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# **IMPORTANT! PLEASE READ!**

Warranty and safety information

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WHISPER-FLEX® compensating cable is designed to be used in free-hanging applications in traction elevators.

It may be operated at speeds up to 350 ft/min • 1.8 m/sec. With proper dampening devices, it may be operated at speeds of up to 700 ft/min • 3.56 m/sec.

Recommended operating temperatures from 5°F to 140°F or -15°C to +60°C.

This guide has been prepared to instruct installers in the safe and efficient installation of Whisper-Flex compensating cable.

**FAILURE TO FOLLOW THESE PROCEDURES WILL NOT ONLY INVALIDATE PRODUCT WARRANTY, BUT COULD ENDANGER PUBLIC SAFETY.** If you have any questions regarding installation procedures, please do not hesitate to call Draka Elevator Products at 877.372.5237 or 252.972.6000.

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# Hardware Required for Installation

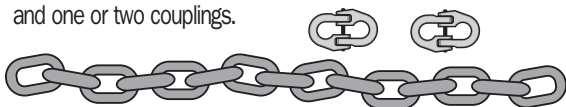
Use Draka EP Whisper-Flex® Cable Installation Kits

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Draka EP installation kits contain all hardware needed for the safe installation of Whisper-Flex® compensating cable. The two versions of the kit differ on how to form the safety loop (see pages 21 - 22). Original JCC kits include a stainless-steel double eye/double weave/closed mesh Kellems® grip and one roll of electrical tape



New JCC-CHN kits for shallow pits use a 4 ft • 1.2 meter chain and one or two couplings.



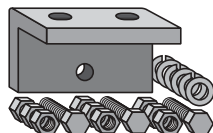
Both kits contain  
one steel S-hook,



one steel U-bolt with  
nuts and washers,



two support brackets with  
nuts, bolts, flat washers  
and lockwashers.



**USING HARDWARE OTHER THAN DRAKA EP'S  
COULD SERIOUSLY JEOPARDIZE THE SAFETY OF  
YOUR INSTALLATION AND VOID ANY WARRANTY.**

# Visual Inspection

Look for obvious damage

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Immediately inspect the cable for cuts in the jacketing. A cut or gash could mean a weakened and unsafe cable.

Examine the reel as well. A damaged reel may be a sign of rough handling in transit and may also indicate cable damage.



**DO NOT INSTALL POTENTIALLY DAMAGED CABLE.  
CALL DRAKA EP IF YOU HAVE ANY QUESTIONS  
REGARDING DAMAGED CABLE.**

# Moving Reels of Whisper-Flex® Cable

Move and store cable safely

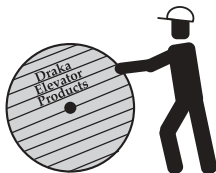
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Whisper-Flex® cable may be moved by forklift.

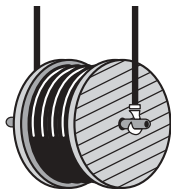
Lift the reel by the wood, not by the cable.



It may also be rolled on its reel on a firm surface.



If a hoist is being used, place a strong rod through the reel for lifting purposes.



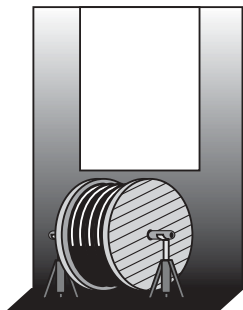
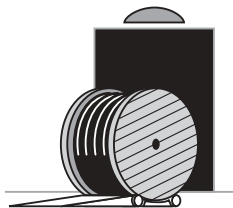
Store the cable in a safe place.

# Position the Cable for Unreeling

Work from the pit or the lowest landing

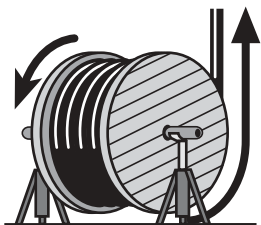
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Place the cable reel in a convenient location near the car and shaft (usually the floor of the shaft or on the first landing). Reel rollers are the preferred means of supporting the reel.



Another method is to run a strong rod or pipe through the hole in the center of the reel. Support the pipe ends so that the reel is off the floor enough to rotate freely.

