter	Safe Load (lbs.)
1604-10	1/16" - 3/16" (1.59 mm - 4.76 mm)	2,500 lbs. (1,134 kg)
1604-20L	1/8" - 1/2" (3.18 mm - 12.70 mm)	5,000 lbs. (2,268 kg)
1625-20	5/16" - 3/4" (7.94 mm - 19.05 mm)	8,000 lbs. (3,629 kg)
1625-20 7/8	7/16" - 7/8" (11.11 mm - 22.23 mm)	8,000 lbs. (3,629 kg)
1625-20 1	1/2" - 1" (12.70 mm - 25.4 mm)	8,000 lbs. (3,629 kg)



Haven's™ Grips

“Pork Chop”

Haven's Grips are designed for use when a light, compact grip is desired where conductor deformation is not a factor.

- Gripping pressure of the knurled jaw is applied to 1/4" (6.35 mm) cable area.
- All 1625 series have a swing latch to help hold cable in the jaw.



1625-20



1604-20



1604-20L

Cat. No.	Latch Model	Min. to Max. Cable Diameter inches (mm)	Jaw Length	Approx. Weight Each
2,500 lbs. (1,134 kg) Maximum Safe Load				
1604-10	NA	.06" - .25" (1.52 mm - 6.35 mm)	N/A	1 lb. (.45 kg)
5,000 lbs. (2,268 kg) Maximum Safe Load				
1604-20	1604-20L	.125" - .50" (3.18 mm - 12.70 mm)	N/A	2.08 lbs. (1.14 kg)
8,000 lbs. (3,629 kg) Maximum Safe Load				
1625-20	Latch Included	.28" - .75" (7.11 mm - 19.05 mm)	N/A	4 lbs. (1.81 kg)
1625-20 7/8		.38" - .88" (9.65 mm - 22.35 mm)		
1625-20 1		.50" - 1.00" (12.70 mm - 25.40 mm)		

GUY STRAND & EHS (EXTRA HIGH-STRENGTH)

Grip	Outside Diameter	Safe Load (lbs.)
1613-40	1/8" - 5/16" (3.05 mm - 9.40 mm)	4,500 lbs. (2,041 kg)
1684-5C	3/16" - 1/2" (4.06 - 13.97 mm)	8,000 lbs. (3,629 kg)
1628-16	5/16" - 9/16" (7.94 mm - 14.29 mm)	15,000 lbs. (6,803 kg)
1628-17	1/2" - 3/4" (12.70 mm - 19.05 mm)	15,000 lbs. (6,803 kg)
1628-18	3/4" - 1" (19.05 mm - 25.4 mm)	15,000 lbs. (6,803 kg)



Coming in 2016

A grip specifically designed to pull coated guy strand larger than .50" (12.70 mm).



1613-40



1684-5C

- Sawtooth jaw profile provides extra gripping power.



1628-16

Cat. No.	Hot Latch Model No.	Hot Latch/Spring Model No.	Min. to Max. Cable Diameter inches (mm)	Jaw Length	Approx. Weight Each
4,500 lbs. (2,041 kg) Maximum Safe Load					
1613-40	1613-40H	S1613-40H	.12" - .37" (3.05 mm - 9.40 mm)	4-3/16" (106 mm)	3 lbs. (1.36 kg)
8,000 lbs. (3,629 kg) Maximum Safe Load – EHS Specific					
1684-5C	NA	NA	.160" - .550" (4.06 - 13.97 mm)	5" (127 mm)	6.25 lbs. (2.84 kg)
15,000 lbs. (6,803 kg) Maximum Safe Load					
1628-16	NA	NA	.31" - .62" (7.87 mm - 15.75 mm)	7-1/4" (184 mm)	15.30 lbs. (7.00 kg)
1628-17			.50" - .75" (12.70 mm - 19.05 mm)		16.30 lbs. (7.40 kg)
1628-18			.75" - 1.00" (19.05 mm - 25.40 mm)		15.70 lbs. (7.10 kg)

WIDE RANGE GRIPPS

Grip	Outside Diameter	Safe Load (lbs.)
KT4500	.18" - .60" (4.57 mm - 15.2 mm)	5,000 (2,268 kg)
KT4650	.16" - .90" (4.00 mm - 23.0 mm)	5,000 (2,268 kg)
KT4600	.30" - .80" (7.62 mm - 20.3 mm)	10,000 (4,536 kg)
KT4800	.70" - 1.25" (17.8 mm - 31.8 mm)	12,000 (5,443 kg)



- Latch helps maintain cable position.
- Large-diameter eye accommodates large hooks on hoists, winches and tackle blocks.
- Designed for use on bare conductor cables.



KT4500



KT4502



KT4650

Cat. No.	Min. to Max. Cable Diameter inches (mm)	Hot Latch	Spring	Locking Handle	Jaw Length	Approx. Weight Each
5,000 lbs. (2,268 kg) Maximum Safe Load						
KT4500	.180" - .600" (4.57 mm - 15.2 mm)		•		4" (101.3 mm)	3.75 lbs. (1.70 kg)
KT4501		•	•	•		
KT4502		•				
KT4650	.160" - .900" (4.00 mm - 23.0 mm)		•		4-1/2" (114 mm)	4.90 lbs. (2.22 kg)
KT4652		•	•			
10,000 lbs. (4,536 kg) Maximum Safe Load						
KT4600	.300" - .800" (7.62 mm - 20.3 mm)		•		5" (127 mm)	7 lbs. (3.18 kg)
KT4601		•	•	•		
KT4602		•				
12,000 lbs. (5,443 kg) Maximum Safe Load						
KT4800	.700" - 1.25" (17.8 mm - 31.8 mm)		•		5-1/8" (130 mm)	9 lbs. (4.1 kg)
KT4801		•	•	•		
KT4802		•				

ACSR (Aluminum Conductor Steel Reinforced)

