

Climbing System Kits, Lattice Tower, MSA



1. Scope

This standard covers the requirements for MSA, lattice tower, climbing system kits.

This standard applies to the following Seattle City Light (SCL) stock numbers:

Stock No.	Description
014668	Complete kit for a typical-height tower (non-Spec 500)
014669	Complete kit for a tall tower (non-Spec 500)
014670	Complete kit for a typical-height Spec 500 tower
014671	TowerLatch SP device, 330-lb rated

A definition for Spec 500 towers, as well as other information can be found in Section 2.

Climbing system kit components are as shown in Table 4a. The kit for typical-height Spec 500 towers also includes the ladder system kit as shown in Table 4b.

Contact SCL Structural Engineering to identify the stock number of the appropriate kit.

2. Application

Lattice tower climbing systems are designed to eliminate the need for “double skidding” – a cumbersome process that involves the use of two separate straps to tie off the user’s full body harness to the structure. The user is then required to wrap one strap around the structure and “skid” (or slide) upward until they reach an obstruction. At that point, a second strap is wrapped around the structure above the obstruction and the first strap is disconnected. This process is repeated until the user climbs all the way up the structure.

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The lattice tower climbing system allows for a continuous climb without the need to connect, disconnect, and reconnect around each obstruction, as well as allows the user to pass freely through every intermediate point along the side of the towers.

The term "Spec 500" is a term used internally by SCL structural engineers that refers to a particular specification under which certain transmission lattice towers were purchased, as well as the drawings corresponding to the specification. Spec 500 towers are the oldest transmission lattice towers in the SCL system and can be found in the Skagit area. These are distinguished by having a fixed ladder system on the top portion of the tower body. Other SCL tower specifications, of which a variety exist in the SCL system, are similar to each other such that the same climbing kits can be used for each. In addition, each tower in the SCL system has a defined tower body type (typically A, B, C, D); however, body type does not have a significant effect on the climbing system used.

The Spec 500 climbing kit can accommodate up to a 112-ft-tall tower (e.g. a 53-ft body height to bottom arm with 25-ft leg extensions).

The Typical Height (Non-Spec 500) kit can accommodate up to a 118-ft-tall tower (e.g., a 50-ft body height with 25-ft total body + leg extensions).

The Tall (Non-Spec 500) kit can accommodate up to a 158-ft-tall tower (e.g., a 70-ft body height with 45-ft total body + leg extensions).

Refer to figures 4a and 4b for layout drawings for installation of climbing system kits.

The crew installing the climbing kit system must be trained and certified by MSA.

Climbing systems shall be used with the MSA Latchways TowerLatch SP Device, Stock No. 014671. The MSA Latchways TowerLatch SP Device is the only device approved for use with the system specified in this standard.

The TowerLatch SP device attaches to any harness that has a sternal D-Ring.

The TowerLatch SP device is rated at 330 lb.

Figure 2. TowerLatch SP device



3. Industry Standards

Climbing system kits shall meet the applicable requirements of the latest revision of the following industry standards:

ANSI Z359.16; Safety Requirements for Climbing Fall Arrest Systems

ANSI Z359.1; The Fall Protection Code

CSA Z259.2.5; Fall Arresters and Vertical Lifelines

AS/NZS 1891.4; Industrial Fall-Arrest Systems and Devices Selection Use and Maintenance

