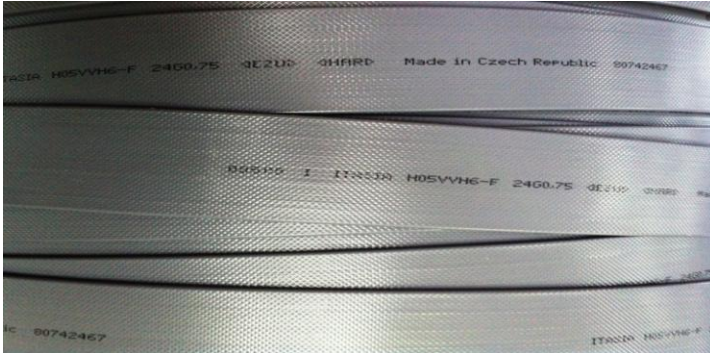




ITASIA FLAT CABLE INSTALLATION MANUAL GUIDE



HIGH QUALITY FLAT CABLE MADE IN CZECH REPUBLIC EU

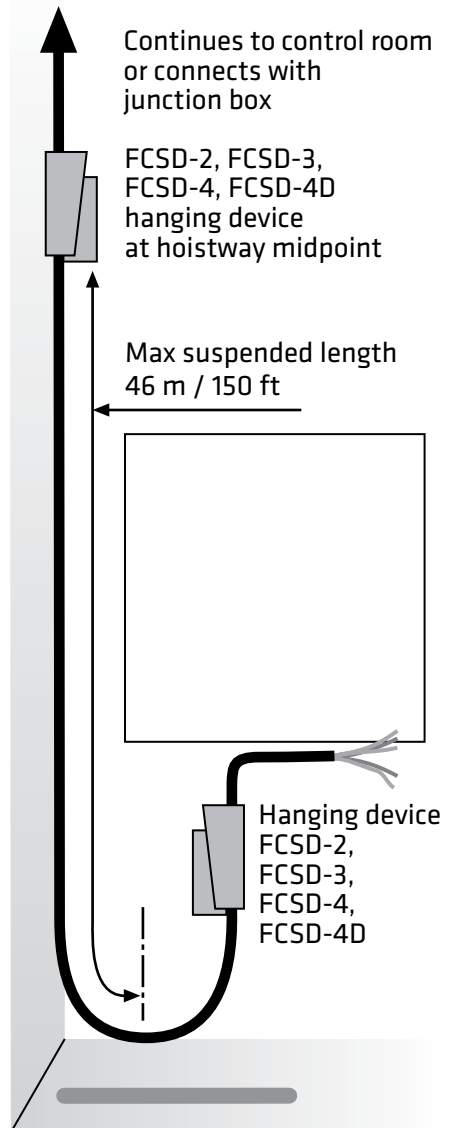
Important! Please read!
Warranty and safety information

ITASIA 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.

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 46 m / 150 ft.

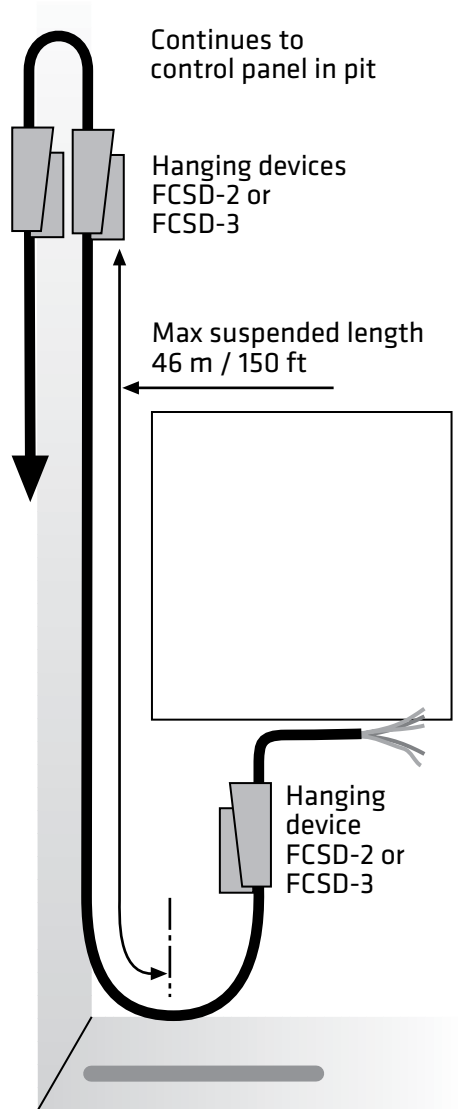


Unsupported flat cable - the basics

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 46 m / 150 ft.