AWG or MCM Size	Diameter inches (mm)	No. of Alum. & Steel Strands	Code Word	Grip	Safe Load
605 MCM	.966" (24.54 mm)	26x7	Squab	1628-30P	20,000 lbs. (9,072 kg)
605 MCM	.994" (25.25 mm)	30x7	Wood Duck	1628-30P	
605 MCM	.994" (25.25 mm)	30x19	Teal	1628-30P	
636 MCM	.940" (23.88 mm)	18x1	Kingbird	1628-300	
636 MCM	.977" (24.82 mm)	24x7	Rook	1628-30P	
636 MCM	.991" (25.17 mm)	26x7	Grosbeak	1628-30P	
636 MCM	1.019" (25.88 mm)	30x7	Scoter	1628-30R	
636 MCM	1.019" (25.88 mm)	30x19	Egret	1628-30R	
666.6 MCM	1.000" (25.40 mm)	24x7	Flamingo	1628-30P	
666.6 MCM	1.014" (25.76 mm)	26x7	Gannet	1628-30P	
715.5 MCM	1.051" (26.70 mm)	26x7	Starling	1628-30R	
715.5 MCM	1.081" (27.46 mm)	30x19	Redwing	1628-30S	
795 MCM	1.040" (26.42 mm)	36x1	Coot	1628-30R	
795 MCM	1.063" (27.00 mm)	45x7	Tern	1628-30R	
795 MCM	1.092" (27.74 mm)	54x7	Condor	1628-30S	
795 MCM	1.092" (27.74 mm)	24x7	Cuckoo	1628-30S	
795 MCM	1.107" (28.12 mm)	26x7	Drake	1628-30S	
795 MCM	1.140" (28.96 mm)	30x19	Mallard	1628-30S	
900 MCM	1.131" (28.73 mm)	45x7	Ruddy	1628-30S	
900 MCM	1.162" (29.52 mm)	54x7	Canary	1628-30T	
954 MCM	1.165" (29.59 mm)	45x7	Rail	1628-30T	
954 MCM	1.165" (29.59 mm)	20x7	Corncrake	1628-30T	
954 MCM	1.175" (29.85 mm)	48x7	Towhee	1628-30T	
954 MCM	1.196" (30.38 mm)	54x7	Cardinal	1628-30T	
954 MCM	1.196" (30.38 mm)	24x7	Redbird	1628-30T	
1033.5 MCM	1.212" (30.79 mm)	45x7	Ortolan	1628-30U	
1033.5 MCM	1.245" (31.62 mm)	54x7	Curlew	1628-30U	
1113 MCM	1.258" (31.95 mm)	45x7	Bluejay	1628-30U	
1113 MCM	1.292" (32.82 mm)	54x19	Finch	1628-40W	
1192.5 MCM	1.302" (33.07 mm)	45x7	Bunting	1628-40W	
1192.5 MCM	1.337" (33.96 mm)	54x19	Grackle	1628-40X	
1272 MCM	1.317" (33.45 mm)	36x1	Skylark	1628-40W	
1272 MCM	1.345" (34.16 mm)	45x7	Bittern	1628-40X	
1272 MCM	1.381" (35.08 mm)	54x19	Pheasant	1628-40X	
1351.5 MCM	1.386" (35.20 mm)	45x7	Dipper	1628-40X	
1351.5 MCM	1.424" (36.17 mm)	54x19	Martin	1628-40Y	
1431 MCM	1.427" (36.25 mm)	45x7	Bobolink	1628-40Y	
1431 MCM	1.465" (37.21 mm)	54x19	Plover	1628-40Z	
1590 MCM	1.504" (38.20 mm)	45x7	Lapwing	1628-40Z	
1590 MCM	1.544" (39.22 mm)	54x19	Falcon	1628-40A	
1780 MCM	1.602" (40.70 mm)	84x19	Chukar	1628-50B	
2034.5 MCM	1.681" (42.70 mm)	72x7	Mockingbird	1628-50C	
2156 MCM	1.762" (44.75 mm)	84x19	Bluebird	1628-50D	
2167 MCM	1.735" (44.07 mm)	72x7	Kiwi	1628-50D	
2312 MCM	1.802" (45.77 mm)	76x19	Thrasher	1628-50E	
2515 MCM	1.880" (47.75 mm)	76x19	Joree	1628-50F	
					25,000 lbs. (11,340 kg)

ACSR TRANSMISSION CABLES

Chicago™ Grips 1628 Series



- Round jaws are shaped to provide maximum contact with the cable, virtually eliminating cable deformation.

In some transmission applications – commonly using the 1628-30, 1628-40 or 1628-50 series Chicago Grips – there is a risk of cable deformation under high tensions. To avoid this risk, Klein Tools recommends using two grips in tandem if the load is expected to exceed the lesser of 12,500 lbs. (5670 kg) or 40% of the ACSR conductor's tensile strength.



1628-40



1628-50

These grips are special order only. Application must be confirmed prior to ordering. Allow 30 days for delivery.



- 1628-50 equipped with removable bolt on floating jaw, secured by a slotted nut and cotter pin. Jaw provides increased cable coverage.

Note: Jaw must be removed to insert cable for model 1628-50.

