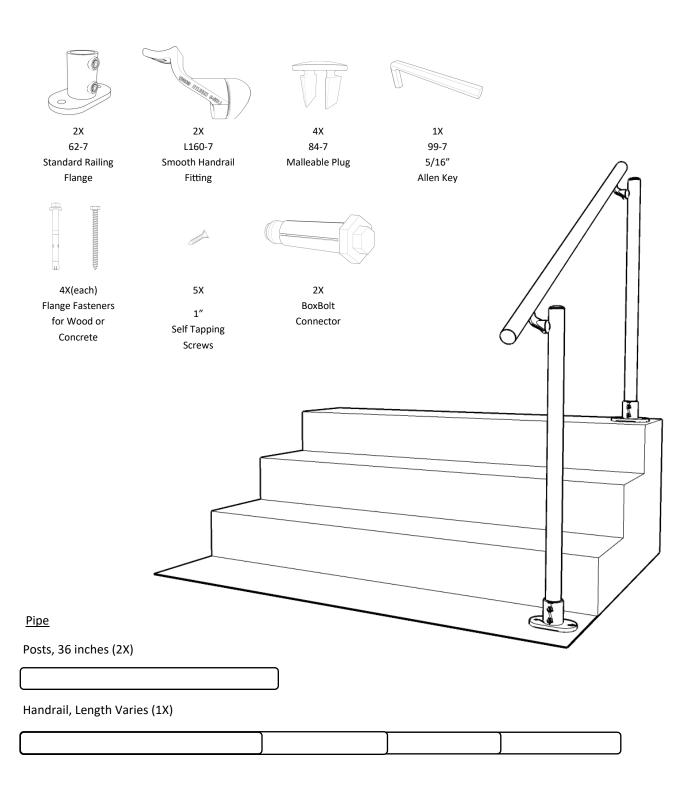
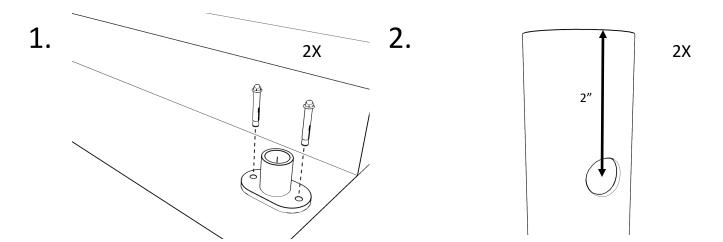
# Simple Rail

Surface L160/L160A



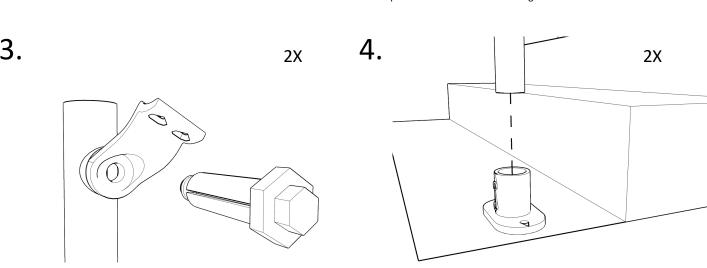


Note: For the Surface L160A Aluminum version install, the 84-7 Malleable Plug has been replaced with the 133-7 Plastic Plug.



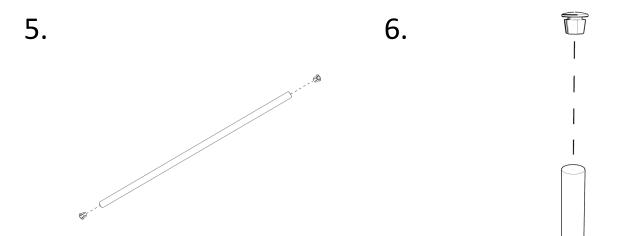
Mark and drill 1/2" holes for the flange fasteners. Use the lag screws for wood, and the sleeve anchors for concrete or masonry. Consult a contractor for any nontypical mounting surfaces.

Measure 2 inches from the end of the post. Mark the spot and drill a 9/16" diameter hole into the pipe wall. Do not continue through the other side of the pipe. For ease of installation, use a punch or similar tool to create a divot in the pipe wall to prevent the drill bit from walking.

