

# Flat Cable Installation Guide

VERSION 1114



A brand of the

**Prysmian**  
Group

# Important! Please read!

## WARRANTY AND SAFETY INFORMATION

**Draka flat traveling cable is designed to be used in most vertical transportation applications.**

**This guide has been prepared to instruct installers in the safe and efficient installation of flat traveling cable.**

**Failure to follow these procedures will not only invalidate product warranty, but could endanger public safety.**

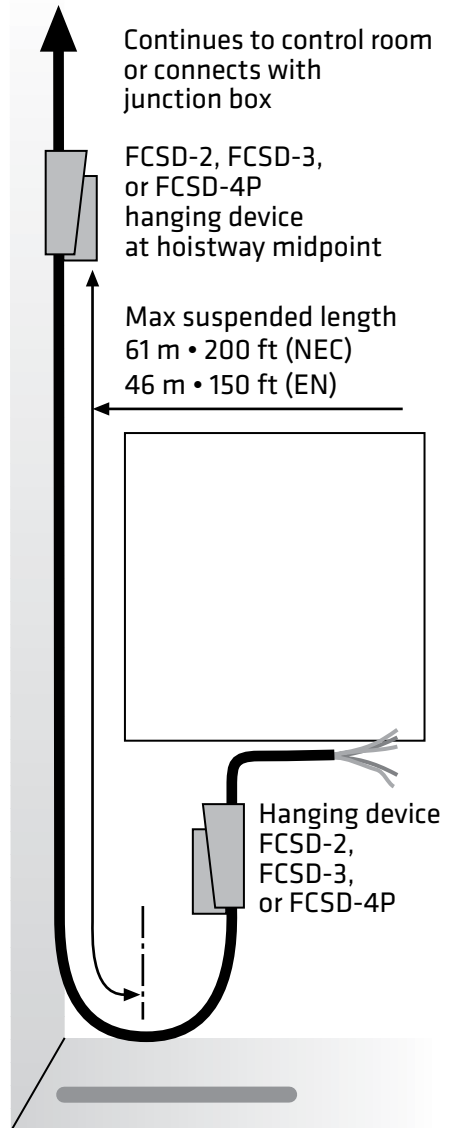
**If you have any questions regarding installation procedures, please do not hesitate to call Draka Elevator Products at 877 408 HELP (877 408 4357).**

# Unsupported flat cable - the basics

## UPPER MACHINE ROOM INSTALLATION

Unsupported cable is attached with hanging devices at the hoistway midpoint and at the bottom of the car.

Another hanging device may be needed at the top of the hoistway (see page 8). The maximum hanging length for unsupported cable is 61 m • 200 ft (NEC) or 46 m • 150 ft (EN).

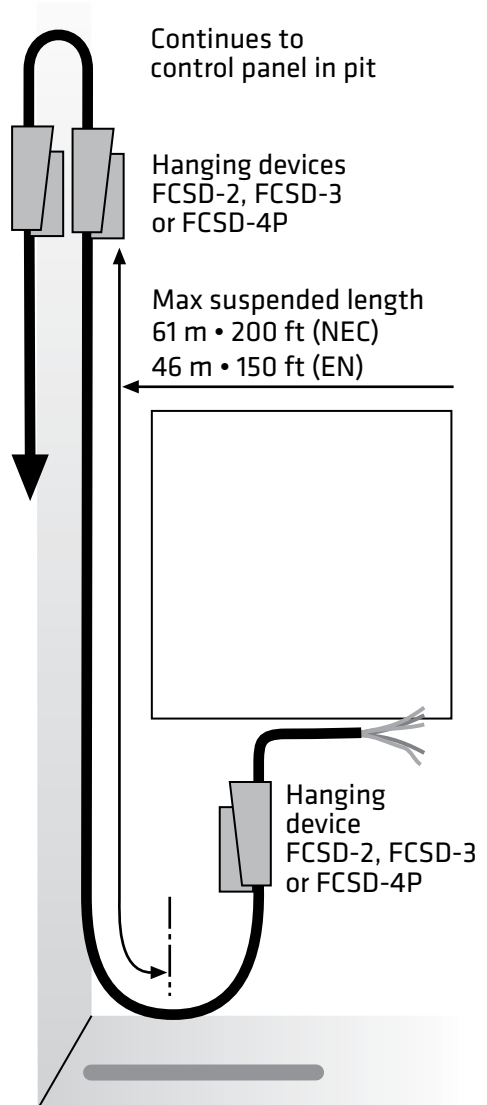


# Unsupported flat cable - the basics

## LOWER MACHINE ROOM INSTALLATION

In some cases, the controller is located at the first landing. A third hanging device is needed to direct the cable downward.