Cat. No.	Min. to Max. Cable Diameter inches (mm)	Jaw Length	Approx. Weight Each
20,000 lbs. (9,072 kg) Maximum Safe Load			
1628-30P	.95" - 1.02" (24.23 mm - 25.78 mm)	10-3/4" (273 mm)	27 lbs. (12.27 kg)
1628-30R	1.02" - 1.08" (25.81 mm - 27.38 mm)		
1628-30S	1.08" - 1.14" (27.41 mm - 28.96 mm)		
1628-30T	1.14" - 1.20" (28.98 mm - 30.56 mm)		
1628-30U	1.21" - 1.26" (30.59 mm - 32.13 mm)		
25,000 lbs. (11,340 kg) Maximum Safe Load			
1628-40W	1.27" - 1.33" (32.16 mm - 33.73 mm)	10-3/4" (273 mm)	34 lbs. (15.45 kg)
1628-40X	1.33" - 1.39" (33.76 mm - 35.30 mm)		
1628-40Y	1.39" - 1.45" (35.33 mm - 36.91 mm)		
1628-40Z	1.45" - 1.52" (36.93 mm - 38.48 mm)		
25,000 lbs. (11,340 kg) Maximum Safe Load with bolt on jaw			
1628-50A	1.52" - 1.58" (38.51 mm - 40.08 mm)	10-3/4" (273 mm)	34 lbs. (15.45 kg)
1628-50B	1.58" - 1.64" (40.11 mm - 41.66 mm)		
1628-50C	1.64" - 1.70" (41.68 mm - 43.26 mm)		
1628-50D	1.70" - 1.77" (43.28 mm - 44.83 mm)		
1628-50E	1.77" - 1.83" (44.86 mm - 46.43 mm)		
1628-50F	1.83" - 1.89" (46.46 mm - 48.00 mm)		

AAC (All Aluminum Conductor)

AWG or MCM Size	Diameter inches (mm)	No. of Alum. Strands	Code Word	Grip	Safe Load
700 MCM	.963" (24.46 mm)	37	Verbena	1628-30P	20,000 lbs. (9,072 kg)
700 MCM	.964" (24.49 mm)	61	Flag	1628-30P	
715.5 MCM	.973" (24.71 mm)	37	Violet	1628-30P	
715.5 MCM	.975" (24.77 mm)	61	Nasturtium	1628-30P	
750 MCM	.998" (25.35 mm)	61	Cattail	1628-30P	
750 MCM	.997" (25.32 mm)	37	Petunia	1628-30P	
795 MCM	1.026" (26.06 mm)	37	Arbutus	1628-30R	
795 MCM	1.027" (26.09 mm)	61	Lilac	1628-30R	
800 MCM	1.029" (26.14 mm)	37	Fuschia	1628-30R	
800 MCM	1.031" (26.19 mm)	61	Heliotrope	1628-30R	
874.5 MCM	1.076" (27.37 mm)	37	Anemone	1628-30R	
874.5 MCM	1.077" (27.36 mm)	61	Crocus	1628-30R	
900 MCM	1.092" (27.74 mm)	37	Cockscomb	1628-30S	
954 MCM	1.124" (28.55 mm)	37	Magnolia	1628-30S	
954 MCM	1.125" (28.58 mm)	61	Goldenrod	1628-30S	
1000 MCM	1.151" (29.24 mm)	37	Hawkweed	1628-30T	
1000 MCM	1.152" (29.26 mm)	61	Camellia	1628-30T	
1033.5 MCM	1.170" (29.72 mm)	37	Bluebell	1628-30T	
1033.5 MCM	1.171" (29.74 mm)	61	Larkspur	1628-30T	
1113 MCM	1.216" (30.89 mm)	61	Marigold	1628-40U	25,000 lbs. (11,340 kg)
1192.5 MCM	1.258" (31.95 mm)	61	Hawthorn	1628-40U	
1272.MCM	1.300" (33.02 mm)	61	Narcissus	1628-40W	
1351.5 MCM	1.340" (34.04 mm)	61	Columbine	1628-40X	
1431 MCM	1.378" (35.00 mm)	61	Carnation	1628-40X	
1510.5 MCM	1.416" (35.97 mm)	61	Gladiolus	1628-40Y	
1590 MCM	1.453" (36.91 mm)	61	Coreopsis	1628-40Z	
1750 MCM	1.524" (38.71 mm)	61	Jessamine	1628-40A	
2000 MCM	1.631" (41.43 mm)	91	Cowslip	1628-50B	
2250 MCM	1.729" (43.92 mm)	91	Sagebrush	1628-50D	
2500 MCM	1.823" (46.30 mm)	91	Lupine	1628-50E	

AAC TRANSMISSION CABLES

Chicago™ Grips 1628 Series

- Round jaws are shaped to provide maximum contact with the cable, virtually eliminating cable deformation.



In some transmission applications – commonly using the 1628-30, 1628-40 or 1628-50 series Chicago Grips – there is a risk of cable deformation under high tensions. To avoid this risk, Klein Tools recommends using two grips in tandem if the load is expected to exceed the lesser of 12,500 lbs. (5,670 kg) or 40% of the AAC conductor's tensile strength.



1628-40



1628-50

These grips are special order only. Application must be confirmed prior to ordering. Allow 30 days for delivery.



- 1628-50 equipped with removable bolt on floating jaw, secured by a slotted nut and cotter pin. Jaw provides increased cable coverage.

Note: Jaw must be removed to insert cable for model 1628-50.

Cat. No.	Min. to Max. Cable Diameter inches (mm)	Jaw Length	Approx. Weight Each
20,000 lbs. (9,072 kg) Maximum Safe Load			
1628-30P	.95" - 1.02" (24.23 mm - 25.78 mm)	10-3/4" (273 mm)	27 lbs. (12.27 kg)
1628-30R	1.02" - 1.08" (25.81 mm - 27.38 mm)		
1628-30S	1.08" - 1.14" (27.41 mm - 28.96 mm)		
1628-30T	1.14" - 1.20" (28.98 mm - 30.56 mm)		
1628-30U	1.21" - 1.26" (30.59 mm - 32.13 mm)		
25,000 lbs. (11,340 kg) Maximum Safe Load			
1628-40U	1.20" - 1.27" (30.58 mm - 32.13 mm)	10-3/4" (273 mm)	34 lbs. (15.45 kg)
1628-40W	1.27" - 1.33" (32.16 mm - 33.73 mm)		
1628-40X	1.33" - 1.39" (33.76 mm - 35.30 mm)		
1628-40Y	1.39" - 1.45" (35.33 mm - 36.91 mm)		
1628-40Z	1.45" - 1.52" (36.93 mm - 38.48 mm)		
1628-40A	1.52" - 1.58" (38.51 mm - 40.08 mm)		
25,000 lbs. (11,340 kg) Maximum Safe Load with bolt on jaw			
1628-50B	1.58" - 1.64" (40.11 mm - 41.66 mm)	10-3/4" (273 mm)	34 lbs. (15.45 kg)
1628-50D	1.70" - 1.77" (43.28 mm - 44.83 mm)		
1628-50E	1.77" - 1.83" (44.86 mm - 46.43 mm)		