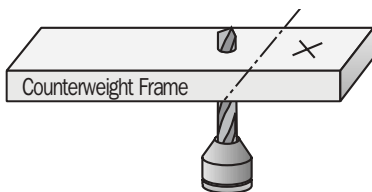
Make sure that the reel is positioned so that the cable is paid out from beneath the reel. **NEVER** pay cable off the side of a reel as it causes unwanted cable twisting.



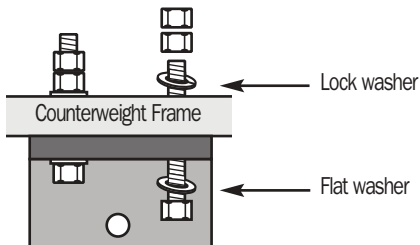
# Install the Counterweight Support Bracket

## Drill the counterweight frame

Bring the counterweight down to a comfortable working level. Prepare the counterweight for Whisper-Flex® cable installation by drilling correctly-sized and positioned holes in the frame to accommodate the Counterweight Support Bracket.



Attach the Counterweight Support Bracket to the frame by placing the flat washer over the 1/2 in • 13 mm bolt and running the bolt up through the bracket and the frame. Then place the lock washer on the bolt. Secure the bolt with **two** nuts. Repeat with the other 1/2 in • 13 mm bolt.

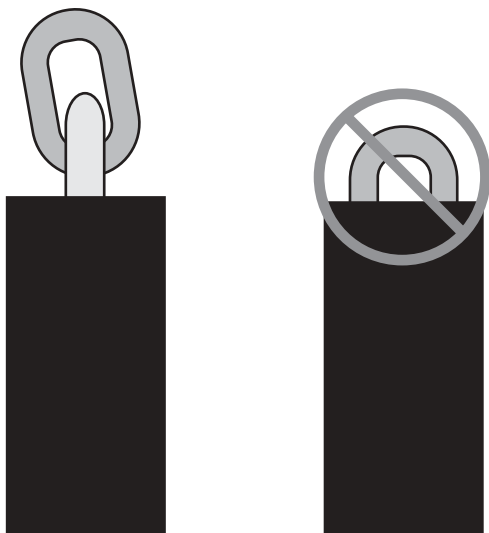


## Prepare the Cable End for Termination

Leave one-and-one-half exposed links

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The end of a Whisper-Flex cable needs to be prepared to expose one-and-one-half links of undamaged chain. Whisper-Flex may be ordered prepared as shown, or you may use the Whisper-Flex Stripping Kit and the techniques outlined on pages 7 through 11 to prepare the cable yourself.



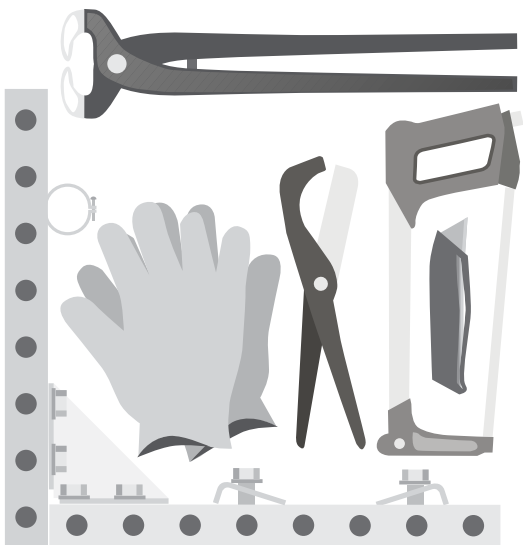
**PRESTRIPPED WHISPER-FLEX® CABLE IS AVAILABLE.  
CALL 877-DRAKA EP FOR DETAILS.**

# Tools for Cable End Preparation

Using the Whisper-Flex Field Strip Kit

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The Whisper-Flex Strip Kit (WF-STRP) contains all of the tools and accessories required to prepare the cable end for installation. The kit contains an angle mounting bracket that attaches to the car guiderail, clamps to fit all sizes of Whisper-Flex, nippers, a utility knife, a cable jacket cutter, a hacksaw, protective gloves and a carrying case.