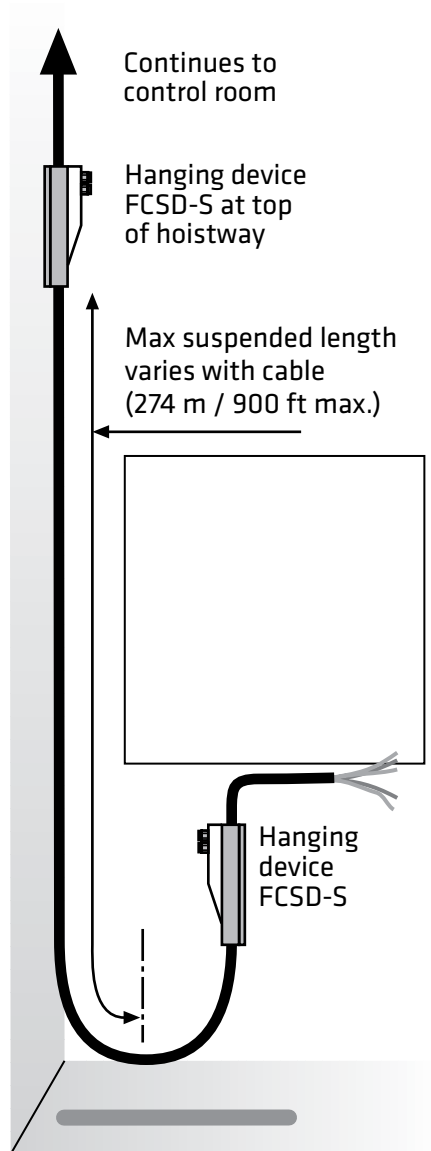
Supported flat cable - the basics

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. The maximum hanging length for any supported cable is 274 m / 900 ft.

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



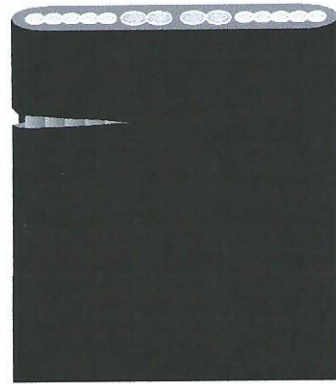
Inspecting, moving and storing reels

MOVE AND STORE CABLE SAFELY

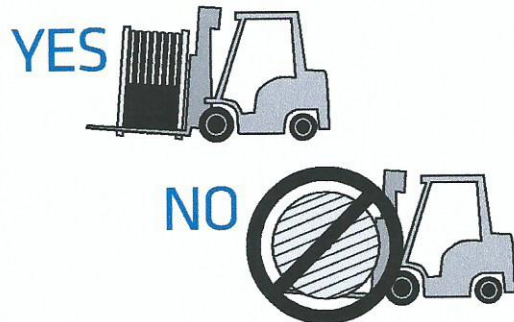
Inspect the cable immediately upon arrival. Store the cable in a protected area away from possible damage.

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.



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

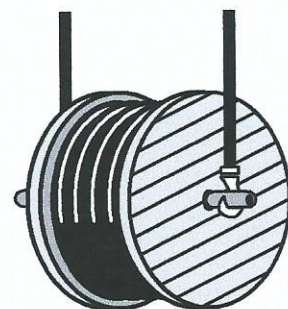
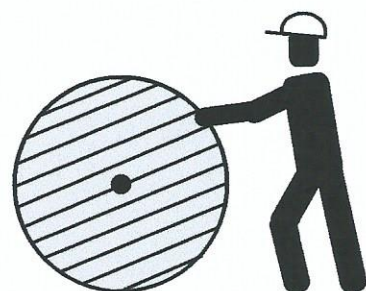


The reel may be rolled on a firm surface.

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

Larger reels must be stored upright and not stacked.