ACSS (Aluminum Conductor Steel Supported)

AWG or MCM Size	Diameter inches (mm)	No. of Alum. & Steel Strands	Code Word	Grip	Safe Load
266.8 MCM	.642" (16.31 mm)	26x7	Partridge/ACSS	1656-40*	8,000 lbs. (3,629 kg)
266.8 MCM	.660" (16.76 mm)	30x7	Junco/ACSS	1656-40*	
300 MCM	.680" (17.27 mm)	26x7	Ostrich/ACSS	1656-40*	
336.4 MCM	.720" (18.29 mm)	26x7	Linnet/ACSS	1656-40*	
336.4 MCM	.741" (18.82 mm)	30x7	Oriole/ACSS	1656-50*	
397.5 MCM	.772" (19.61 mm)	24x7	Brant/ACSS	1656-50*	
397.5 MCM	.783" (19.89 mm)	26x7	Ibis/ACSS	1656-50*	
397.5 MCM	.806" (20.47 mm)	30x7	Lark/ACSS	1656-50*	
477 MCM	.846" (21.49 mm)	24x7	Flicker/ACSS	1656-50*	
477 MCM	.858" (21.79 mm)	26x7	Hawk/ACSS	1656-50*	
477 MCM	.883" (22.43 mm)	30x7	Hen/ACSS	1656-60*	
556.5 MCM	.914" (23.22 mm)	24x7	Parakeet/ACSS	1656-60*	
556.5 MCM	.927" (23.55 mm)	26x7	Dove/ACSS	1656-60*	
556.5 MCM	.953" (24.21 mm)	30x7	Eagle/ACSS	1656-60*	
605 MCM	.953" (24.21 mm)	24x7	Peacock/ACSS	1656-60*	
605 MCM	.994" (25.25 mm)	30x7	Wood Duck/ACSS	1628-50P	
605 MCM	.994" (25.25 mm)	30x19	Teal/ACSS	1628-50P	
636 MCM	.977" (24.82 mm)	24x7	Rook/ACSS	1628-50P	
636 MCM	.991" (25.17 mm)	26x7	Grosbeak/ACSS	1628-50P	
636 MCM	1.019" (25.88 mm)	30x19	Egret/ACSS	1628-50R	
636 MCM	1.019" (25.88 mm)	30x7	Scoter/ACSS	1628-50R	
666.6 MCM	1.000" (25.40 mm)	24x7	Flamingo/ACSS	1628-50P	
666.6 MCM	1.014" (25.76 mm)	26x7	Gannet/ACSS	1628-50P	
715.5 MCM	1.051" (26.70 mm)	26x7	Starling/ACSS	1628-50R	
715.5 MCM	1.081" (27.46 mm)	30x19	Redwing/ACSS	1628-50S	
795 MCM	1.063" (27.00 mm)	45x7	Tern/ACSS	1628-50R	
795 MCM	1.092" (27.74 mm)	24x7	Cuckoo/ACSS	1628-50S	
795 MCM	1.092" (27.74 mm)	54x7	Condor/ACSS	1628-50S	
795 MCM	1.107" (28.12 mm)	26x7	Drake/ACSS	1628-50S	
795 MCM	1.139" (28.93 mm)	30x19	Mallard/ACSS	1628-50S	
900 MCM	1.131" (28.73 mm)	45x7	Ruddy/ACSS	1628-50S	
900 MCM	1.162" (29.52 mm)	54x7	Canary/ACSS	1628-50T	
954 MCM	1.165" (29.59 mm)	20x7	Corncrake/ACSS	1628-50T	
954 MCM	1.165" (29.59 mm)	45x7	Rail/ACSS	1628-50T	
954 MCM	1.175" (29.85 mm)	48x7	Towhee/ACSS	1628-50T	
954 MCM	1.196" (30.38 mm)	54x7	Cardinal/ACSS	1628-50T	
954 MCM	1.196" (30.38 mm)	24x7	Redbird/ACSS	1628-50T	
954 MCM	1.248" (31.70 mm)	30x19	Canvasback/ACSS	1628-50U	
1033.5 MCM	1.212" (30.79 mm)	45x7	Ortolan/ACSS	1628-50U	
1033.5 MCM	1.245" (31.62 mm)	54x7	Curlew/ACSS	1628-50U	
1113 MCM	1.258" (31.95 mm)	45x7	Bluejay/ACSS	1628-50U	
1113 MCM	1.292" (32.82 mm)	54x19	Finch/ACSS	1628-50W	
1192.5 MCM	1.302" (33.07 mm)	45x7	Bunting/ACSS	1628-50W	
1192.5 MCM	1.337" (33.99 mm)	54x19	Grackle/ACSS	1628-50X	
1272 MCM	1.345" (34.16 mm)	45x7	Bittern/ACSS	1628-50X	
1272 MCM	1.381" (35.08 mm)	54x19	Pheasant/ACSS	1628-50X	
1351 MCM	1.386" (35.21 mm)	45x7	Dipper/ACSS	1628-50X	
1351 MCM	1.424" (36.17 mm)	54x19	Martin/ACSS	1628-50Y	
1431 MCM	1.427" (36.25 mm)	45x7	Bobolink/ACSS	1628-50Y	
1431 MCM	1.465" (37.21 mm)	54x19	Plover/ACSS	1628-50Z	
1590 MCM	1.504" (38.20 mm)	45x7	Lapwing/ACSS	1628-50Z	
1590 MCM	1.544" (39.22 mm)	54x19	Falcon/ACSS	1628-50A	
1780 MCM	1.601" (40.67 mm)	84x19	Chukar/ACSS	1628-50B	
2034.5 MCM	1.681" (42.70 mm)	72x7	Mockingbird/ACSS	1628-50C	
2167 MCM	1.735" (44.12 mm)	72x7	Kiwi/ACSS	1628-50D	
2156 MCM	1.762" (44.76 mm)	84x19	Bluebird/ACSS	1628-50D	
2312 MCM	1.802" (45.77 mm)	76x19	Thrasher/ACSS	1628-50E	
2515 MCM	1.880" (47.75 mm)	76x19	Joree/ACSS	1628-50F	

25,000 lbs.
(11,340 kg)

*Must use two of recommended grips in tandem. See grip use instructions on pages 16-17.