The maximum hanging length is 61 m • 200 ft (NEC) or 46 m • 150 ft (EN).



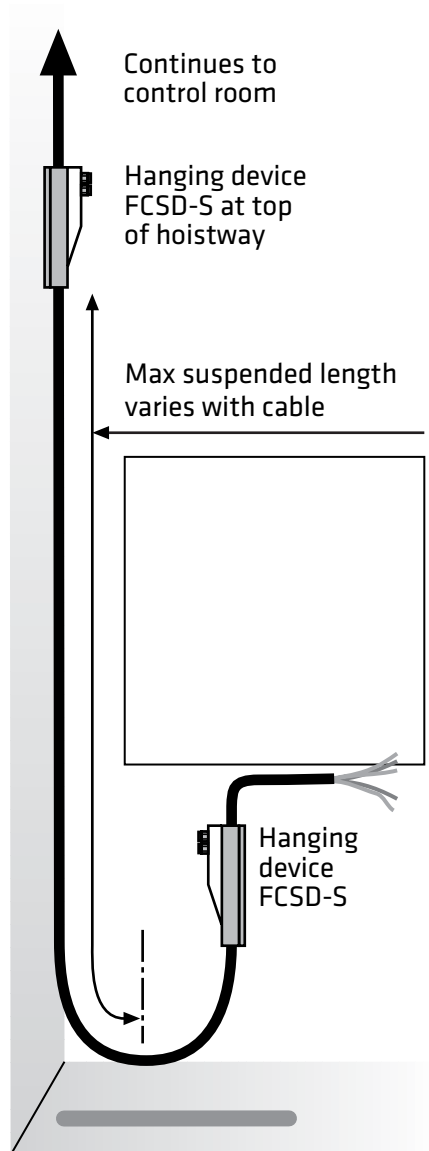
# Supported flat cable - the basics

## UPPER MACHINE ROOM INSTALLATION

Steel supported flat cable is attached with hanging devices at the hoistway top and at the bottom of the car.

The maximum hanging length for unsupported cable varies.

Check our catalog for the maximum hanging length for the cable you are installing.



# Inspecting, moving and storing reels

## MOVE AND STORE CABLE SAFELY

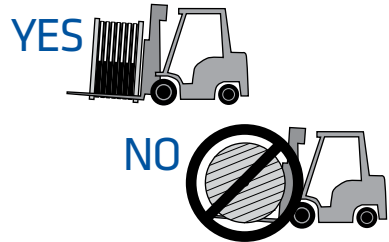
Inspect the cable immediately upon arrival. Store the cable in a protected area away from possible damage.

A cut or gash in the jacket could mean an unsafe cable. Damaged reels or boxes are a sign of rough handling in transit and may indicate cable damage.

**DO NOT INSTALL POTENTIALLY DAMAGED CABLE.** Call Draka Elevator if you have any questions regarding damaged cable.



Flat cable may be moved by forklift. Lift the reel by the wood, not by the cable.

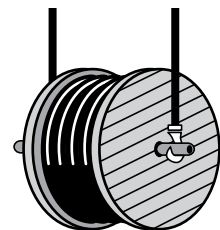
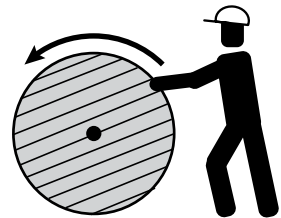


The reel may be rolled on a firm surface.

If a hoist is being used, place a strong rod through the reel and lift it by that.

Reels made of lumber must be stored upright and not stacked.

Reels made of plywood can be stored on their sides provided they are covered in stretch wrap material and not stacked more than two high.