**PRESTRIPPED WHISPER-FLEX® CABLE IS AVAILABLE.  
CALL DRAKA EP FOR DETAILS.**

# Attach the Angle Bracket to the Car Guiderail

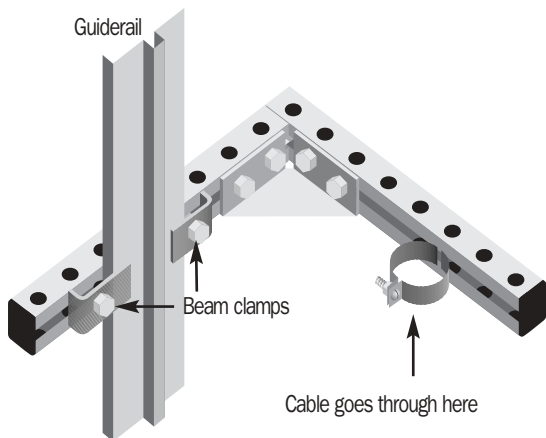
Select the proper-sized clamp

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Put on the gloves provided in the Strip Kit.

Attach the angle bracket to the car guiderail by tightening the beam clamps using a 3/4" wrench. The angle bracket should be positioned as shown with the channel slot facing inward.

Use a screwdriver to loosen the clamp.  
Insert the proper-sized clamp into the channel.



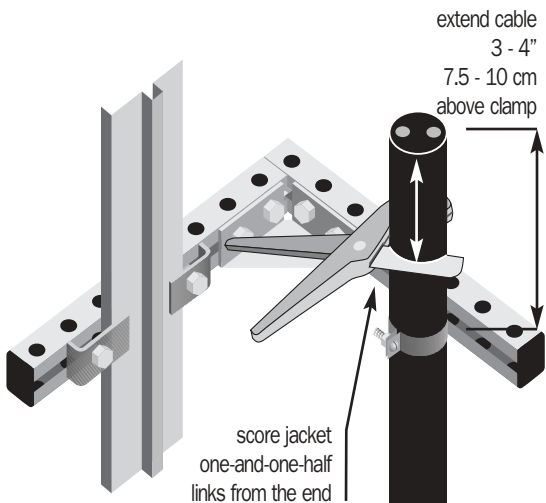
# Score the Jacket with the Cable Jacket Cutter

Establish a guide cut

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Run the cable through the clamp so that 3 to 4 inches • 7.5 to 10 cm of cable is exposed above the clamp. Tighten the clamp with a screwdriver.

Rotate the cable jacket cutter to score and make a ring cut through the cable a distance of one-and-one-half links from the cable end.



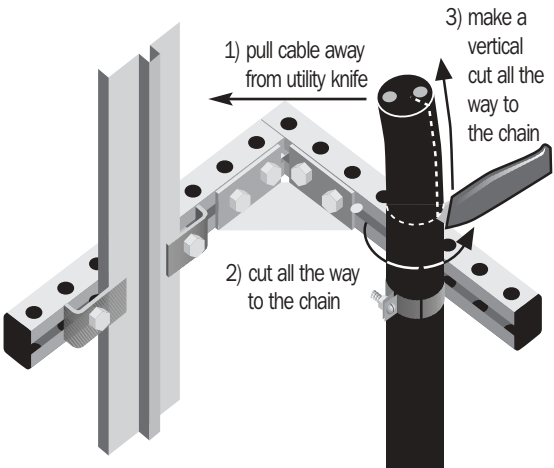
# Cut and Slit the Cable Jacket

Cut all the way to the chain

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Once the cable is scored, 1) grab the end of the cable and bend it as you 2) deepen the ring cut all the way to the chain with the utility knife. This may require several passes with the knife.

Use the utility knife to 3) make a vertical cut from the ring cut to the cable end. Make sure the jacket is cut deeply enough to reach the chain.

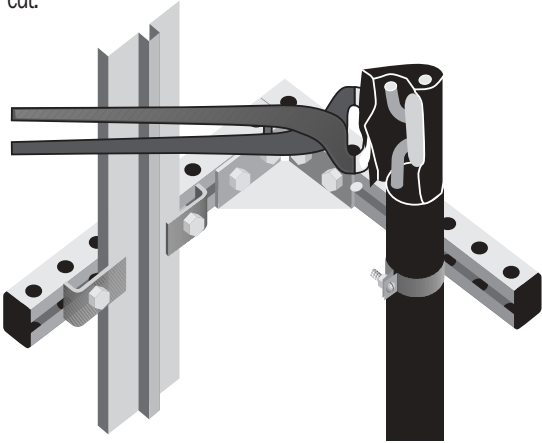


## Use the Nippers to Remove the Jacket

Expose one-and-one-half links of undamaged chain

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Once the ring and vertical cuts are made, use the nippers to grab an edge of the vertical cut and rip the jacket from the chain. If necessary, repeat this step for the other edge of the cut.