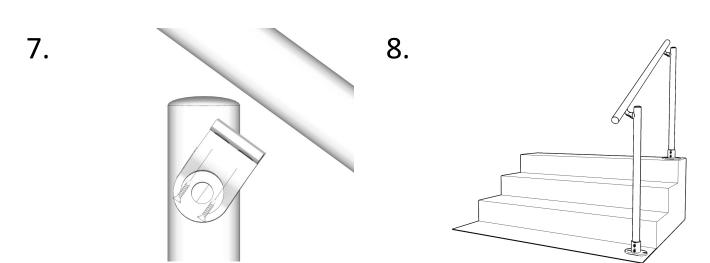


Place the L160 bracket over the hole, and slide the Boxbolt through the center hole in the bracket all the way into the pipe. Hold the larger hex in place with a 7/8" wrench, and tighten the smaller hex with a 1/2" wrench until the bracket is secure.

Slide the bottom end of the post into the flange socket. Tighten both set screws.



Set the 84-7 malleable plug against each end of the handrail pipe. Cover the plug Install 84-7 Plugs on open post ends as described in Step 5. with a rag, and tap it into the pipe until the plate is flush with the end of the



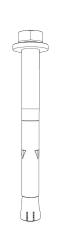
Lay the handrail over the top of the handrail brackets. Drive the self ping screws through the bracket fixing holes into the handrail pipe. You do not need to predrill. For best results, use an impact driver with a hex bit.

Check the railing for sturdiness by pushing and pulling on the handrail. If there is any movement, re-tighten all set screws.

# **Hardware Instructions**









# Packet 1

### Lag Screws:

Used for mounting 62's to wood.

#### **Hardware Specifications:**

1/2" x 3" long screw.

### **Qty:** 4

Drill pilot hole in desired location using a 5/16" wood drill bit. Ensure that hole is 2 1/2" deep. Fix flange to wood using a 3/4" wrench or drive socket.

# Packet 2

#### **Sleeve Anchors:**

Used for mounting 62's to concrete or brick.

#### **Hardware Specifications:**

1/2" x 3" long anchor.\*

# **Qty:** 4

\*Leave Sleeve Anchors Assembled. Do Not Remove Washer or Nut from Bolt

Drill hole in desired location using a 1/2" concrete drill bit. Ensure that hole is 2 3/4" deep. Be sure to vacuum out all debris from the holes.

Place flange in correct place. Tap anchor through the flange hole and into the drilled out hole.

Tighten Nut until fixed using a 1/2" wrench or socket drive.

# Packet 3

# Self-Drilling Screws:

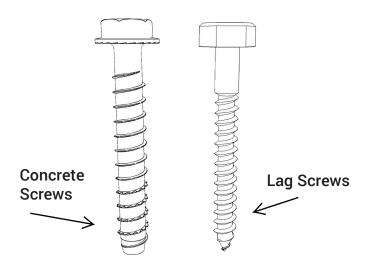
Used for securing Grab Rail to 518's or 570's.

# **Hardware Specifications:**

1" long metal self tapping screw.

#### **Qty:** 5

No pilot hole needed. Use 5/16" Philips head bit on drill and attach screw to Grab Rail at desired location.





# Lag Screws:

Used for mounting the M58 Base Plate to wooden wall.

#### **Hardware Specification:**

3/8" x 2 1/2" long screw.

**Qty:** 2

Drill pilot hole in desired location using a 3/16" wood drill bit. Ensure that hole is 2 1/4" deep. Fix base plate to wood using 1/2" wrench or socket drive.

#### **Concrete Screws:**

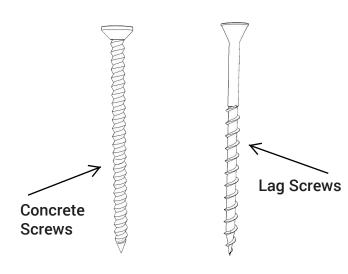
Used for mounting the M58 Base Plate to concrete or brick wall.

# Hardware Specification:

3/8" x 2 1/2" long concrete screw.

Qty: 2

Drill hole in desired location using a 3/8" concrete drill bit. Ensure that hole is 2 1/2" deep. Fix base plate to wood using 1/2" wrench or socket drive.



# Packet 5

## Lag Screws:

Used for mounting the 570's to wooden wall.

## **Hardware Specification:**

1/4" x 2 1/4" long screw.

**Qty:** 3

Drill pilot hole in desired location using a 1/8" wood drill bit. Ensure that hole is 2 1/4" deep. Fix bracket to wood using Philips head attachment on drill or Philips head screw at desired location.

#### **Concrete Screws:**

Used for mounting the 570's to concrete or brick wall.

# Hardware Specification:

1/4" x 2 1/4" long concrete screw.

## **Qty:** 3

Drill hole in desired location using a 1/4" concrete drill bit. Ensure that hole is 2 1/4" deep. Fix bracket to wood using Philips head attachment on drill at desired location.