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



Planning the installation

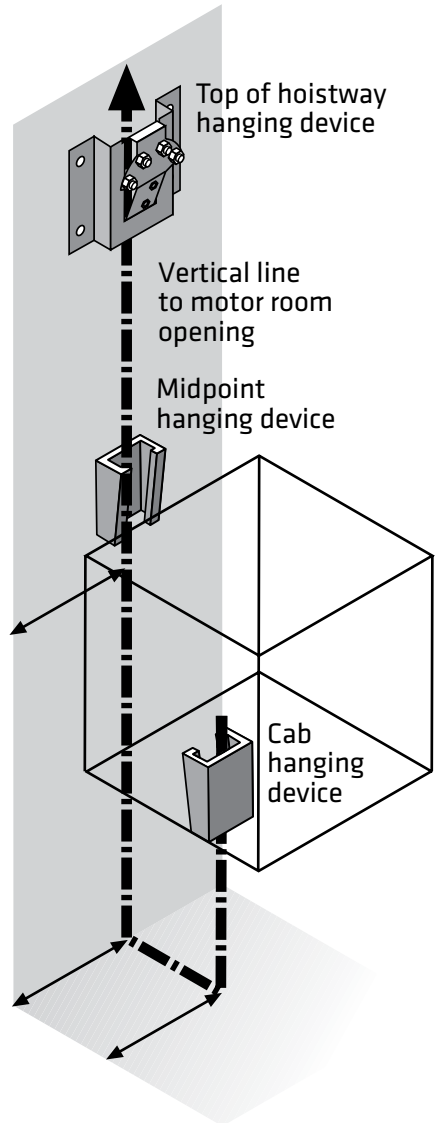
DETERMINE HANGER PLACEMENT

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.



Selecting a hanging device

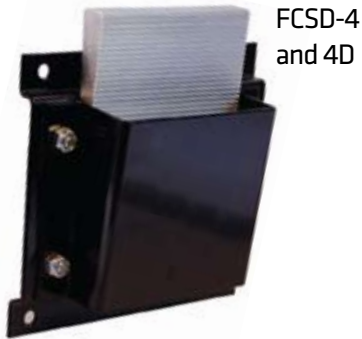
CHOOSE THE CORRECT SIZE AND TYPE

For unsupported installations, the FCSD-2 will hold up to two cables, one up to 52 mm / 2.05 in. wide, and a second no less than 70% of the width of the wider one. 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 / 2.95 in. wide, and the second/ third no less than 70% of the width of the wider one. Total thickness of the installed cables is 15 mm / 0.60 in.

The FCSD-4 will hold up to three unsupported cables with a maximum width of 101 mm / 4 in. wide. Total thickness of the installed cables is 14 mm / 0.55 in. max. The FCSD-4D variant will hold up to five cables with a total thickness of 24.4 mm / 0.96 in.



For supported installations, the FCSD-5 holds up to three cables with a total of 16 mm / 5/8 in. max. Instructions for attaching cables to it are on pages 15 and 16.



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.

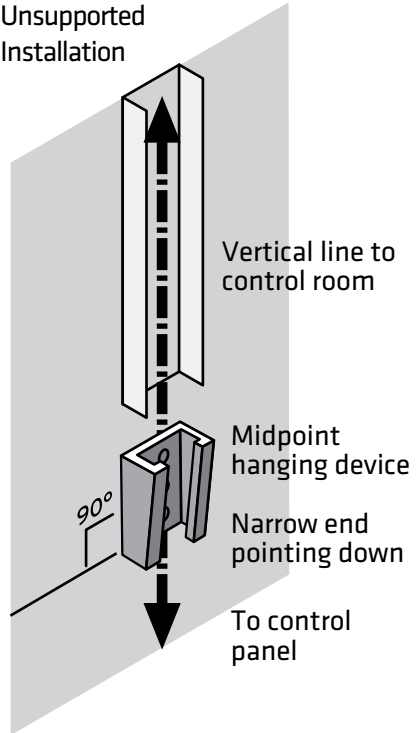
Make sure that the edges of the hanging device are parallel with the walls of the shaft, and that the narrow end of the wedge is oriented toward the bottom of the shaft.