# Planning the installation

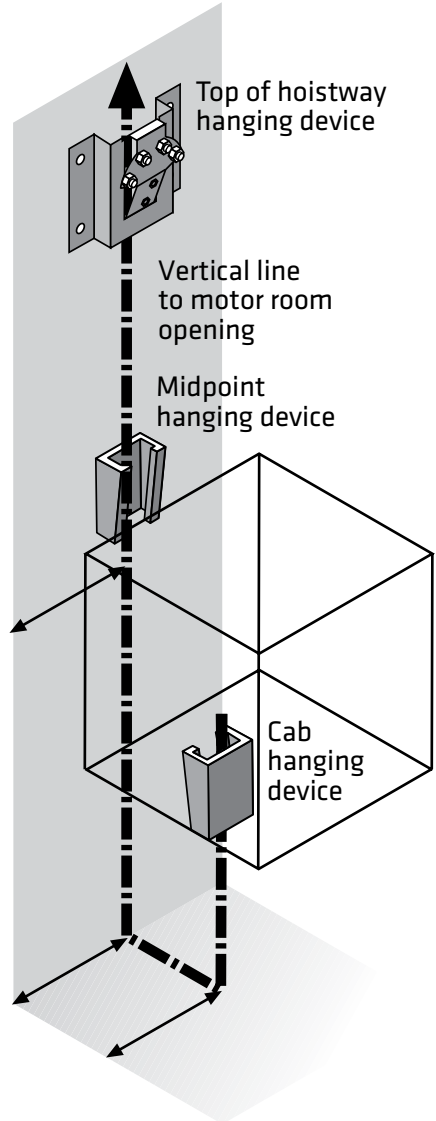
## DETERMINE HANGER PLACEMENT

Flat cable connects the cab to the controller at either the top or bottom of the hoistway.

In both cases, the cable must travel in a straight plane.

**Unsupported cables** will be supported by hanging devices at the midpoint of the hoistway and at the car. An optional hanging device is sometimes used at the top of the hoistway.

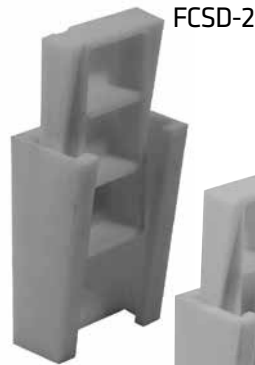
**Supported cables** will be hung by their steel supports with a hanging device placed at the top of the hoistway or at the hoistway midpoint.



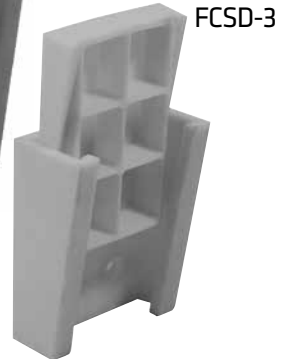
# Selecting a hanging device

## CHOOSE THE CORRECT SIZE AND TYPE

**For unsupported installations,** the FCSD-2 will hold up to two cables, one up to 52 mm • 2 in. wide, and a second no less than 70% of the width of the wider one. Maximum total thickness of the installed cables is 12 mm • 0.47 in.



The FCSD-3 will hold up to three unsupported cables, one up to 75 mm • 3 in. wide, and the second/third no less than 70% of the width of the wider one. Maximum total thickness of the installed cables is 15 mm • 0.59 in.



The FCSD-4P will hold multiple unsupported cables up to a maximum width of 114 mm • 4.5 in. Maximum total thickness of the installed cables is 15 mm • 0.59 in.



**For supported installations,** the FCSD-S holds up to three cables with a maximum total thickness of 16 mm • 0.625 in.





# Mount the hoistway hanging device

## KEEP CLEAR OF THE CAR'S PATH

The hanging device should be secured where it will not interfere with the moving car.

**For unsupported cables,** locate the hanging position just above the midpoint of the hoistway (shown). Keep the position of the hanging device in line with the motor room opening.

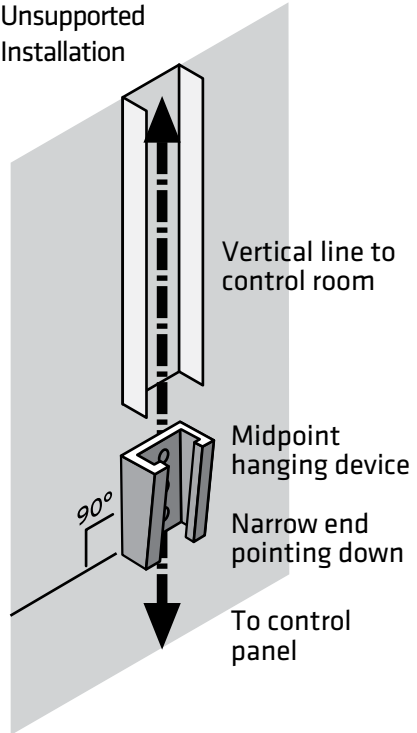
Make sure that the edges of the hanging device are level, and that the narrow end of the wedge is oriented toward the bottom of the shaft.

Mark the drilling points with a pencil. Move the hanging device and drill the holes.

