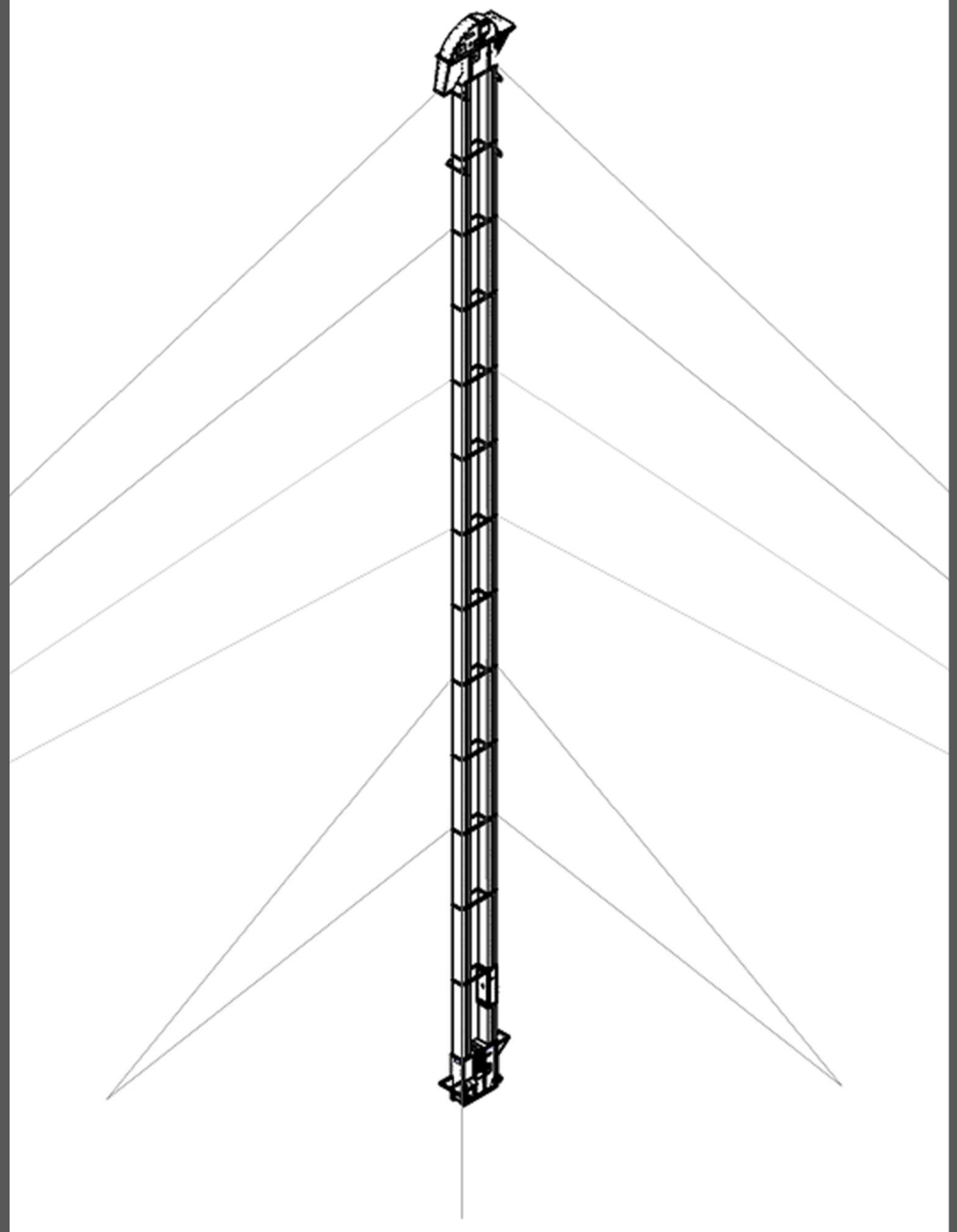
GUY CABLES



GUY CABLES
INSTALLATION MANUAL
P/N 161639

CHIEF

Trusted. Tested. True

Manual Revisions

- 02-10-2026
    - Initial Release

Suggested Equipment

Chief recommends the following equipment and tools needed for installation. Individual installations may vary.

- Impact wrenches and sockets
- End wrenches
- Crescent wrenches
- Vise grip pliers
- Alignment punches
- Rubber mallets
- Level
- Drill and drill bits
- Screw Guns
- Metal Saw
- Extension cords

Hardware Torque

The following table contains recommended torque values for installation.