Repeat the stripping process as needed until one-and-one-half undamaged chain links are exposed. Discard any cut links.



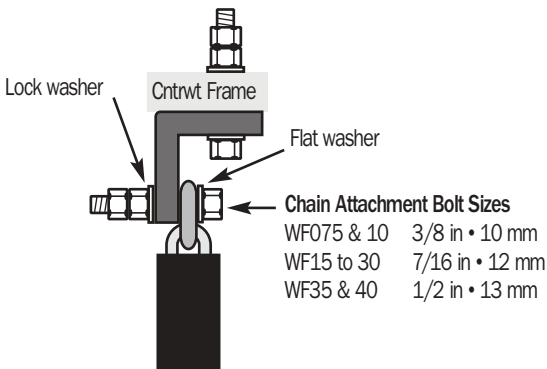
# Attach the Cable to the Counterweight Support Bracket

Use the proper size attachment bolt

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Attach the exposed chain link to the support bracket as shown.

Place the flat washer over the chain attachment bolt. Run the bolt through the chain link and the bracket. Place the lock washer on the bolt. Secure the bolt with **two** nuts.



Once the cable is attached, run the counterweight up and bring the car down to a comfortable working level at the bottom of the hoistway.

# Whisper-Flex® Cable Loop Diameters

Calculating loop diameter

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For optimum performance, there must be a specific distance between the cable counterweight and car attachment points. That distance equals the natural **CABLE LOOP DIAMETER** of a hanging cable.

On the chart below, find the size Whisper-Flex® cable being installed. Note the dimension of the **CABLE LOOP DIAMETER**.

Product Code	Weight lb/ft • kg/m	Loop Diameter in • cm	Max. Hanging Length* ft • m
WF075	0.75 • 1.12	<b>24 • 61</b>	600 • 183
WF10	1.0 • 1.49	<b>24 • 61</b>	600 • 183
WF15	1.5 • 2.23	<b>24 • 61</b>	600 • 183
WF20	2.0 • 2.98	<b>26 • 66</b>	520 • 159
WF25	2.5 • 3.72	<b>26 • 66</b>	600 • 183
WF30	3.0 • 4.46	<b>26 • 66</b>	505 • 154
WF35	3.5 • 5.21	<b>27 • 69</b>	600 • 183
WF40	4.0 • 5.95	<b>27 • 69</b>	530 • 162

Measured from the hanging point of the counterweight, the cable loop diameter provides the location of the U-bolt.

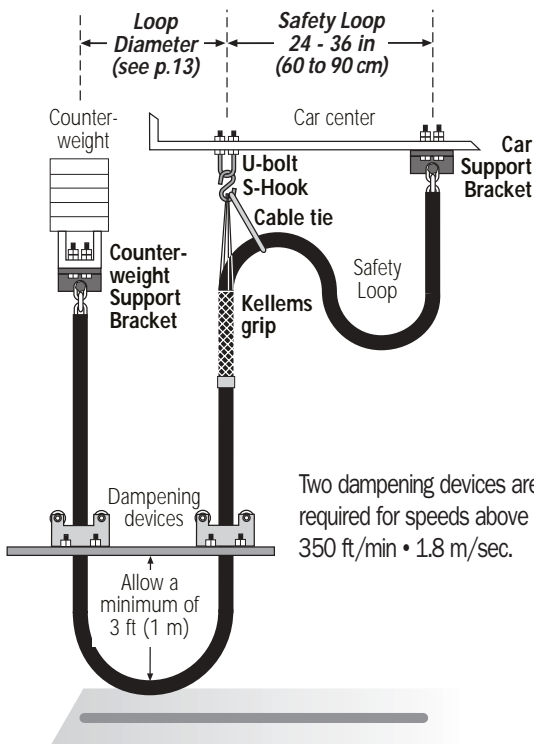
The Car Support Bracket is located 24 - 36 in (60 to 90 cm) beyond the U-Bolt. Please note the maximum hanging lengths on this chart and do not exceed them in your installation.

\*Max. hanging lengths are based on a 5:1 safety factor per ASME A17.1-2000

# Typical Hoistway Installation Diagram

Measuring the hanging points

This is a typical Whisper-Flex® cable installation (not to scale). Both support brackets and the U-bolt should be installed in a straight line directly across from the counterweight (the brackets and U-bolt should all be in the same plane). Mark the locations of the car support bracket and U-bolt on the car frame.