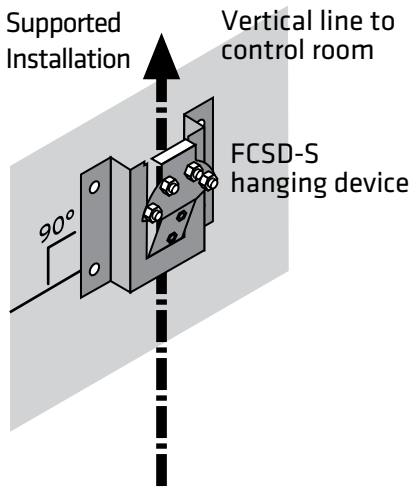
Bolt the hanging device into position using fasteners appropriate for the mounting surface (wall anchors, etc.).

**For supported cables,** the hanging position will be at the top of the hoistway or at the midpoint depending on the maximum cable hanging length. Do not install the FCSD-S until you are ready to expose the support members (see pages 15 and 16).

Unsupported Installation



Supported Installation



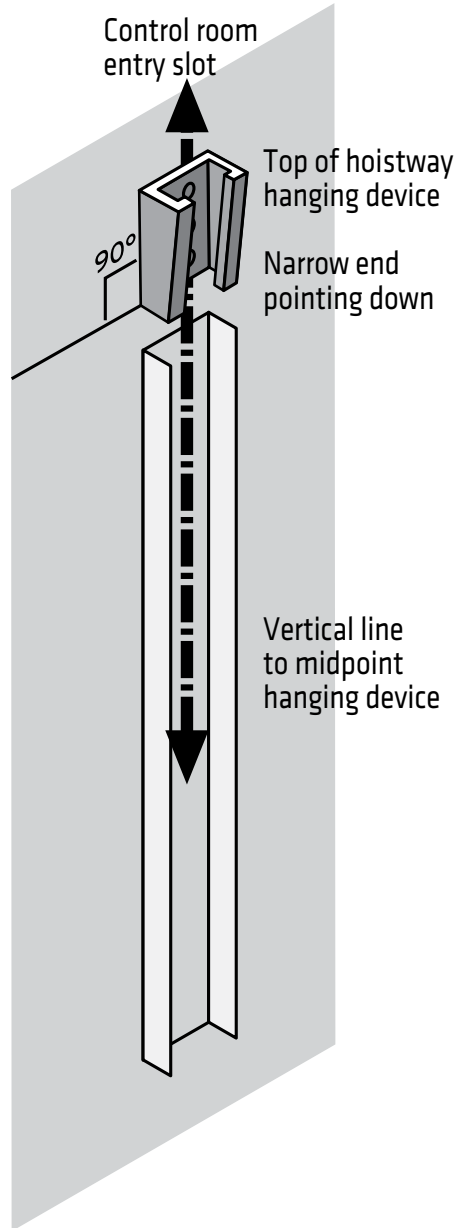
# Mounting a second hoistway hanging device

## WITH THE CONTROLLER AT THE TOP OF THE HOISTWAY

**For unsupported cable installations** where the total run is longer than the maximum hanging length, a second hanging device for supporting the cable may be needed within a few feet of the top of the hoistway. It must be in line with the midpoint hanging device.

Supported cables will have one hanging device at the top of the hoistway - no midpoint hanging device is needed.

It is helpful to have the raceway already in place to protect the stationary portion of cable.

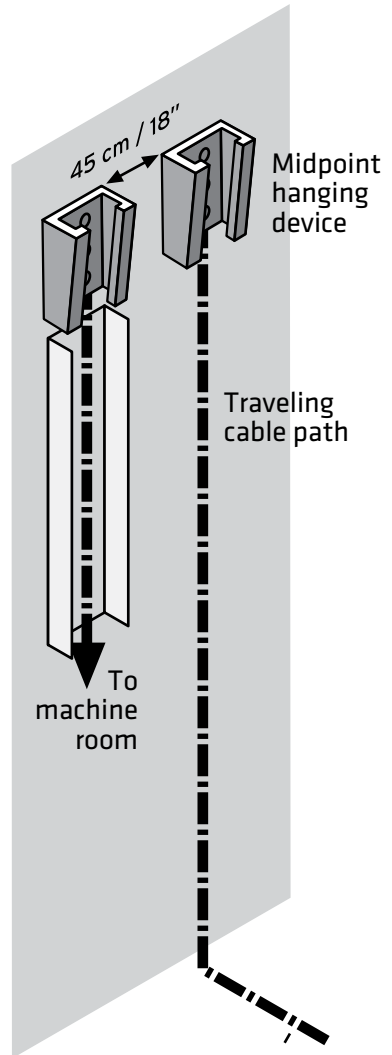


# Mounting a second hoistway hanging device

## WITH THE CONTROLLER AT THE BOTTOM OF THE HOISTWAY

**For unsupported cable installations** with a first floor machine room (such as a hydraulic), a second hanging device should be installed about 45 cm • 18 inches to the side of the midpoint hanging device.