ACSS TRANSMISSION CABLES

Chicago™ Grips 1628 Series

- Round jaws are shaped to provide maximum contact with the cable, virtually eliminating cable deformation.



Best Practices for ACSS Conductors

- 1. Larger than 0.953" outside diameter (approximately 600 MCM)** - Use the 1628-50 or 1628-40 series Chicago Grips. The necessary grip size should be determined based on the cable outside diameter. For applications where the load is expected to exceed 10,000 lbs. (4,536 kg), use two of the appropriate grips in tandem to prevent cable deformation. See instructions for using two grips in tandem on page 17.
- 2. Smaller than 0.953" outside diameter (approximately 600 MCM)** - Use two of the appropriate 1656 series Chicago Grips in tandem. The necessary grip size should be determined based on the cable outside diameter. See instructions for using two grips in tandem on page 17.
- 3. For grip recommendations, contact us** at hisupport@kleintools.com.



1628-40



1628-50



Cat. No.	Hot Latch Model No.	Hot Latch/Spring Model No.	Min. to Max. Cable Diameter inches (mm)	Jaw Length	Approx. Weight Each
8,000 lbs. (3,629 kg) Maximum Safe Load					
1656-40	1656-40H	S1656-40H	.53" - .74" (13.46 mm - 18.79 mm)	5-1/2" (140 mm)	8.30 lbs. (3.76 kg)
1656-50	1656-50H	S1656-50H	.74" - .86" (18.80 mm - 21.84 mm)		
1656-60	1656-60H	S1656-60H	.86" - .96" (21.84 mm - 24.38 mm)		
25,000 lbs. (11,340 kg) Maximum Safe Load with bolt on jaw					
1628-50P*	NA	NA	.95" - 1.02" (24.23 mm - 25.78 mm)	10-3/4" (273 mm)	34 lbs. (15.45 kg)
1628-50R*			1.02" - 1.08" (25.81 mm - 27.38 mm)		
1628-50S*			1.08" - 1.14" (27.41 mm - 28.96 mm)		
1628-50T*			1.14" - 1.20" (28.99 mm - 30.55 mm)		
1628-50U*			1.20" - 1.27" (30.58 mm - 32.13 mm)		
1628-50W*			1.27" - 1.33" (32.16 mm - 33.73 mm)		
1628-50X*			1.33" - 1.39" (33.76 mm - 35.30 mm)		
1628-50Y*			1.39" - 1.45" (35.33 mm - 36.91 mm)		
1628-50Z*			1.45" - 1.52" (36.93 mm - 38.48 mm)		
1628-50A*			1.52" - 1.58" (38.51 mm - 40.08 mm)		
1628-50B*			1.58" - 1.64" (40.11 mm - 41.66 mm)		
1628-50C*			1.64" - 1.70" (41.68 mm - 43.26 mm)		
1628-50D*			1.70" - 1.77" (43.28 mm - 44.83 mm)		
1628-50E*			1.77" - 1.83" (44.86 mm - 46.43 mm)		
1628-50F*			1.83" - 1.89" (46.46 mm - 48.00 mm)		

- 1628-50 equipped with removable bolt on floating jaw, secured by a slotted nut and cotter pin. Jaw provides increased cable coverage.

Note: Jaw must be removed to insert cable for model 1628-50.

*These grips are special order only. Application must be confirmed prior to ordering. Allow 30 days for delivery.

ACSS/TW (Trapezoidal Wire)