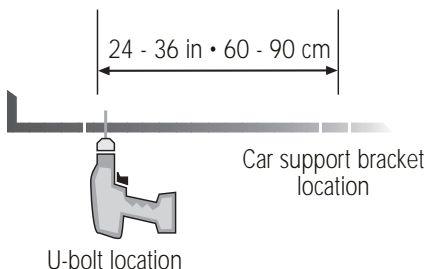


# Drill the Bracket/U-Bolt Holes and Attach the Bracket

Determine the locations and drill the holes

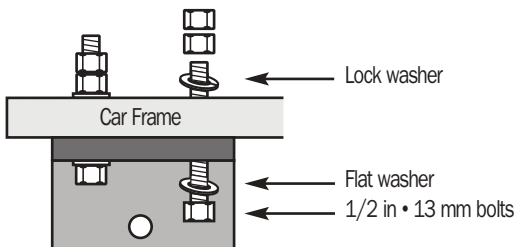
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Drill properly spaced mounting holes for the Car Support Bracket and the U-bolt on either side of your marks.



Remember, the location for the Car Support Bracket and the U-bolt should be 24 to 36 in • 60 - 90 cm from each other.

Attach the Car Support Bracket to the bottom of the car frame by placing the flat washer over the bolt and running the 1/2 in • 13 mm bolt up through the bracket and the car frame. Then place the lock washer on the bolt. Secure the bolt with **two** nuts. Repeat with the other 1/2 in • 13 mm bolt.

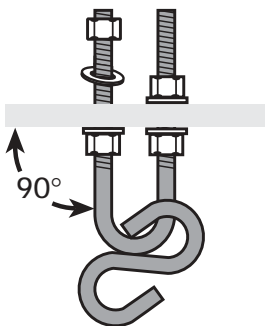


## Install the U-Bolt and S-Hook

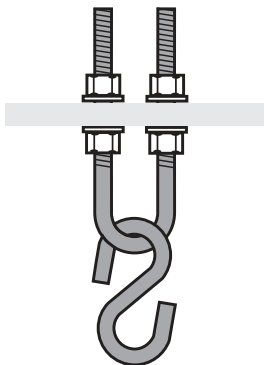
Secure U-Bolt vertically and place the S-Hook

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Install the U-bolt through the holes in the car frame. Make sure that the U-bolt is tightly held at a 90° angle to the car frame.

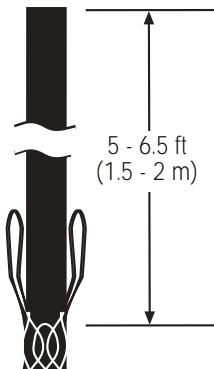


Place the S-hook through the U-bolt.



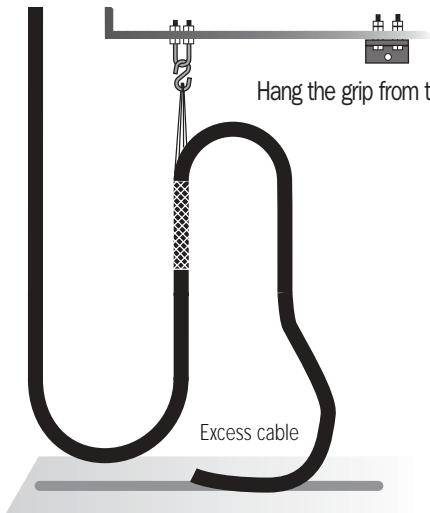
# Prepare the Cable for Installation

Place the Kellems® grip



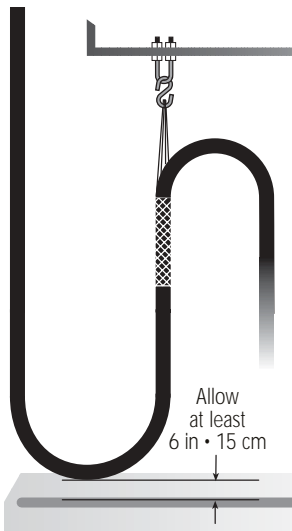
For standard installations, use the original JCC kit with Kellems grip.

Place the Kellems grip over the end of the Whisper-Flex cable that will be attached to the car. Position the grip so that the top of the weave is between 5 and 6.5 ft (1.5 to 2 m) from the free end of the cable.