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

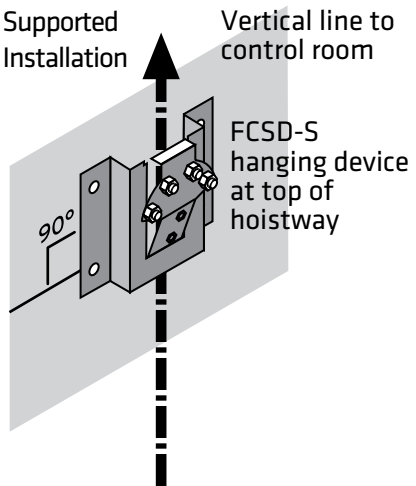
Bolt the hanging device into position using fasteners appropriate for the mounting surface (wall anchors, etc.).

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

Unsupported Installation



Supported Installation



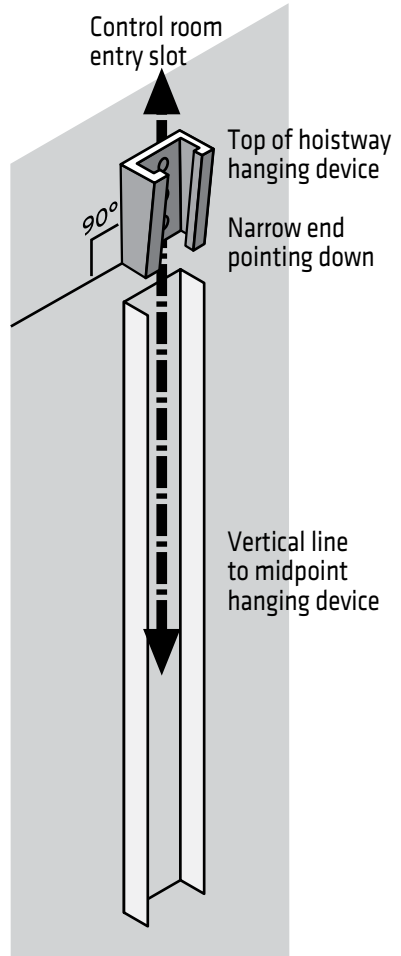
Mounting a second hoistway hanging device

WITH THE CONTROLLER AT THE TOP OF THE HOISTWAY

For unsupported cable installations of 10 or more floors, 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.

Unsupported 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.

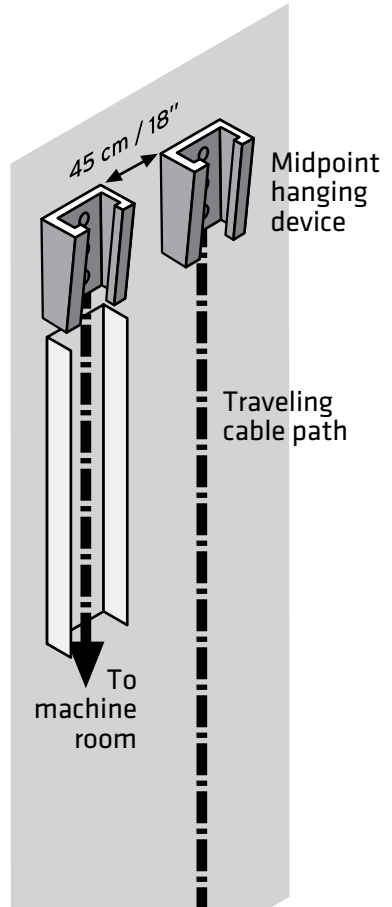


Mounting a second hoistway hanging device

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 should be installed for cable placement. The downward path should be vertical.



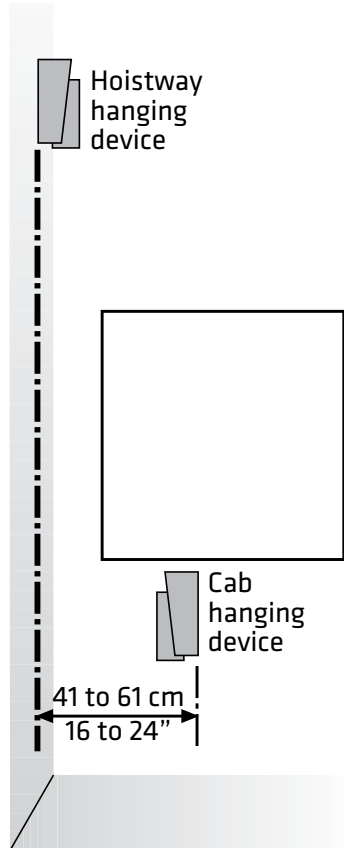
Mounting the car hanging device

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 should be 41 to 61 cm / 16 to 24 inches.