When installing hardware, the torque values shown below must be followed. All hardware must seat tight against the corresponding component.

Bolt Diameter	Torque
5/16” (.79cm)	16 ft.-lbs.
3/8” (.95cm)	29 ft.-lbs.
7/16” (1.11cm)	46 ft.-lbs.
1/2" (1.27cm)	70 ft.-lbs.
5/8” (1.59cm)	140 ft.-lbs.
3/4" (1.91cm)	250 ft.-lbs.
7/8” (2.22cm)	400 ft.-lbs.
1” (2.54cm)	600 ft.-lbs.
1 1/8” (2.86cm)	750 ft.-lbs.
1 1/4" (3.18cm)	1100 ft.-lbs.

Pre-Installation Planning Information

Guy cable system should be preplanned to meet the project requirements. Dealer/customer planning drawings will simplify the installation and should include the following:

- Site Layout
- Location and Orientation of Elevator
- Location of Accessories

Installation

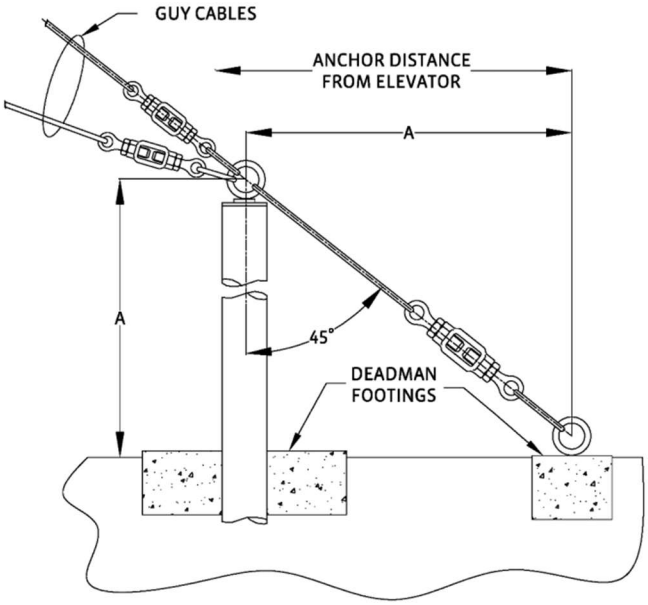
Chief does not assume any responsibility from parts damaged due to faulty or improper installation procedures.

Guy Cable Anchors

The leg must be braced every 20 ft. between the head section and the top of the boot unit. Guy cables are generally used for bracing above ground level. For legs extending into pits (below ground level) bracing near ground level is recommended, to obtain maximum overhead guy cable clearance

Important Note: Guy cables should be protected from accidental damage. Trucks or machinery impacting a cable can cause serious damage and result in the collapse of the elevator.

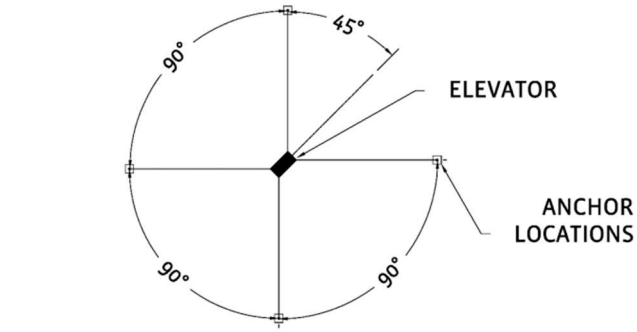
Guy cable protection can be gained by utilizing guard fences and elevated anchors. These will keep equipment at a safe distance from the cables and allow vehicles to pass under the cables near the anchor location.