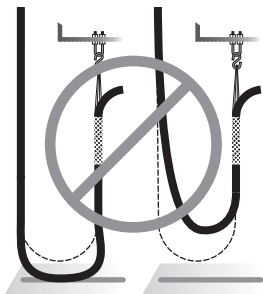


# Adjust the Grip to Get the Correct Hanging Height

Adjust the Kellems® grip as required



Allow the cable to hang freely and vertically yet not touch the floor. Adjust the location of the cable within the Kellems grip until a relaxed loop is achieved.

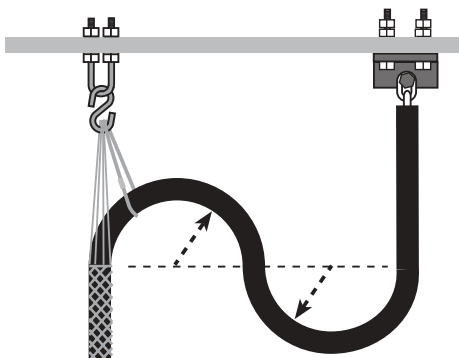


# Determine Where to Cut the Cable

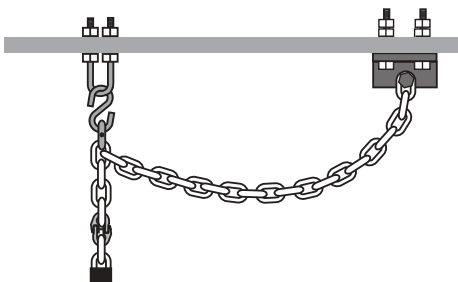
It will depend on the style of safety loop

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Cable termination location is determined by which style of installation kit is being used. The original JCC kits need enough cable to form an S-shaped safety/adjustment loop and then connect to the car support bracket.



For shallow pits, JCC-CHN kits provide chain and couplings to form the safety loop and can be terminated at the S-hook.

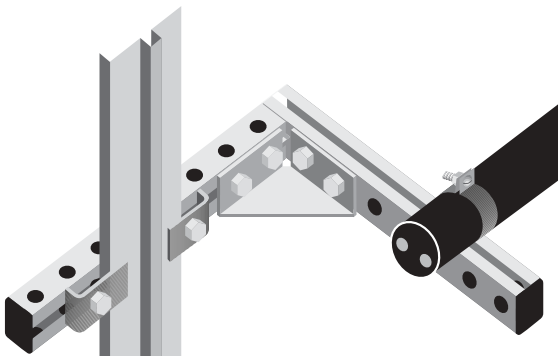


## Cut the Cable to the Correct Length

Use the angle bracket as a support

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Use a hacksaw to cut the cable to the correct length.



Using the angle bracket as a cable vise/support helps prevent injury caused by blade slippage.

Unbolt the arm of the angle bracket that was used to prepare the counterweight end of the cable. Reattach it so that the side with the channel/clamp is facing up. Tighten the clamp to hold the cable. Use the hacksaw provided in the Stripping Kit to cut off the excess cable. Return the angle bracket arm to its original position. Prepare the cable end as before (pages 8 to 11).

**If you are using an original JCC kit with Kellems grip, go to page 21 for safety loop instructions.**

**If you are using a JCC-CHN kit with chain, go to page 22 for safety loop instructions.**

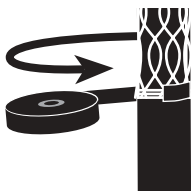
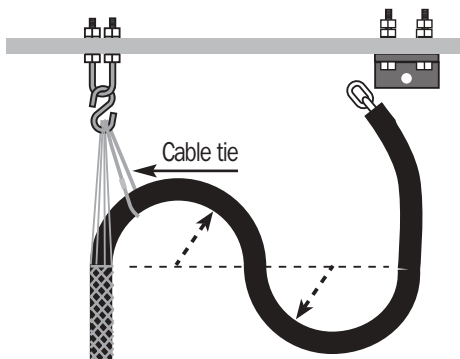
# Form the Safety/Adjustment Loop for JCC Kits

Adjust and secure with electrical tape

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The safety/adjustment loop provides clearance should the cable get tangled and allows for adjustment for the natural elongation of the hoist ropes. Failure to make this loop could seriously jeopardize the safety of your installation.