Raceway can be installed for cable protection. The downward path should be vertical. Be sure the raceway is plumb.



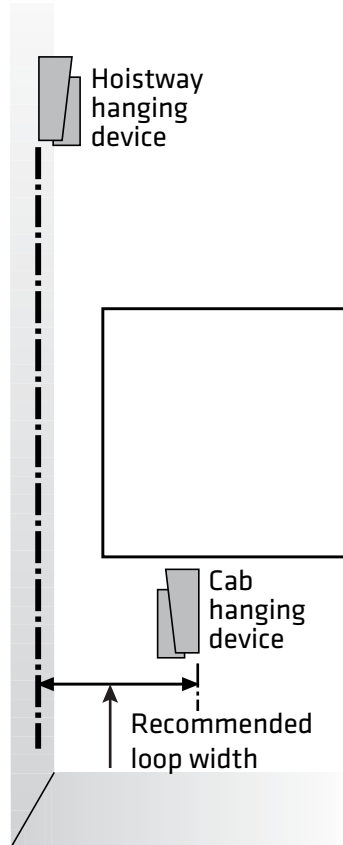
# Mounting the car hanging device

## DETERMINE PLACEMENT

It is critical that the hoistway hanging device and the cab hanging device(s) are aligned on the same plane. Failure to do so will result in poor tracking.

Locate a place on the cab frame on the same plane as the hoistway hanging device. The horizontal distance between the hoistway hanging device and the car hanging device depends on the recommended cable loop.

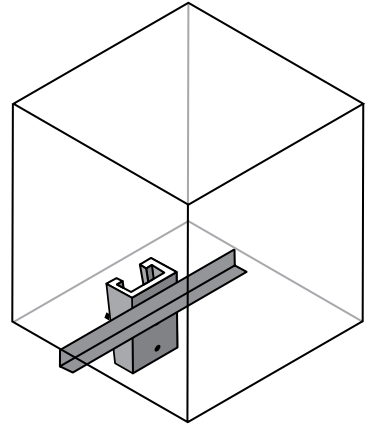
When hanging parallel cables, set the devices between 51 mm • 2 inches and 102 mm • 4 inches apart.



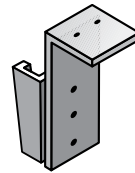
# Mounting the car hanging device

## ATTACH THE HANGING DEVICE

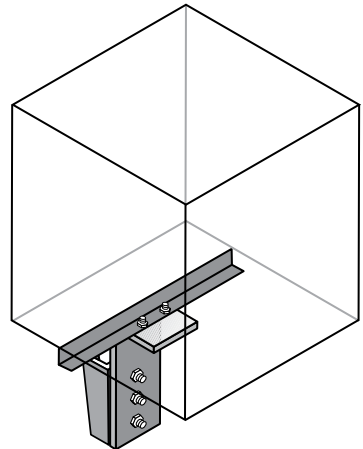
Locate a vertical surface under the car directly in line with the hoistway hanger to locate car cable hanger. Be sure to allow 10 cm • 6 inches minimum overhead clearance for the wedge and cable.



If no suitable location exists, mount the hanger to an appropriately-sized steel plate and secure the plate to the underside of the car.



A 90 degree angle bracket can be used to secure the hanger to a horizontal surface beneath the car.



# Placing the cable

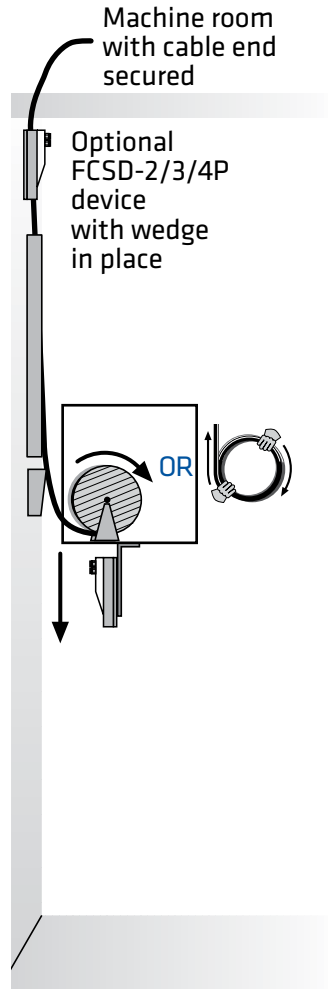
## PREFERRED METHOD

Prior to installing the cable, be sure that any hoistway obstructions are removed or, at the minimum, padded to avoid abrasion damage.