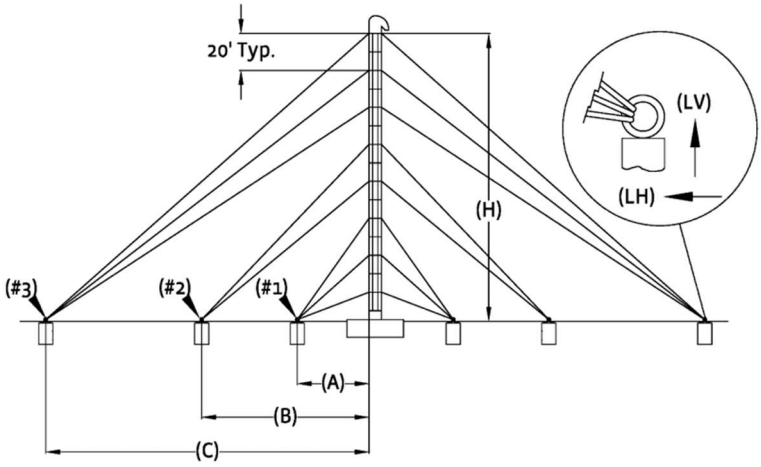


Anchors are to be located 90 degrees apart around the elevator and must be properly designed to withstand the cable loads.

Important Note: All anchors must be designed by a structural engineer to match the soil and ground conditions.

Important Note: All cables or braces attached to buildings or other structures must be approved by the manufacturer of the structure or by a structural engineer.





Model	Height (ft)	Anchor "A"				Anchor "B"				Anchor "C"			
		Sets	"A"	LH (lbs)	LV (lbs)	Sets	"B"	LH (lbs)	LV (lbs)	Sets	"C"	LH (lbs)	LV (lbs)
CBEG10	40	2	40	3740	3740	-	-	-	-	-	-	-	-
	60	3	60	5780	5780	-	-	-	-	-	-	-	-
	80	2	40	3900	3900	2	80	3840	3260	-	-	-	-
	100	2	40	3960	3960	3	100	5830	4640	-	-	-	-
CBEG16-24W	40	2	40	4910	4910	-	-	-	-	-	-	-	-
	60	3	60	7330	7330	-	-	-	-	-	-	-	-
	80	2	40	5010	5010	2	80	4870	4270	-	-	-	-
	100	2	40	5010	5010	3	100	7400	5910	-	-	-	-
	120	2	40	5010	5010	4	120	10010	7470	-	-	-	-
	140	3	60	7520	7520	4	140	10010	7890	-	-	-	-
	150	3	40	5010	5010	2	90	5040	4410	3	150	10100	6160
CBEG30-36	60	3	60	9370	9370	-	-	-	-	-	-	-	-
	80	2	40	5490	5490	2	80	6660	5470	-	-	-	-
	100	2	40	5490	5490	3	100	9480	7800	-	-	-	-
	120	2	40	5420	5420	4	120	12390	9550	-	-	-	-
	140	3	60	8240	8240	4	140	12390	9950	-	-	-	-
	160	2	40	5490	5490	2	80	5530	4830	4	160	12390	10260
	180	2	40	5450	5450	3	100	8450	6730	4	180	12390	10490

Model	Height (ft)	Anchor "A"				Anchor "B"				Anchor "C"			
		Sets	"A"	LH (lbs)	LV (lbs)	Sets	"B"	LH (lbs)	LV (lbs)	Sets	"C"	LH (lbs)	LV (lbs)
CBEG36W	60	3	60	12940	12940	-	-	-	-	-	-	-	-
	80	2	40	7010	7010	2	80	9480	8520	-	-	-	-
	100	2	40	7010	7010	3	100	13070	10850	-	-	-	-
	120	2	40	6930	6930	4	120	16740	13040	-	-	-	-
	140	3	60	10510	10510	4	140	16740	13570	-	-	-	-
	160	2	40	7200	7200	2	80	7050	6160	2	160	16740	13960
	180	2	40	7000	7000	3	100	10730	8550	3	180	16740	14270
CBEG42	60	3	60	12940	12940	-	-	-	-	-	-	-	-
	80	2	40	7010	7010	2	80	9480	8520	-	-	-	-
	100	2	40	7010	7010	3	100	13070	10850	-	-	-	-
	120	2	40	6930	6930	4	120	16740	13040	-	-	-	-
	140	3	60	10510	10510	4	140	16740	13570	-	-	-	-
	160	2	40	7200	7200	2	80	7050	6160	2	160	16740	13960
	180	2	40	7000	7000	3	100	10730	8550	3	180	16740	14270

Guy Cables and Brackets

During installation the bucket elevator must be laterally supported by a guy cable system or another adequate support system. Cables must be of sufficient strength, uniform elastic nature, & adequately tensioned to prevent the elevator from bending or whipping under wind loading.

