KLEIN® TOOLS

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Using Klein Tools Chicago Grips in Common Overhead Applications

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.

Dead-Ending a Conductor Cable

1. Set up the ratchet hoist and Chicago grip as shown in the image below.

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.

Conductor Cable Sagging Using a Dynamometer

1. Set up ratchet hoist, Chicago Grip and dynamometer as shown in the image below.

Klein Chicago Grip

Dynamometer

Klein KN1500PEX Hoist

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 Conductor Cables

1. Set up ratchet hoist and Chicago grips as shown in the image below.

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, if using two Klein Tools 1628-40 Chicago grips, each with a maximum safe load of 25,000 lbs. individually, then the combined working safe load will be 37,500 lbs.

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 the risk of cable deformation, Klein Tools recommends the use of two grips in tandem if:

1. ACSR or AAC conductors—the load is expected to exceed the lesser of 12,500 lbs. or 40% of the conductor tensile strength
2. ACSS conductors—the load is expected to exceed the lesser of 10,000 lbs. or 40% of the conductor tensile strength

To use two Chicago grips in tandem, place each grip on the same conductor, approximately five feet apart. Connect a pulley block (leveling block) to the eye of each grip. This will maintain equal distribution of the weight load between both grips. Connect an anchored chain hoist of appropriate capacity to the block as shown in the image below.
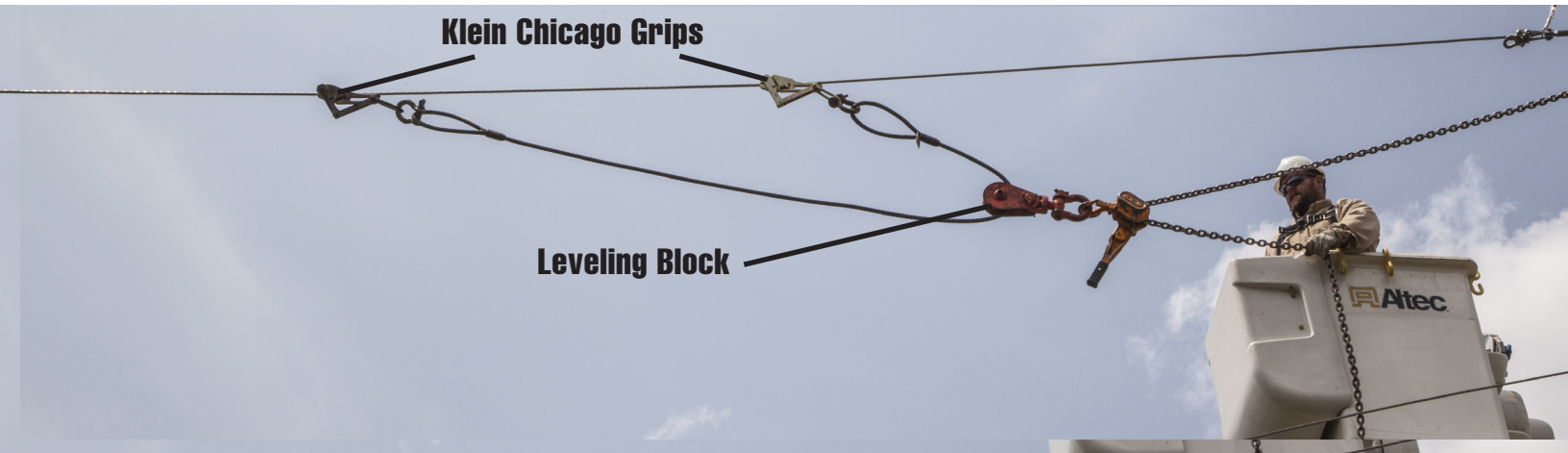
Ratchet the chain hoist to the desired tension, as shown in the picture below.
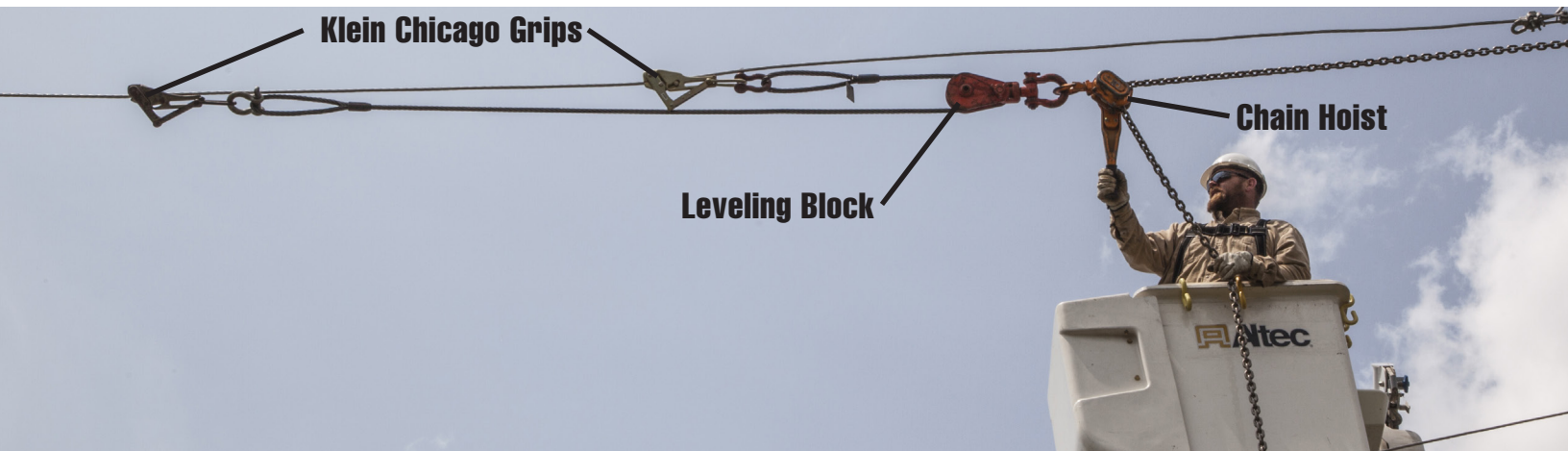
Additional Best Practices for ACSS Conductors

1. **For ACSS conductors larger than 0.953" outside diameter (approximately 600MCM)**- use the Klein Tools 1628-50 or 1628-40 series Chicago-style wire-pulling grips. The necessary grip size should be determined based on the cable outside diameter. For applications where the load is expected to exceed 12,500 lbs., use two of the appropriate grips in tandem to prevent cable deformation.

2. **For ACSS conductor sizes smaller than 0.953" outside diameter (approximately 600MCM)**- use two of the appropriate Klein Tools 1656 series Chicago grips in tandem. The necessary grip size should be determined based on the cable outside diameter.