AWG or MCM Size	Diameter inches (mm)	No. of Alum. & Steel Strands	Code Word	Grip	Safe Load
266.8 MCM	.595" (15.11 mm)	14x7	Partridge/ACSS/TW	1656-40*	8,000 lbs. (3,629 kg)
336.4 MCM	.667" (16.94 mm)	16x7	Linnet/ACSS/TW	1656-40*	
336.4 MCM	.692" (17.58 mm)	16x7	Oriole/ACSS/TW	1656-40*	
477 MCM	.776" (19.71 mm)	18x7	Flicker/ACSS/TW	1656-50*	
477 MCM	.798" (20.27 mm)	18x7	Hawk/ACSS/TW	1656-50*	
477 MCM	.820" (20.83 mm)	20x7	Hen/ACSS/TW	1656-50*	
556.5 MCM	.835" (21.21 mm)	18x7	Parakeet/ACSS/TW	1656-50*	
556.5 MCM	.850" (21.59 mm)	20x7	Dove/ACSS/TW	1656-50*	
636 MCM	.893" (22.68 mm)	20x7	Rook/ACSS/TW	1656-60*	
636 MCM	.909" (23.09 mm)	20x7	Grosbeak/ACSS/TW	1656-60*	
636 MCM	.942" (23.93 mm)	22x7	Scoter/ACSS/TW	1656-60*	
762.8 MCM	.990" (25.15 mm)	17x7	Wabash/ACSS/TW	1628-50P	
762.8 MCM	.960" (24.38 mm)	17x7	Tern/ACSS/TW	1628-50P	
795 MCM	.980" (24.89 mm)	18x7	Puffin/ACSS/TW	1628-50P	
795 MCM	.993" (25.22 mm)	20x7	Condor/ACSS/TW	1628-50P	
795 MCM	1.010" (25.65 mm)	20x7	Drake/ACSS/TW	1628-50P	
795 MCM	1.055" (26.80 mm)	20x7	Canary/ACSS/TW	1628-50P	
900 MCM	1.044" (26.52 mm)	30x7	Phoenix/ACSS/TW	1628-50R	
954 MCM	1.061" (26.95 mm)	32x7	Rail/ACSS/TW	1628-50R	
954 MCM	1.080" (27.43 mm)	20x7	Cardinal/ACSS/TW	1628-50R	
954 MCM	1.089" (27.66 mm)	30x7	Snowbird/ACSS/TW	1628-50S	
1033.5 MCM	1.102" (27.99 mm)	32x7	Ortolan/ACSS/TW	1628-50S	
1033.5 MCM	1.132" (28.75 mm)	22x7	Curlew/ACSS/TW	1628-50S	
1033.5 MCM	1.129" (28.68 mm)	30x7	Avocet/ACSS/TW	1628-50S	
1113 MCM	1.143" (29.03 mm)	33x7	Bluejay/ACSS/TW	1628-50S	
1113 MCM	1.185" (30.10 mm)	38x19	Finch/ACSS/TW	1628-50T	
1113 MCM	1.170" (29.72 mm)	30x7	Oxbird/ACSS/TW	1628-50T	
1192.5 MCM	1.181" (29.99 mm)	34x7	Bunting/ACSS/TW	1628-50T	
1192.5 MCM	1.225" (31.12 mm)	38x19	Grackle/ACSS/TW	1628-50T	
1192.5 MCM	1.203" (30.56 mm)	30x7	Scissortail/ACSS/TW	1628-50U	
1272 MCM	1.224" (31.09 mm)	38x7	Bittern/ACSS/TW	1628-50T	
1272 MCM	1.260" (32.01 mm)	39x19	Pheasant/ACSS/TW	1628-50U	
1272 MCM	1.256" (31.90 mm)	35x7	Dipper/ACSS/TW	1628-50U	
1351.5 MCM	1.300" (33.02 mm)	42x19	Martin/ACSS/TW	1628-50U	
1351.5 MCM	1.291" (32.79 mm)	36x7	Bobolink/ACSS/TW	1628-50W	
1431 MCM	1.337" (33.96 mm)	44x19	Plover/ACSS/TW	1628-50W	
1431 MCM	1.340" (34.04 mm)	39x19	Merrimack/ACSS/TW	1628-50X	
1433.6 MCM	1.380" (35.02 mm)	38x19	Rio Grande/ACSS/TW	1628-50X	
1533.3 MCM	1.350" (34.29 mm)	36x7	Potomac/ACSS/TW	1628-50X	
1557.4 MCM	1.334" (33.88 mm)	33x7	Platte/ACSS/TW	1628-50X	
1569 MCM	1.358" (34.49 mm)	36x7	Lapwing/ACSS/TW	1628-50X	
1590 MCM	1.410" (35.81 mm)	42x19	Falcon/ACSS/TW	1628-50X	
1590 MCM	1.420" (36.07 mm)	39x19	Pecos/ACSS/TW	1628-50Y	
1622 MCM	1.386" (35.20 mm)	36x7	Schuykill/ACSS/TW	1628-50Y	
1657.4 MCM	1.470" (37.34 mm)	34x19	James/ACSS/TW	1628-50X	
1730.6 MCM	1.427" (36.25 mm)	38x7	Pee Dee/ACSS/TW	1628-50Z	
1758.6 MCM	1.445" (36.70 mm)	38x19	Chukar/ACSS/TW	1628-50Y	
1780 MCM	1.550" (39.37 mm)	42x19	Cumberland/ACSS/TW	1628-50Y	
1926.9 MCM	1.504" (38.20 mm)	44x7	Athabaska/ACSS/TW	1628-50A	
1949.6 MCM	1.602" (40.69 mm)	64x19	Powder/ACSS/TW	1628-50Z	
2153.8 MCM	1.608" (40.84 mm)	64x19	Bluebird/ACSS/TW	1628-50B	
2156 MCM	1.761" (44.73 mm)	64x19	Santee/ACSS/TW	1628-50B	
2627.3 MCM	1.761" (44.73 mm)	64x19	Santee/ACSS/TW	1628-50D	

25,000 lbs.
(11,340 kg)

* Must use two of recommended grips in tandem. See grip use instructions on pages 16-17.

ACSS/TW TRANSMISSION CABLES

Chicago™ Grips 1628 Series

- Round jaws are shaped to provide maximum contact with the cable, virtually eliminating cable deformation.



Best Practices for ACSS/TW Conductors

- 1. Larger than 0.953" outside diameter (approximately 600 MCM)** - Use the 1628-50 or 1628-40 series Chicago Grips. The necessary grip size should be determined based on the cable outside diameter. For applications where the load is expected to exceed 10,000 lbs. (4,536 kg), use two of the appropriate grips in tandem to prevent cable deformation. See instructions for using two grips in tandem on page 17.
- 2. Smaller than 0.953" outside diameter (approximately 600 MCM)** - Use two of the appropriate 1656 series Chicago Grips in tandem. The necessary grip size should be determined based on the cable outside diameter. See instructions for using two grips in tandem on page 17.
- 3. For grip recommendations, contact us** at hisupport@kleintools.com.



- 1628-50 equipped with removable bolt on floating jaw, secured by a slotted nut and cotter pin. Jaw provides increased cable coverage.

Note: Jaw must be removed to insert cable for model 1628-50.