Hang the Kellems grip from the S-hook. Compress the Kellems grip and adjust the cable so that it forms a reverse curve (two half-circles of equal size). Attach a cable tie to help the cable exit the grip vertically. Make sure the grip is hanging vertically.



Once positioned, secure the bottom of the Kellems grip to the cable with at least 4 wraps of electrical tape. Make sure that the safety loop does not get caught on any pit equipment (car buffer, etc.).

# Form the Safety/Adjustment Loop for JCC-CHN Kits

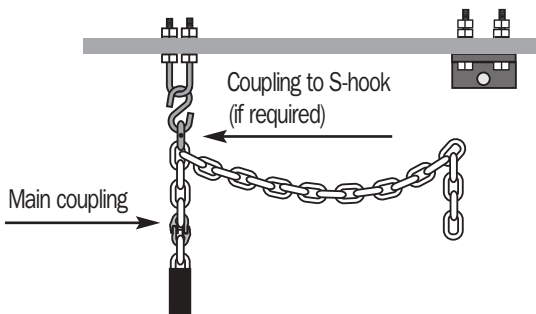
Attach the cable with the supplied couplings

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JCC-CHN kits are for shallow pit applications.

The safety/adjustment loop provides clearance should the cable get tangled and allows for adjustment for the natural elongation of the hoist ropes. Failure to make this loop could seriously jeopardize the safety of your installation.

Attach the chain provided in the kit to the cable with the coupling (instructions are in the coupling package). Use the S-hook to connect the chain to the U-bolt. If the chain link is too small to permit this, use the second supplied coupling to make the connection to the S-hook.

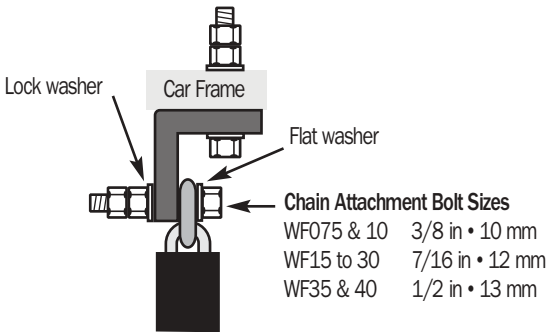


# Attach the Cable to Car Support Bracket

Terminate the chain at the support bracket

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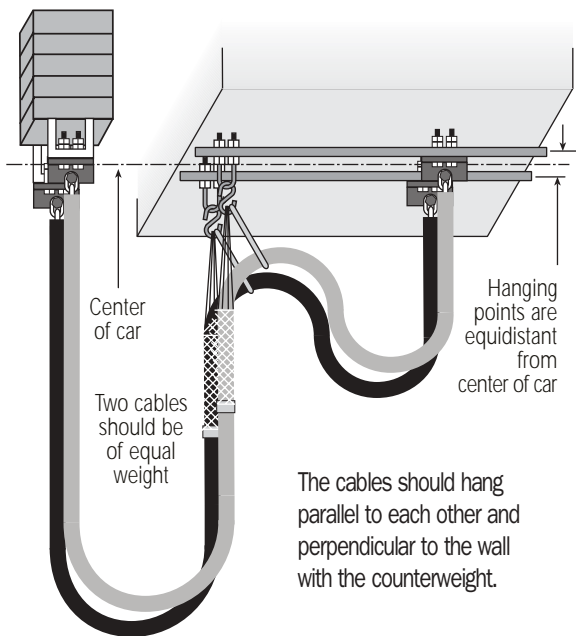
Attach the exposed link from either the cable (JCC kit) or the chain (JCC-CHN kit) to the bracket as shown. Place the flat washer over the chain attachment bolt. Run the bolt through the chain link and the bracket. Place the lock washer on the bolt. Secure the bolt with **two** nuts.



## Optional: Multiple Cable Installation

For balanced loads

To optimize car balance, most installations call for two equally-sized Whisper-Flex® cables to be used. If so, position the brackets and the U-bolt equidistant from the center of the car, the same distance apart as on the counterweight.



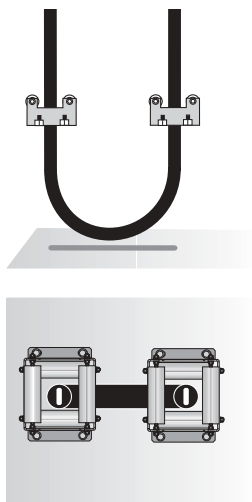
Balancing an installation by using two cables instead of one (example: two WF15 replacing one WF30) is a common practice.