AS/NZS 1891.3; Industrial Fall-Arrest Systems and Devices Fall-Arrest Devices

4. Requirements

Table 4a. Lattice Tower Climbing System Kit Components

MSA Part No.	Fig. 4a Item No.	Description	Quantity Per Kit		
			Stock No. 014668	Stock No. 014669	Stock No. 014670
L00900-15	6	8MM 1X19 stainless steel cable, 24 meters (79 ft)	–	–	1
L00900-15	6	8MM 1X19 stainless steel cable, 34 meters (112 ft)	1	–	–
L00900-15	6	8MM 1X19 stainless steel cable, 47 meters (154 ft)	–	1	–
35013-00	7	Top anchors Angle range 90-220 mm (3-1/2" – 8-1/2") 316 stainless steel with galvanized mild steel J-clamps 22 kN (5000 lb) maximum load	1	1	1
35070-00	8	Adjustable cable guides Angle range 90-220 mm (3 1/2" – 8 1/2") 316 stainless steel with galvanized mild steel J-clamps 18 kN (4046 lb) maximum load	6	6	–
35016-00	9	Standard cable guides Angle range 90-220mm (3-1/2" – 8-1/2") 316 stainless steel with galvanized mild steel J-clamps 18 kN (4046 lb) maximum load	6	10	8
34131-00	10	Bottom anchors Angle range 110-160 mm (4" – 6-1/4") 316 stainless steel with galvanized mild steel J-clamps 18 kN (4046 lb) maximum load	1	1	1
85057-00	–	Swivel toggle connection (included with L00900-15) 316 stainless steel 22 kN (5000 lb) maximum load	1	1	1
85025-00	–	Swage slip indicator (included with L00900-15) 316 stainless steel	1	1	1
35001-00SS	11	System warning label	1	1	1
35006-00	11	M16 grounding lug	1	1	1
35007-00	11	M20 grounding lug	1	1	1
10207969	–	24" x 24" x 10" wooden packing crate	1	1	1
Kit	–	Labor for performing swage connection and testing for cable tops	1	1	1

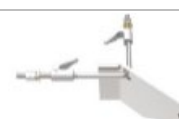
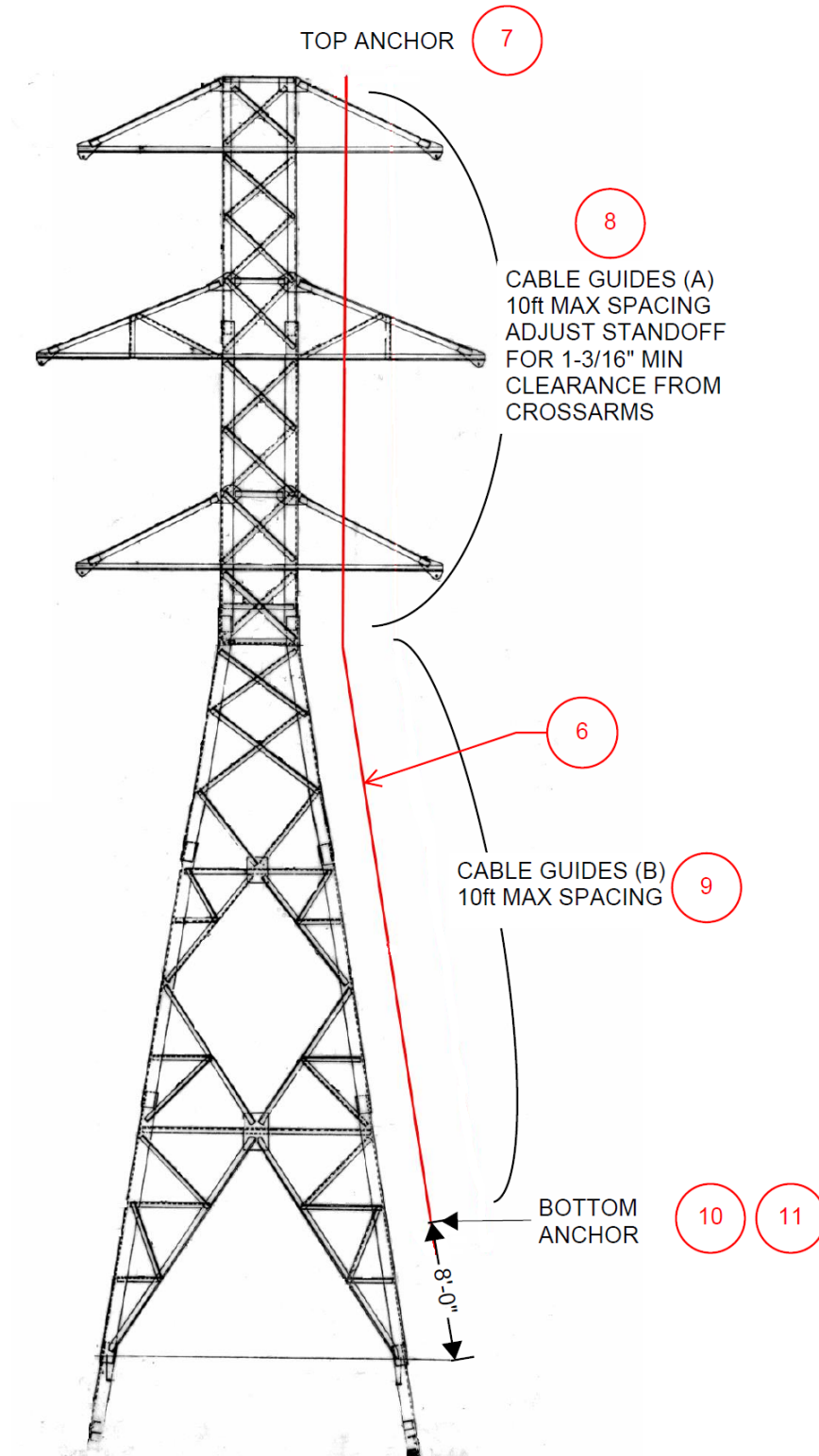