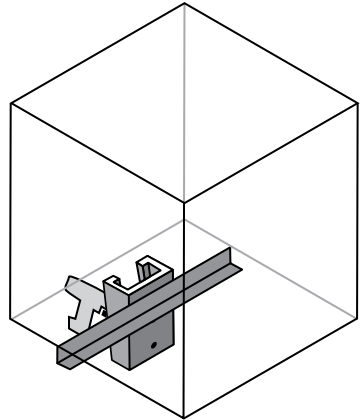
If using two devices, set the devices between 51 mm / 2 in. and 102 mm / 4 in. apart.



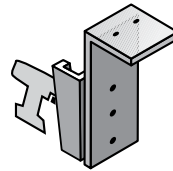
Mounting the car hanging device

ATTACH THE HANGING DEVICE

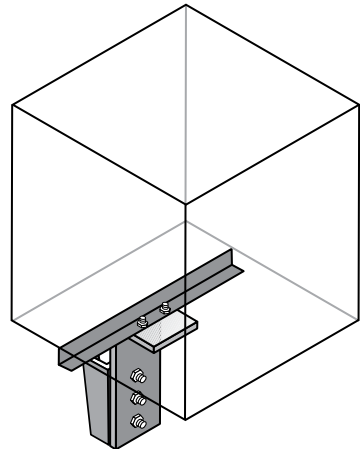
Locate a vertical surface under the car directly in line with the hoistway hanger to locate car cable hanger. Be sure to allow 10 cm / 6 inches minimum overhead clearance for the wedge and cable.



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

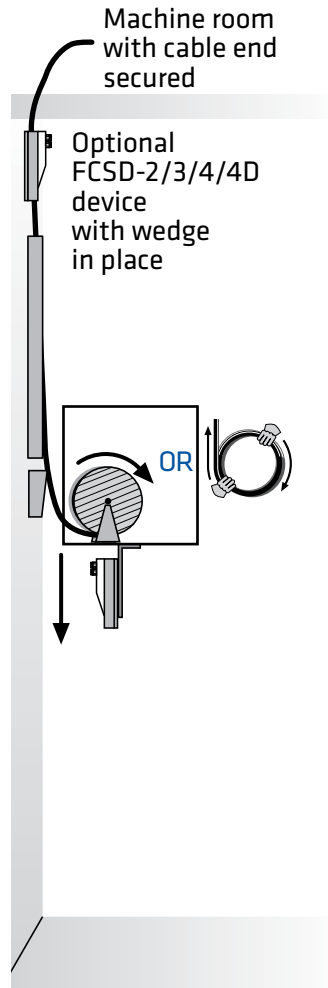
PREFERRED METHOD

Prior to paying of the cable, be sure that any hoistway obstructions be 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 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



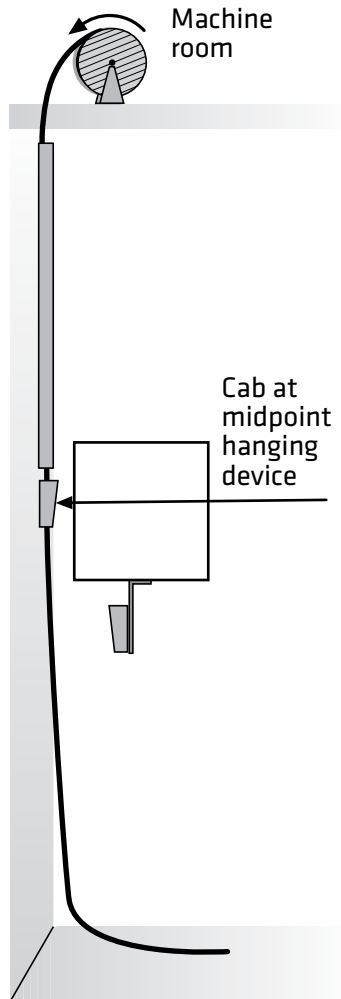
Alternate method for placing the cable

CAN BE USED FOR SHORTER RUNS

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.