Place the reel(s) on reel rollers or jack-stands in the car and proceed to the top floor. Feed enough cable into the machine room to connect with the controller and secure the end. If you are using a hanging device at the top of the hoistway, you may attach the cable there before lowering the cab.

Slowly lower the car while carefully placing the cable into the raceway (if applicable) until the midpoint is reached.

The cable should pay off from the bottom of the reel so that the cable bend direction is consistent between the reel and the loop. If the flat cable is provided on coils, uncoil it as if it were on a reel, rotating it with your hands



# Alternate method for placing the cable

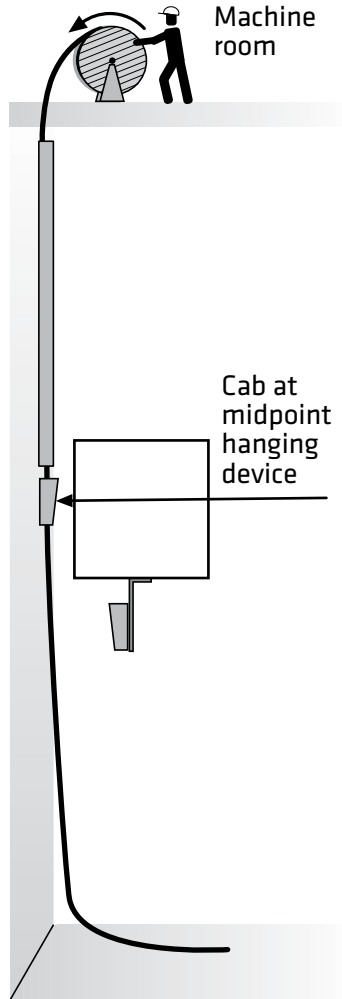
DO NOT USE IF EXPECTING TO USE ALL OF THE CABLE ON THE REEL

Place the reel on reel rollers or jack-stands in the machine room. Pay the cable off the top of the reel.

Make sure the reel can rotate freely.

Slowly lower the cable down the hoistway, until enough is available for undercar attachment, and then secure the cable in the hoistway hanger.

NOTE: Remember that the cable is NOT secured to the reel.

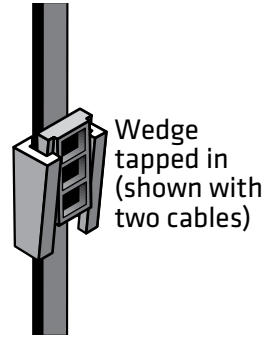


# Secure the cable in the hanging device

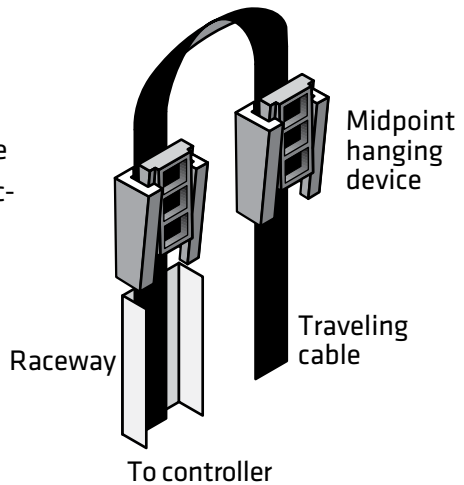
## FOR UNSUPPORTED CABLES

**Place the unsupported cable** in the hanging device. If placing two cables, put the smaller one on top of the larger one.

Slide the clamping wedge in with the narrow end pointing down. Temporarily secure it with a few hammer taps. The cable should be firmly held but the wedge should be easily removed with a few hammer taps.



If you are running the cable to a first floor machine room, carefully fold the cable and place it as shown in the second hanging device.



