Aerial Lift Self-Rescue (Emergency Escape)

1. Scope

This work practice provides a step-by-step procedure for performing self-rescue for two scenarios: (1) from an aerial lift device that has stopped working, and (2) where the worker has been ejected from, or has fallen out of, an aerial lift device but is still suspended in a harness following the event.

This work practice assumes a crewperson who is not injured and capable to perform self-rescue.

2. Application

This work practice is for qualified Seattle City Light (SCL) electrical line workers who perform work from an aerial lift device. Section 3 defines the qualifications required to perform this work.

An aerial lift device includes the following types of vehicle-mounted aerial devices used to elevate personnel to jobsites above ground:

- Extensible boom platforms
- Aerial ladders
- Articulating boom platforms
- Vertical towers
- A combination of any of the above

3. Qualified Aerial Lift Operator

It is assumed that all SCL electrical line workers who are operating an aerial lift have (1) completed the necessary training to operate the aerial lift and (2) have completed the necessary training required of a "qualified electrical employee" as defined in the Washington Administrative Code (WAC). WAC 296-45-065 defines "qualified electrical employee" as a person who is trained and competent in:

- Explanations of electrical, fall, and falling object hazards
- Procedures for dealing with hazards
- Recognizing and avoiding unsafe conditions in the job site
- The correct operation of an aerial lift (including maximum intended load and load capacity)
- The skills and knowledge needed to operate an aerial lift before operating it on the job
- When and how to perform inspections
- Manufacturer requirements

Further, WAC 296-869-20025 defines aerial lift operator competencies, including, but not limited to:

- Authorization to operate an aerial lift
- Inspection, application, and operation of aerial lifts
- Recognizing and avoiding hazards associated with their operation
- Proper use of personal fall protection equipment

4. Required PPE

It is assumed that all SCL electrical line workers who are working from an aerial lift are already wearing the following required PPE:

- Full body harness with dorsal D-ring
- StepWise rope access lanyard (fall arrest lanyard)
- Work boots
- Flame-resistant (FR) clothing of the appropriate category
- Safety glasses
- Electrical insulating rubber gloves appropriate to voltage
- Hard hat
- Full-body harness
- StepWise lanyard

5. Required Tools and Equipment

A self-rescue kit shall be available in the aerial lift or attached to the harness of the line worker working from an aerial lift, consisting of:

- An MCD (military compact descender) device
- A length of rope appropriate to aerial lift height

Self-Rescue Kit

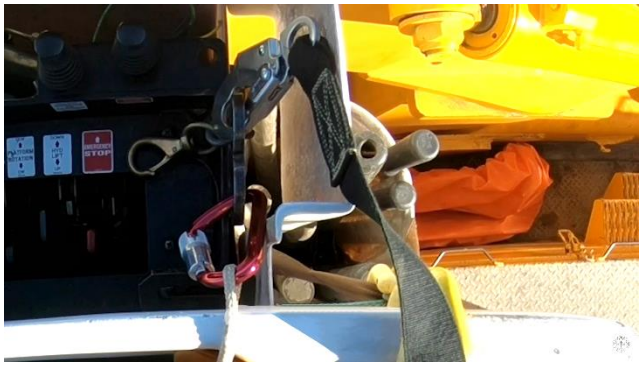
6. Scenarios

6.1 Scenario 1: Self-Rescue from a Non-Working Aerial Lift

This scenario assumes the worker is stuck inside the aerial lift bucket because it has stopped working due to power failure, hydraulic malfunction, line equipment failure, or other related issues.

Step 1 Retrieve the Descender.

- Retrieve the MCD device from the self-rescue kit.
- Attach the **red** carabiner attached to the MCD device to the appropriate mounting point of the aerial lift. Mounting points are typically marked with an arrow.



Step 2 **Adjust MCD Device for Descent**

- Remove cap on MCD device to see if it is wound properly for your weight:
- NOTE: A guideline is **two wraps for heavier persons**, **one wrap for lighter persons.** Too many wraps for a lighter person will result in a slow descent or no motion at all. Too few wraps with a heavier person will result in a too-fast descent.
- Position the red adjustable edge protection sleeve on the rope so that the midpoint of the sleeve sits on the bucket lip on the side intended for exit.

Step 3 **Attach MCD Device to Harness**

- Attach the **black** carabiner attached to the MCD device to the front mounting points of the harness.