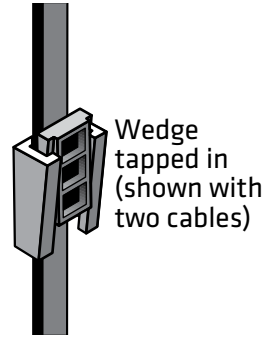


Secure the cable in the hanging device

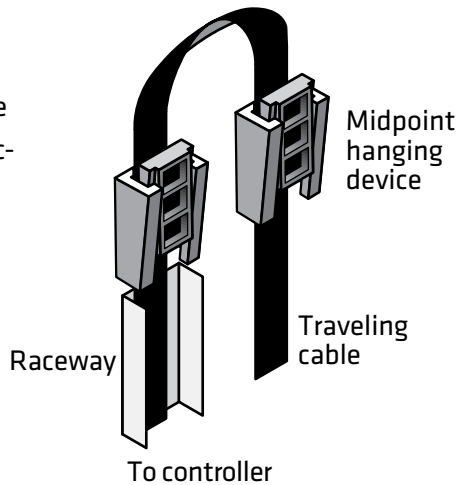
FOR UNSUPPORTED CABLES

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 and 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.

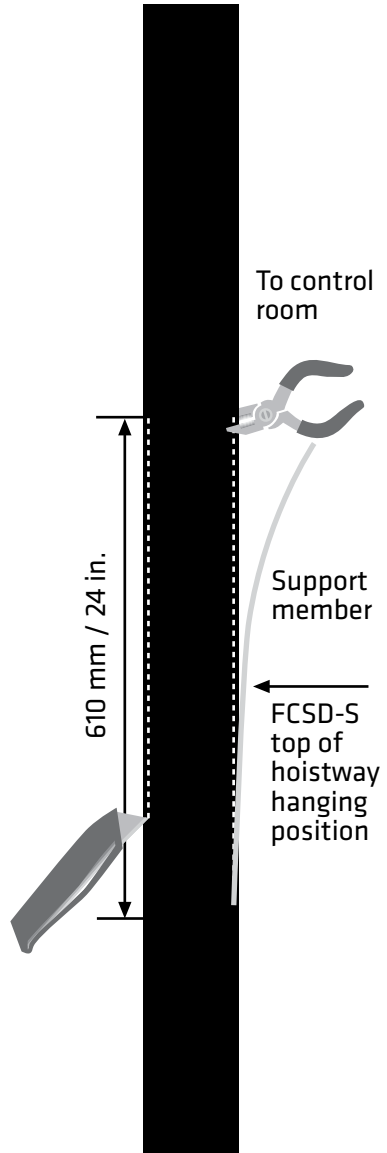


Secure the cable in the hanging device

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 be where the FCSD-S will be installed.

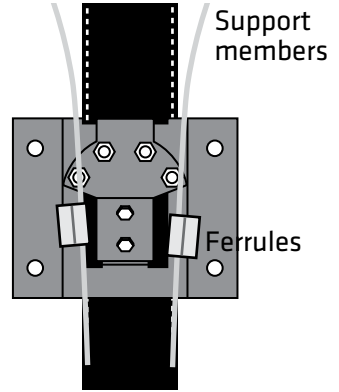
Use cutters to snip the support members, being careful not to nick or cut and of the conductors. Pull the support members away from the cable.



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

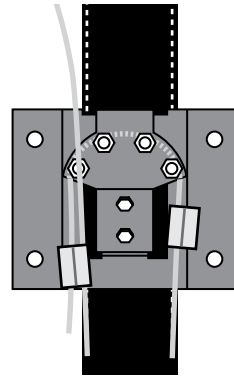
FOR SUPPORTED CABLES

Install the FCSD-S so that the cable is behind it and the support members are outside of it. Place one ferrule over each support member.

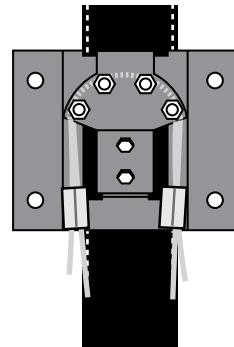


Wind the support members over the four nuts behind the semi-circular plate of the hanging device.

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.