Cables can be precut to length according to the following chart. The lengths listed start with the highest elevation cable at each anchor location, starting at the brackets located just below the head section. All cables are 3/8” diameter except for where an asterisk (*) is shown. The asterisk (*) denotes a 1/2” diameter cable must be used at this location.

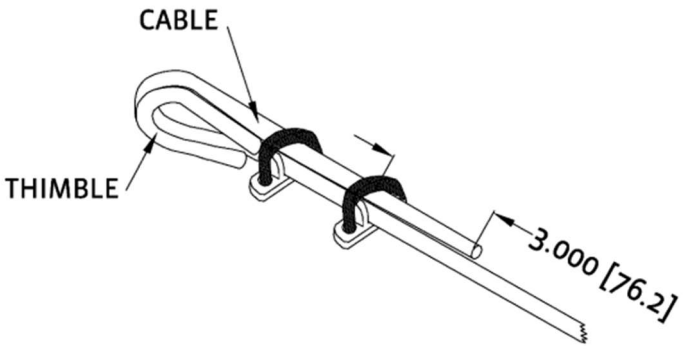
Discharge Height (ft)	Guy Cable Length (ft)		
	Anchor "A"	Anchor "B"	Anchor "C"
40	57	-	-
	45	-	-
60	85*	-	-
	73	-	-
	64	-	-
80	57	114*	-
	45	100	-
100	57	142*	-
	45	129	-
	-	117	-
120	57	170*	-
	45	157	-
	-	145	-
	-	135	-
140	85	198*	-
	73	185	-
	64	172	-
	-	162	-
160	57	114	227*
	45	100	213
	-	-	200
	-	-	189
180	57	142	255*
	45	129	241
	-	117	228
	-	-	217

Important Note: Cable lengths shown are straight line lengths. No allowance in the cable length has been made for cable clamping, turn buckles, cable sag or any deviation in bracket or anchor locations. See the chart below for additional cable connection requirements.

Cable Diameter (in)	Number of Clamps	Cable Turnback (in)	Nut Torque (ft-lbs)
0.375	2	10	45
0.500	2	12	65

Important Note: All 3/8” diameter guy cables are to use a 6,950 lb. minimum strength cable. All 1/2” diameter guy cables are to use 12,100 lb. minimum strength cable. Do not mix types of cables even though they meet the minimum strength requirements.

To organize the attachment of cables while the elevator is being installed, pre-mark each guy wire bracket with its future position on the leg (height and direction), then determine the length of the cable for each guy wire bracket being sure to allow for all cable connections. Cut and attach the cables to predetermined guy wire brackets. As the elevator is assembled the guy wire brackets can be installed with the proper cables attached. Connect each guy cable to its anchor, starting with the lowest set of cables and progressing towards the top elevation. Locate a turnbuckle on each cable at a convenient distance from the anchor. Extend the turnbuckles as far as possible to allow for later adjustment. The recommended method of connecting a cable is to bend the cable around a cable thimble for the specified cable turn back length. Place the first cable clip 3 inches from the dead end. Place the second clip as close to the loop as possible.



If a work platform is used on the bucket elevator, the top sets of cables are attached to the work platform angle thimble locations.

All other cable sets are attached to the bolted leg sections as shown in the following illustrations using the existing leg hardware.

Important Note: Guy Cables must not be attached by other means than those provided. Welding to or cutting into the leg sections is prohibited.