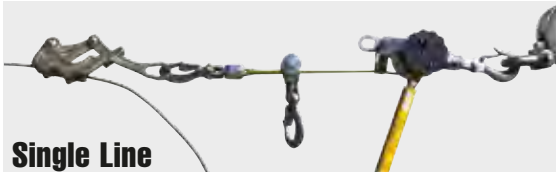
Cat. No.	Hot Latch Model No.	Hot Latch/Spring Model No.	Min. to Max. Cable Diameter inches (mm)	Jaw Length	Approx. Weight Each
8,000 lbs. (3,629 kg) Maximum Safe Load					
1656-40	1656-40H	S1656-40H	.53" - .74" (13.46 mm - 18.79 mm)	5-1/2" (140 mm)	8.30 lbs. (3.76 kg)
1656-50	1656-50H	S1656-50H	.74" - .86" (18.80 mm - 21.84 mm)		
1656-60	1656-60H	S1656-60H	.86" - .96" (21.84 mm - 24.38 mm)		
25,000 lbs. (11,340 kg) Maximum Safe Load with bolt on jaw					
1628-50P*	NA	NA	.95" - 1.02" (24.23 mm - 25.78 mm)	10-3/4" (273 mm)	34 lbs. (15.45 kg)
1628-50R*			1.02" - 1.08" (25.81 mm - 27.38 mm)		
1628-50S*			1.08" - 1.14" (27.41 mm - 28.96 mm)		
1628-50T*			1.14" - 1.20" (28.99 mm - 30.55 mm)		
1628-50U*			1.20" - 1.27" (30.58 mm - 32.13 mm)		
1628-50W*			1.27" - 1.33" (32.16 mm - 33.73 mm)		
1628-50X*			1.33" - 1.39" (33.76 mm - 35.30 mm)		
1628-50Y*			1.39" - 1.45" (35.33 mm - 36.91 mm)		
1628-50Z*			1.45" - 1.52" (36.93 mm - 38.48 mm)		
1628-50A*			1.52" - 1.58" (38.51 mm - 40.08 mm)		
1628-50B*			1.58" - 1.64" (40.11 mm - 41.66 mm)		
1628-50C*			1.64" - 1.70" (41.68 mm - 43.26 mm)		
1628-50D*			1.70" - 1.77" (43.28 mm - 44.83 mm)		

*These grips are special order only. Application must be confirmed prior to ordering. Allow 30 days for delivery.

Web Strap Ratchet Hoists

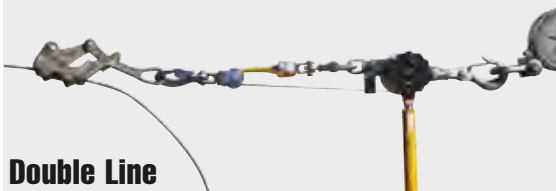
- Large, non-conductive drum knob allows web slack to be adjusted with ease.
- 3/4 ton single line and 1-1/2 ton double line load rating.
- Tight ratcheting mechanism allows precise tensioning.
- Meets ANSI/ASME B30.21-2005 & B30.10-2009 standards.
- Hot rings for hot stick use (Cat No. KN1500P-EXH only).

Cat. No.	Pull Type	Weight (lbs.)
KN1500P-EX	Single/ Double	12.5 lbs (5.7 kg)
KN1500P-EXH	Single/ Double	13.6 lbs (6.2 kg)



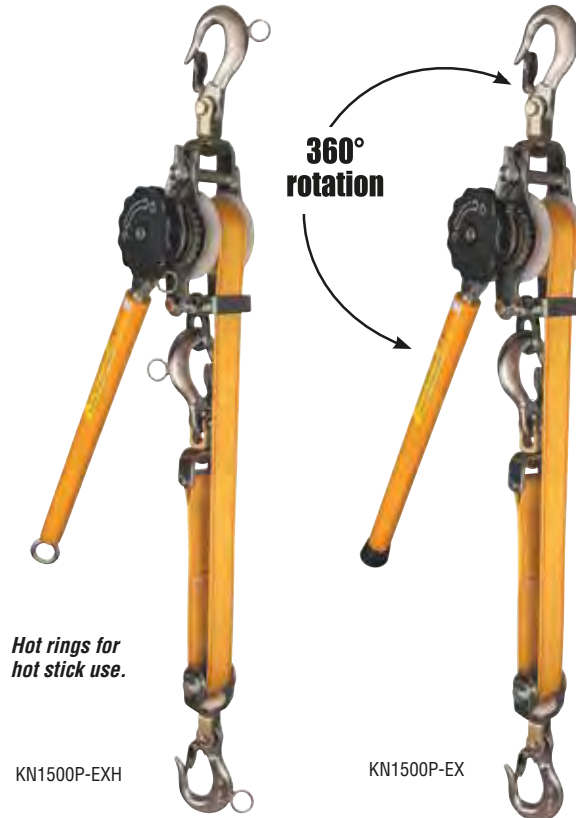
Single Line

Load Rating: 1500 lbs. (675 kg)
Min. to Max. Pulling Distance: 20" - 138" (500 mm - 3500 mm)



Double Line

Load Rating: 3000 lbs. (1,350 kg)
Min. to Max. Pulling Distance: 26" - 79" (700 mm - 2000 mm)



Howe Wire Tool

- Strap is made of tough Klein-Kord™.
- Swivel hook is forged steel with large opening.
- Shank of hook is lengthened to reach under insulator.
- Other end has device to hold the load at any distance.
- All metal parts are galvanized.
- Max. safe load 500 lbs. (225 kg).

Cat. No.	Description	Weight (lbs.)
1702-20N	Nylon Strap 1" (25 mm) wide, 7' (2.1 m) long	1.95 lbs. (0.9 kg)



1702-20N

Grip-Cleaning Brush Set

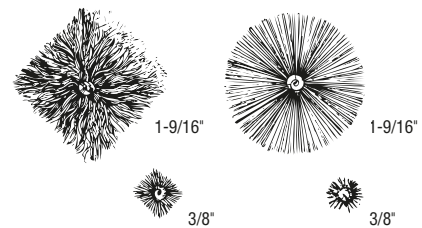
- Set of four wire-bristle brushes designed for cleaning Klein wire and cable-pulling grips.
- Brushes have stiff wire bristles.
- Available in round and square shapes and two lengths for efficient cleaning of different jaw configurations.
- Semi-flexible steel shafts set into comfortable wooden handles provide the necessary reach into grip jaws.