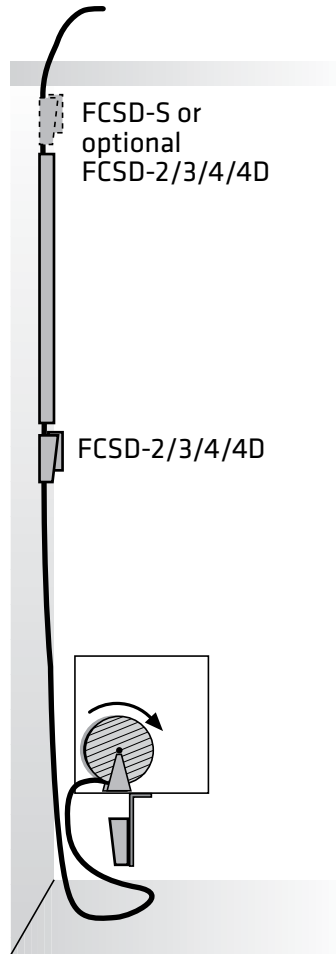


Attach the cable to the car

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.

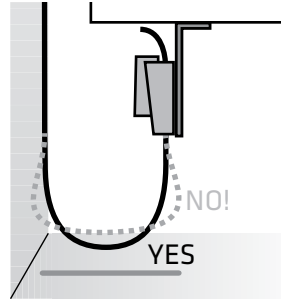
Cut the cable with tin snips or a wire cutter.



Setting the proper loop

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

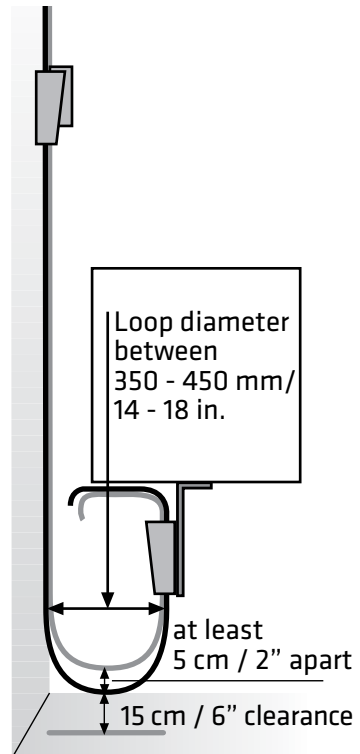
The loop should not touch the cab's
bottom edges and should not 'bell
out.' The cable should hang vertically
so that both legs of the loop are paral-
lel.



The loop diameter should be between
350 - 450 mm / 14 - 18 in.

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 inch 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.

For supported cables, attach the cable with the support members as shown on pages 15 and 16.

The cable should be tightly held but not crushed or deformed in the hanging devices.

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.

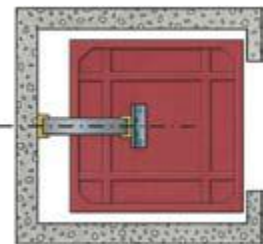
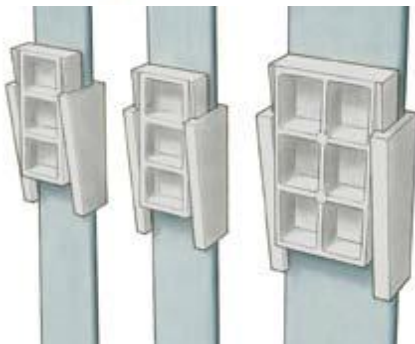
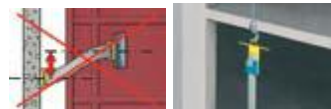
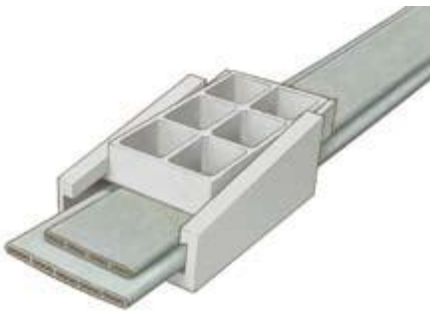
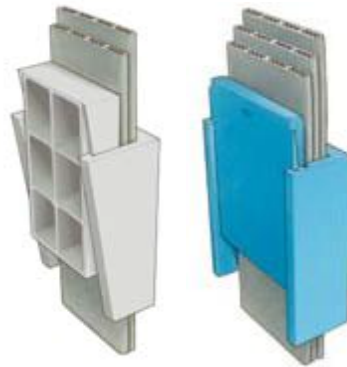
Pull the stripper smoothly for about 45 cm / 18 inches using a slight upward motion to avoid nicking the conductors.