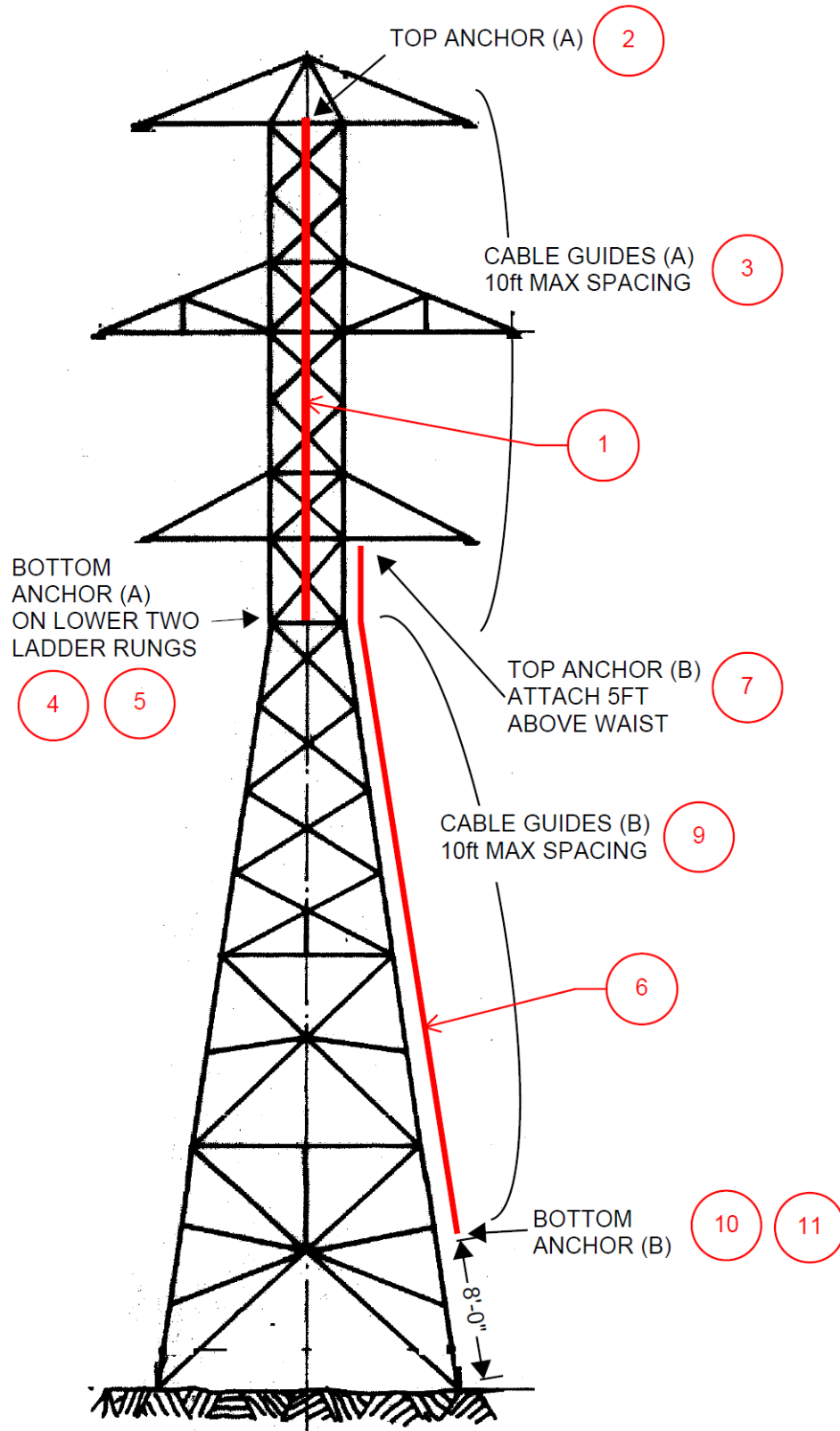
Table 4b. Ladder Kit (Included in the Typical-Height Spec 500 Lattice Tower Climbing System Kit, Stock No. 014670)