Cat. No.	Set Contains	Weight (lbs.)
25450		1.00 lbs. (0.45 kg)

Description	Bristle Diameter and Length	Overall Length
round-bristle	3/8" x 3"	12"
square-bristle	(10 mm x 76 mm)	(305 mm)
round-bristle	1-9/16" x 5"	14"
square-bristle	(40 mm x 127 mm)	(356 mm)



25450



All dimensions are in inches (millimeters).

Grip Cleaning, Lubricating and Inspecting

The following guidelines have been established to keep all grips in good working condition.

Cleaning



◀ **Step 1.** Use the Klein Grip Cleaning Wire Brush Set (Cat. No. 25450) or emery cloth to clean the surfaces of grip jaws (photo #1).



▶ **Step 2.** Spray de greaser on the grip jaws, all joints and moving parts (photo #2).



◀ **Step 3.** Use the Klein Grip Cleaning Wire Brush to remove dirt and debris from the grip jaws (photo #3).



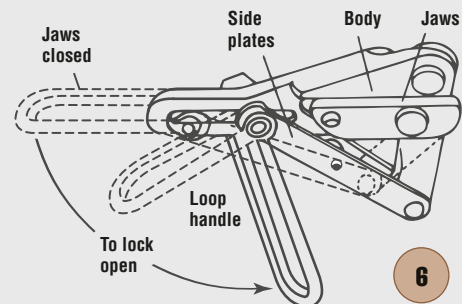
▶ **Step 4.** Wipe grips dry with soft cloth. Repeat all cleaning steps as necessary until grip is completely clean (photo #4).

Lubricating



◀ **Step 5.** Apply lubricant to all joints and moving parts. Do NOT lubricate gripping surfaces of jaws (photos left #5).

▶ **Step 6.** Carefully inspect jaw condition, proper alignment of jaws and all parts, and possible distortion caused by exceeding safe-load specifications. Grips should operate smoothly. Spring-loaded grips should lock open with loop handle in "Down" position and should close automatically with loop handle "Up." The Klein Parallel Jaw Grip may be tested by opening and closing the jaws by hand, exercising proper caution. All parts and rivets should be checked for distortion (illustration #6).



Never repair any grip. Grips that are bent, misaligned or otherwise distorted should be discarded and replaced.

If there is ever a question about the safe condition of any grip, contact Klein Tools Customer Service directly at **847.821.5500** or **800.553.4676** or email **HiSupport@kleintools.com**.

Dead-Ending

1. Set up the ratchet hoist and Chicago Grip as shown here.
2. Ratchet the hoist until the cable is lined up with the dead-end fixture.
3. After the tension is approximately where it will need to be after termination, ratchet the hoist a couple more times to accommodate for tension loss after hoist removal. Consult cable specifications to ensure the maximum cable tension is not exceeded.



4. When finished, break the tension using the hoist handle, then use either the handle or drum knob to continue releasing the tension.

Sagging Using a Dynamometer

1. Set up ratchet hoist, Chicago Grip and dynamometer as shown here.
2. Ratchet the hoist until the dynamometer displays the desired tension. Consult conductor specifications or company procedures to determine the appropriate tension.
3. When finished, break the tension using the hoist handle, then use either the handle or drum knob to continue releasing the tension.



Splicing

1. Set up ratchet hoist and Chicago Grips as shown here.
2. Connect the KN1500PEX Web Strap Ratchet Hoist to each grip, and ratchet to the desired tension to make the splice.

The cable can now be spliced according to standard work procedures and material guidelines.

3. When finished with the splice, break the tension using the hoist handle, then use either the handle or drum knob to continue releasing the tension.



Using Two Chicago™ Grips in Tandem

For applications where the maximum load exceeds the safe load of an individual grip, or the cable is at risk of deformation, it is recommended to use two Chicago Grips in tandem. Using two grips in tandem divides the weight load between both grips, allowing for an effective work load increase of 1.5 times the safe load of each individual grip.

For example, two Klein Tools 1628-40 Chicago Grips, each with a maximum safe load of 25,000 lbs. (11,340 kg) individually, have a combined working safe load of 37,500 lbs. (17,009 kg).

In some transmission applications—commonly using the 1628-30, 1628-40 or 1628-50 series Chicago Grips—there is a risk of cable deformation under high tensions. To avoid this risk, Klein Tools recommends using two grips in tandem if:

- **ACSR or AAC conductors** – the load is expected to exceed the lesser of 12,500 lbs. (5,670 kg) or 40% of the conductor tensile strength.
- **ACSS conductors**—the load is expected to exceed the lesser of 10,000 lbs. (4,536 kg) or 40% of the conductor tensile strength.



1. Place each grip on the same conductor, approximately five feet apart.
2. Connect a pulley block (leveling block) to the eye of each grip. This will maintain equal distribution of the weight load between both grips.
3. Connect an anchored chain hoist of appropriate capacity to the block as shown in the image above.
4. Ratchet the chain hoist to the desired tension, as shown in the image below.



Materials Used: Klein Tools Chicago Grips, Klein Tools KN1500PEX web strap ratcheting hoist, Dillon Dynamometer, chain hoist, leveling block.

Disclaimer: This is not intended to be a definitive instructional manual for completing the applications. Always consult company procedures and material guidelines before attempting any application.



See our complete line of **Utility Tools & Accessories**

www.kleintools.com

**WRENCHES
CLIMBING BELTS
SKINNING KNIVES
STORAGE
POUCHES
BUCKETS
GLOVES
PLIERS
HIGH-VOLTAGE TESTERS
CABLE & BOLT CUTTERS
BLOCK & TACKLE
CLIMBERS**

Find Us Online



Questions? Contact Klein Tools at:
HiSupport@kleintools.com

© 2015 Klein Tools, Inc.
Lincolnshire, IL 60069-1418
Rev. 9/15 A 96427