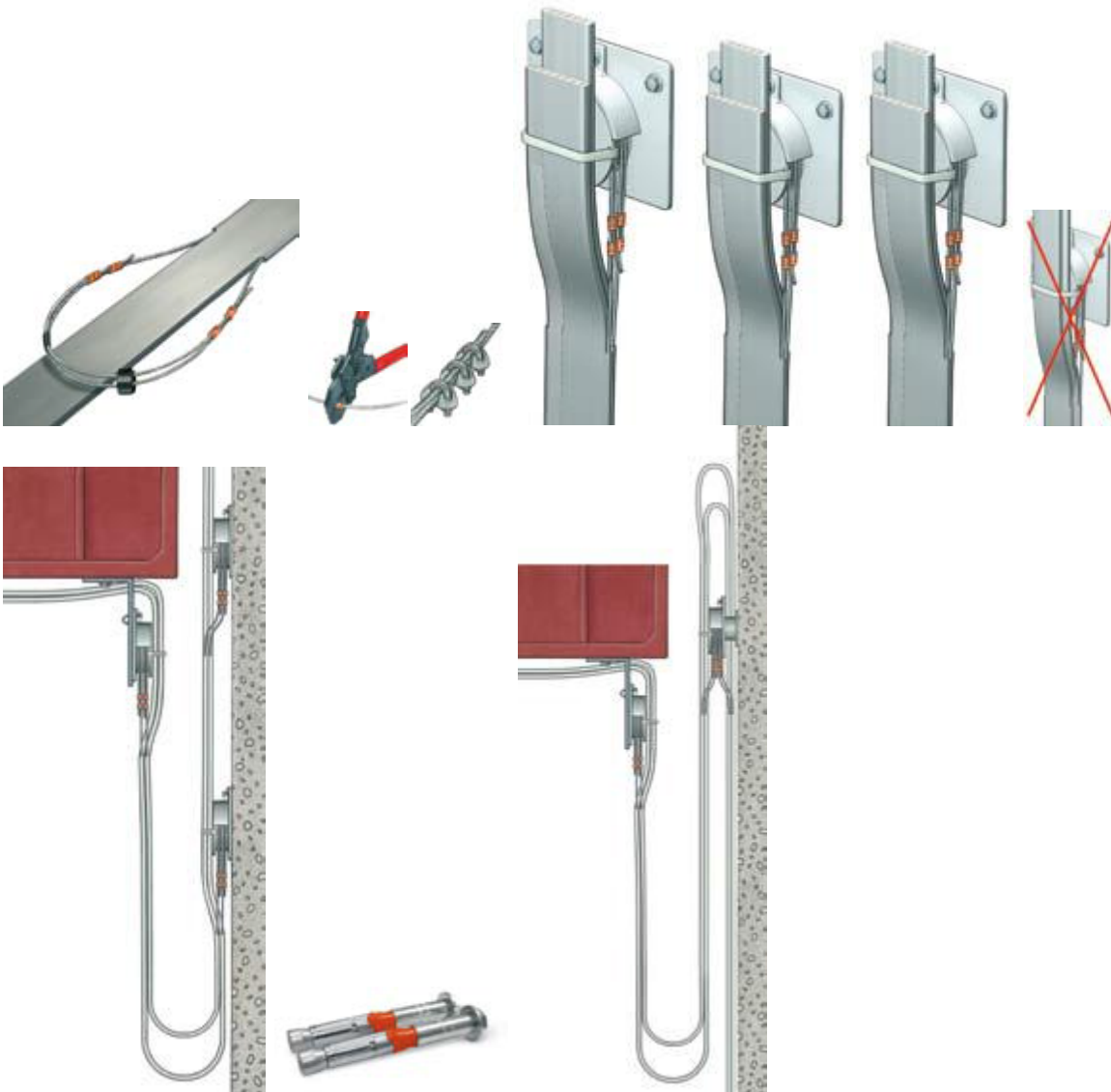
Stripping will expose the ripcords in the cable. If more jacket needs to be removed, use needle-nose pliers to grip the ripcord, twisting it around the jaws of the pliers for more grip.

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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