MSA Part No.	Fig. 4b Item #	Description	Quantity Per Kit	
L00900-15	1	8MM 1X19 stainless steel cable, 11 meters (36 ft)	1	
30141-02	2	Rung-mounted top anchor Rung spacing up to 372 mm (14.67") 316 stainless steel with 22 kN (5000 lb) maximum load	1	
30043-00	2	Rung-mounted top anchor fixing kit, Rung spacing up to 25 mm (0.98") 316 stainless steel with 22 kN (5000 lb) maximum load	1	
30034-00	3	Rung-mounted helix cable guide 316 stainless steel with 18 kN (4046 lb) maximum load	3	
30041-00	3	Rung-mounted cable guide fixing kit 316 stainless steel with 18 kN (4046 lb) maximum load	3	
30145-00	4	Rung-mounted bottom anchor 375-400 mm (15"-16") 316 stainless steel with 1.2 kN (270 lb) maximum load	1	
30006-00	4	Rung mounted bottom anchor fixing kit Rung spacing up to 25 mm (0.98") 316 stainless steel with 1.2 kN (270 lb) maximum load	1	
85057-00	–	Swivel toggle connection (included with L00900-15) 316 stainless steel with 22 kN (5000 lb) maximum load	1	
85025-00	–	Swage slip indicator (included with L00900-15) 316 stainless steel	1	
35001-00SS	5	System warning label	1	
35006-00	–	M16 grounding lug		
10207969	–	24" x 24" x 10" wooden shipping crate		
Kit	–	Labor for performing swage connection and testing of cable tops		

**Figure 4a. Typical Height and Tall Non-Spec 500 Lattice Tower
Climbing System Kit Layout**



**Figure 4b. Typical-Height Spec 500 Lattice Tower
Climbing System Kit Layout**



5. Packaging

Each climbing system kit shall be packaged in a separate wood crate to prevent damage during shipping, handling, and outside storage.

Climbing system kits shall be packaged to prevent mixing with other kits.

Two sets of installation instructions, enclosed in a waterproof, ultraviolet-light-resistant envelope, shall be included in each package.

Individual items in each climbing system kits shall be labeled to aid installation.

Each kit package shall be legibly marked with the following information:

- Manufacturer identification
- Product description
- SCL stock number

Each shipping container shall be legibly marked with the following information:

- SCL purchase order number

6. Issuance

Stock Unit: EA

7. Approved Manufacturers

Stock No.	Description	MSA Part No.
014668	Complete kit for a typical-height tower (non-Spec 500)	–
014669	Complete kit for a tall tower (non-Spec 500)	–
014670	Complete kit for a typical-height Spec 500 tower	–
014671	TowerLatch SP device, 330-lb rated	35429-00

8. Sources

Kohashi, Owen; Structural Engineering Supervisor and subject matter expert for 4025.05.

Shetab, Muneer; SCL Standards Engineer, originator, and subject matter expert for 4025.05

www.msasafety.com