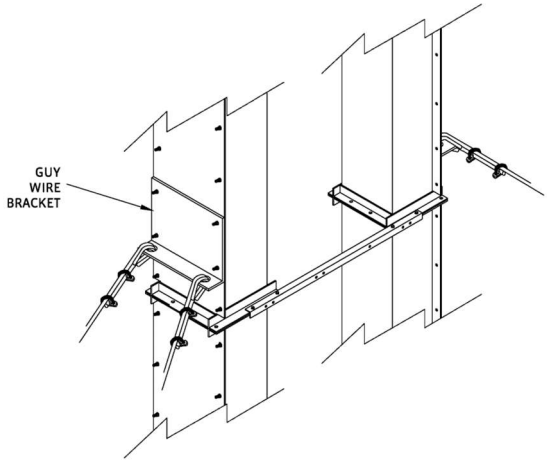


Figure 1: Leg Section with Body and Lid Sections

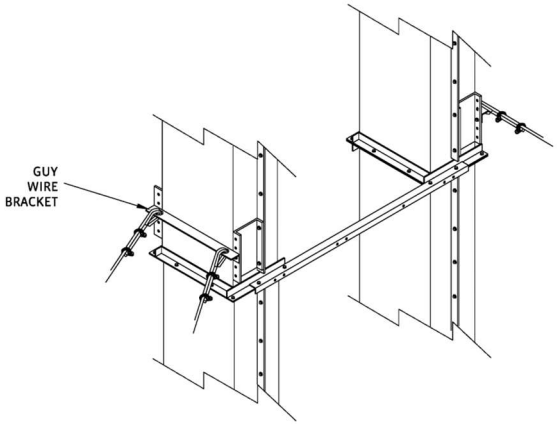


Figure 2: Leg Section with 2 Body Sections

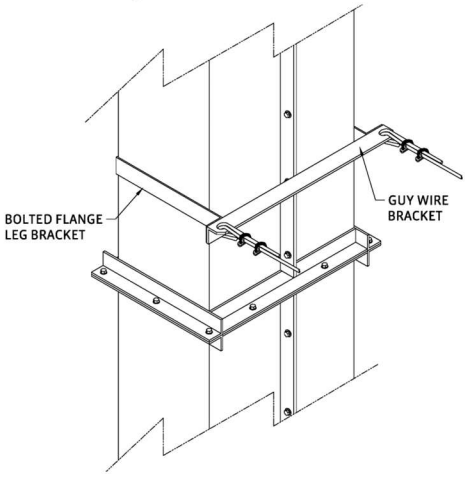
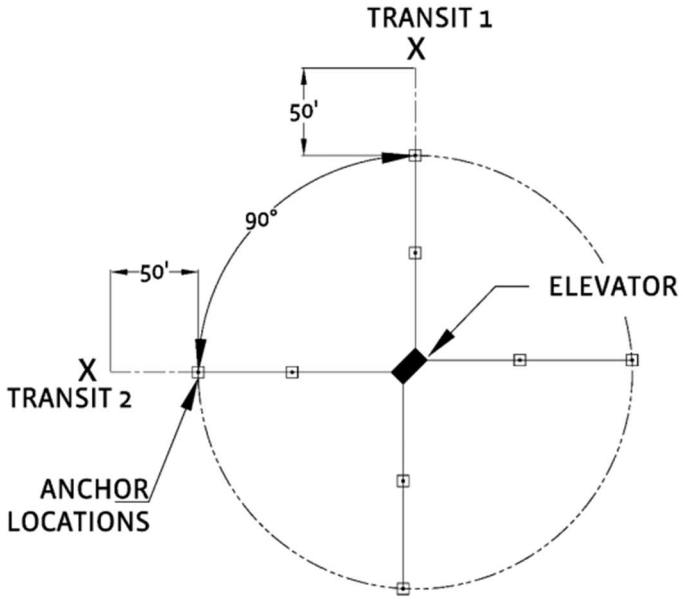


Figure 3: Leg section with 2 body sections

Use two transits to keep the leg straight and plumb while tightening the cables at the turnbuckles. Locate one transit in line with one row of anchors, and 50 feet additional from the farthest anchor. This transit will be used for adjusting cables extending to the right and left of it. Set a second transit 90 degrees from the first transit in line with the row of anchors, to adjust the cables extending in the other two directions.



While adjusting all legs to plumb, tension all cables in alternate succession to 600-700 pounds. Starting at the lowest elevation guy wire bracket location, tighten two cables in opposite corners of the elevator. Check leg for plumb and then tighten the two remaining cables. Repeat this procedure for each successive guy wire bracket.

A final recheck for plumb is made with a plumb bob. If the leg is not perfectly plumb, one can experience difficulty with the belt not running true. Insert a plumb bob into the up-leg section from the head section and lower it past the inspection door. Tie the plumb line to a cross board over the top of the head frame. Locate the line so it clears all sides inside the leg. Note the position of the plumb line with respect to the leg casing at the top and bottom ends of the elevator. If it is not the same within 1/2" (1.27cm), readjust the guy cables.

Important Note: After all cables have been tensioned and the leg rechecked for plumb ad straightness, permanently secure the turnbuckles from loosening. Either end or the center of a turnbuckle may turn and loosen the cable. One method of securing the cable is to lace a short length of cable through the ends and center of the turnbuckle and secure the cable with cable clamps.