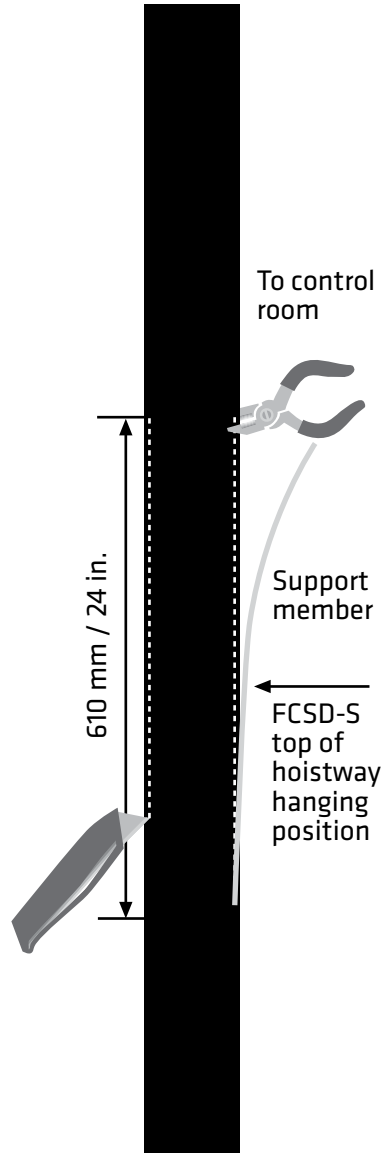


# Secure the cable in the hanging device

## FOR SUPPORTED CABLES

**With the supported cable** being held in place in the machine room, locate the hanging position for the FCSD-S. Expose 610 mm • 24 in. of steel support members by slitting the edges of the cable with a utility knife. The midpoint of this slit should align with the FCSD-S.

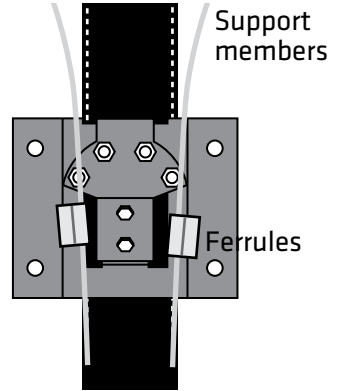
Use cutters to snip the support members, being careful not to nick or cut any of the conductors. Pull the support members away from the cable.



# Secure the cable in the hanging device (con't)

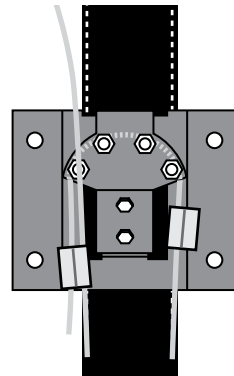
## FOR SUPPORTED CABLES

Slide the cable under the FCSD-S leaving the steel support members free. Place one ferrule over each support member.

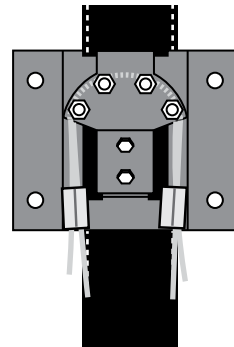


Loop the support members over the four nuts behind the semi-circular plate of the hanging device.

Run one support member through the opposing ferrule. Use a swaging tool to crimp each ferrule in three places.



Repeat with the other support member. When the cable is unsecured in the machine room, the support members will become taut and support the cable.

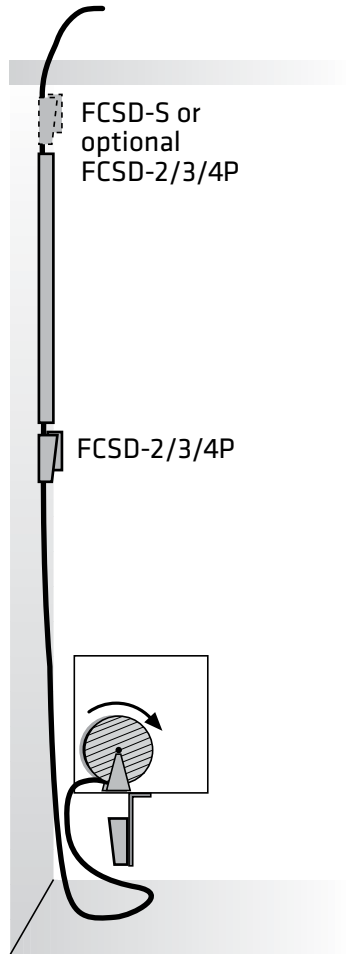


# Attach the cable to the car

Once the cable is temporarily secured at the midpoint, continue descending to the bottom of the hoistway.