Step 4 **Remove Lanyard**

- Disconnect the StepWise lanyard from the mounting point of the aerial lift and attach it to your body belt.

Step 5 **Exit the Bucket**

- Exit the bucket by extending one leg out and then the other.
- Position the red adjustable edge protection sleeve on the rope so that the midpoint of the sleeve sits on the bucket lip on the side intended for exit.
- Using both hands, hold from the bucket top lip and slowly shift your weight on the rope.
- Sit down into your harness to put tension on the system.

NOTE: Do not jump out of the bucket. Doing so could break the rope or cause personal injury.

Step 6 Descend from Aerial Lift

- Extend the rope with one hand and use the other hand to press on the MCD device plunger to descend.

IMPORTANT: A self-rescue kit that has been used once must be sent to the manufacturer for inspection prior to being put in service and reused.

6.2 Scenario 2: Self-Rescue Due to Worker Ejected From, or Fallen From, an Aerial Lift

This scenario assumes the worker has been ejected from, or has fallen out of, the aerial lift due to structural failure, outrigger malfunction, or vehicle impact, but is still suspended in a harness following the event. It is also assumed that the worker is not injured and is capable to do self-rescue.

Step 1 Stabilize Yourself Using the Deployable Ladder

NOTE: The ladder in the StepWise lanyard will automatically deploy if you are ejected from the bucket.

- Assume an upright position.
- Grab the ladder and place each of your feet on a rung so that you are in a stable position.

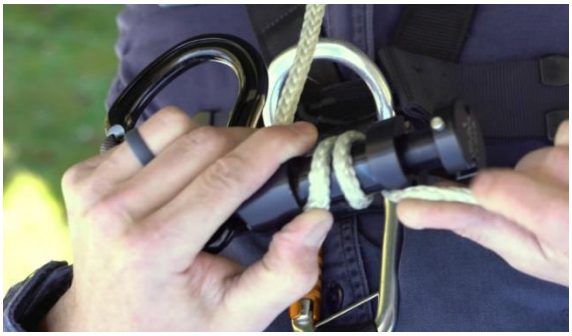
Step 2 Attach MCD Device to Harness

- Attach the **black** carabiner of the MCD device to the front mounting points of the full-body harness.

Step 3 **Adjust MCD Device for Descent**

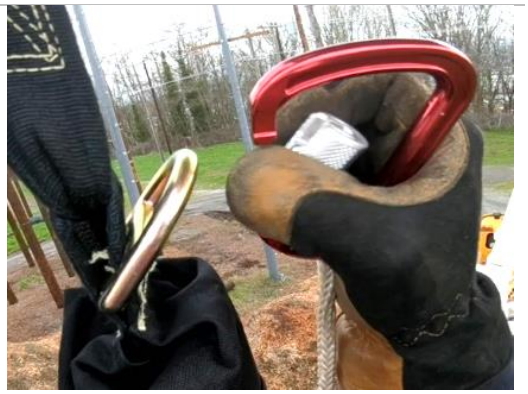
- Remove the cap on the MCD device to see if it is wound properly for your weight.

  NOTE: A guideline is **two wraps for heavier persons**, **one wrap for lighter persons**. Too many wraps for a lighter person will result in a slow descent or no motion at all. Too few wraps with a heavier person will result in a too-fast descent.



Step 4 **Attach MCD Device to Lanyard D-Ring**

- Climb up the StepWise lanyard to a point where your hand can reach the D-ring on the lanyard.
- Attach the **red** carabiner attached to the MCD device to the D-ring of the lanyard.



Step 5 **Remove Lanyard**

- Remove the StepWise lanyard from the dorsal D-ring of the full-body harness.

Step 6 **Descend from the Aerial Lift**

- Extend the rope with one hand and use the other hand to press on the MCD device plunger to descend.

IMPORTANT: A self-rescue kit that has been used once must be sent to the manufacturer for inspection prior to being put in service and reused.

7. References

WAC 296-869; Elevating Work Platforms

WAC 296-45-065; Training

8. Sources

Jamison, Brian; SCL Lineworker and subject matter expert for 0058.27 (brian.jamison@seattle.gov)

Shetab, Muneer; SCL Standards Engineer and co-originator of 0058. 27 (muneer.shetab@seattle.gov)

Vanderpool, Laura; SCL Standards Technical Writer and co-originator of 0058. 27 (laura.vanderpool@seattle.gov)

OSHA 1910; Vehicle-Mounted Elevating and Rotating Platforms