# High Speed Installations

Installing the dampening devices

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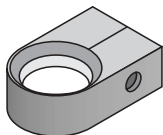
Two dampening devices are required for high-speed applications (350 ft/min • 1.78 m/sec to 700 ft/min • 3.56 m/sec). Position the devices a loop diameter apart (see page 13) and directly below the Counterweight Support Bracket and the Safety U-bolt/S-hook.



**ALL CABLE AND SUPPORT DEVICES SHOULD BE ON THE SAME PLANE WITHIN THE HOISTWAY. THE DEVICES SHOULD NOT GUIDE THE CABLE OUT OF ITS NATURAL PLANE.**

# Installations using SwayLess™ Dampening Devices

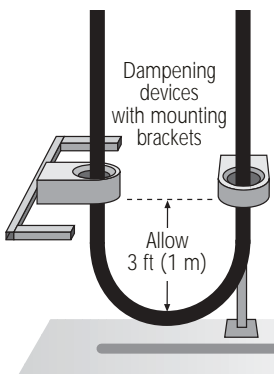
Used for high speed installations



SwayLess dampening devices are recommended for installations running at speeds between 200 and 500 ft/min • 1.5 to 2.5 meters/sec. Two are normally required for installation. They are mounted 3 feet • 1 meter from the base of the loop. When properly installed, dampening devices will keep the cable inside its vertical traveling plane. It is critical that the cable travel vertically as it passes through the dampeners

Rail and floor-mounted brackets are available for installing SwayLess dampeners.

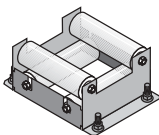
SwayLess dampeners open when unbolted. Close the SwayLess device around the cable and bolt it back together.



**SOME INSTALLATIONS MAY NOT HAVE ENOUGH ROOM TO PERMIT THE USE OF TWO DAMPENING DEVICES OR PERMIT THE RECOMMENDED 3 FT • 1 METER INSTALLATION DISTANCE. IF EITHER IS THE CASE, CALL DRAKA EP'S APPLICATION ENGINEERING DEPARTMENT AT 877.372.5237 OR 252.972.6000 FOR ASSISTANCE.**

# Installations using Super SwayLess™ Dampening Devices

Used for very high speed installations

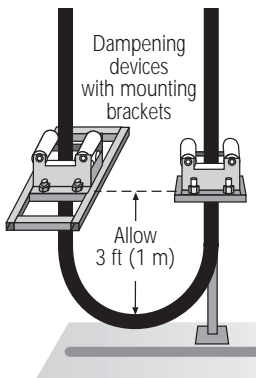


Super SwayLess dampening devices are recommended for installations running at speeds between 500 and 700 ft/min • 2.5 to 3.5 meters/sec. Two are normally required for installation. They are mounted

3 feet • 1 meter from the base of the loop. When properly installed, dampening devices will keep the cable inside its vertical traveling plane. It is critical that the cable travel vertically as it passes through the dampeners

Rail and floor-mounted brackets are available for installing Super SwayLess dampeners.

Detach the roller over the frame opening and place the dampener around the cable. Reattach the roller after installation.



**SOME INSTALLATIONS MAY NOT HAVE ENOUGH ROOM TO PERMIT THE USE OF TWO DAMPENING DEVICES OR PERMIT THE RECOMMENDED 3 FT • 1 METER INSTALLATION DISTANCE. IF EITHER IS THE CASE, CALL DRAKA EP'S APPLICATION ENGINEERING DEPARTMENT AT 877.372.5237 OR 252.972.6000 FOR ASSISTANCE.**

# Final Inspection

Check all points prior to operation

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Give your installation a final inspection. Make sure that:

- the cable has no cuts, gashes or deep abrasions
- all Support Brackets are tightly fastened
- both end links of the cable are securely attached to the Support Brackets
- all U-bolts are vertical and tightly fastened
- the cable hangs vertically and does not touch walls or floor
- if dampening devices are used, make sure that they are installed 3 feet • 1 meter above the bottom of the cable loop and do not guide the cable out of its natural plane.

**A ROUTINE INSPECTION PROGRAM SHOULD BE IMPLEMENTED TO MAXIMIZE PRODUCT SAFETY AND PERFORMANCE.**