Pay out enough cable to reach the hanging device on the bottom of the cab. There should be sufficient cable to set a proper loop with 15 cm / 6 inches or more clearance from the pit floor PLUS enough to reach its termination in the cab.

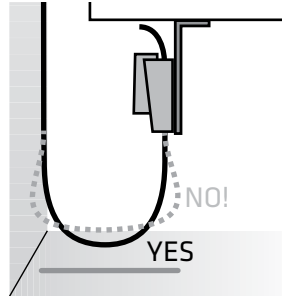
Cut the cable with tin snips or a wire cutter.



# Setting the proper loop

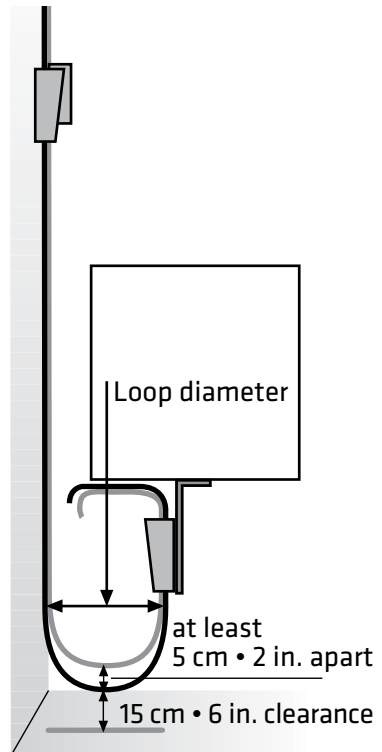
Place the cable into the car hanger.  
Have a helper hold the cable in place while setting the loop.

The loop should not touch the cab's bottom edges and should not 'bell out.' The cable should hang vertically so that both legs of the loop are parallel.



If installing two or more cables, make sure there are 5 to 10 cm • 2 to 4 inches between the loops.

Once the loops are set, temporarily secure the cable in the hanging device by lightly tapping the wedge into place.

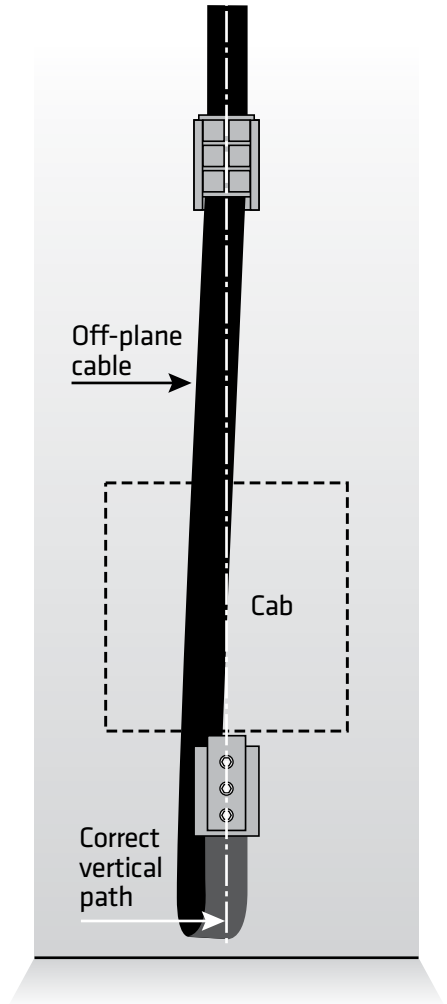


# Adjusting the tracking

If the cables are running off-plane, the cable tracking can be adjusted by VERY slightly angling the cable in the hanging devices. Angling the cable by as little as 3 mm • 1/8 in off vertical will move a cable as much as 60 cm • 2 feet in a ten story building.

**For unsupported cables,** once proper tracking has been confirmed or established, firmly tap in the wedges at all hanging devices.

The cable should be tightly held but not crushed or deformed in the hanging devices. Do not let the wedge visibly compress the cable jacket.



# Stripping the cable

The 36-135-M1 Flat Cable Stripper is the recommended tool for jacket removal.

Starting from the printed jacket surface, place the point of the guard between the conductor and jacket.

Pull the stripper smoothly for about 15 cm • 6 inches using a slight upward motion to avoid nicking the conductors.

Stripping will expose the ripcords in the cable. If more jacket needs to be removed, use needle-nose pliers to grip the ripcord, twisting it around the jaws of the pliers for more grip. Pull ripcords directly against the jacket to increase the strip length.

Electrical tape can be used to organize bundles of exposed conductors.

**NOTE: A routine inspection program should be implemented to maximize product performance and safety.**



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