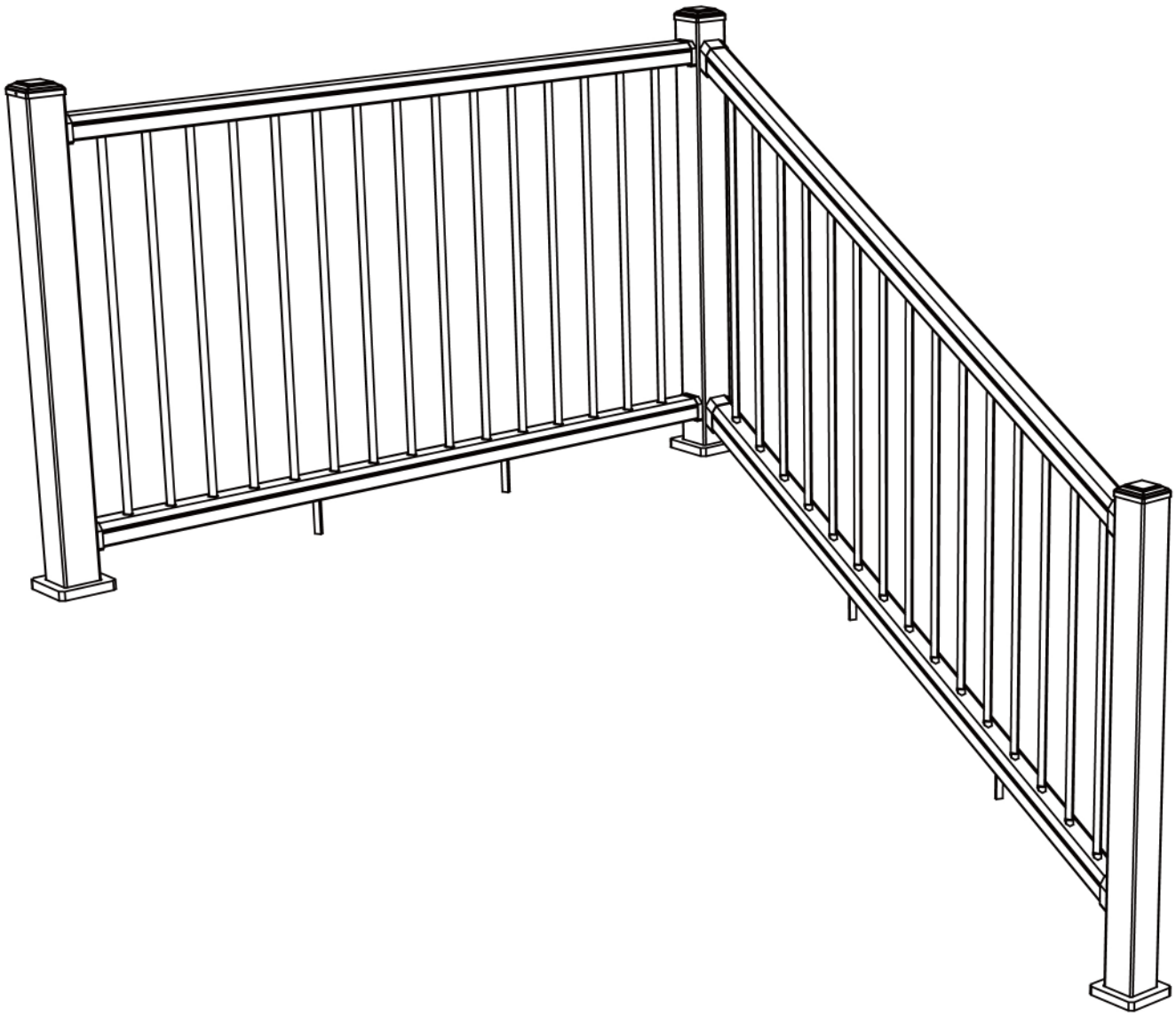
NeoTimber®

COMPOSITE BALUSTRADES



COMPOSITE RAILING
INSTALLATION GUIDE

CONTENTS

Please consult local zoning laws in regards to the load requirements and bottom space requirements for rails. All supporting structures must be in accordance with applicable building codes. Neighbourhood associations and/or historic districts may regulate size, type, placement and ability of railing. Apply for permits if required by local authorities and codes. Ensure compliance prior to installation. Local building code requirements will always supersede all suggested procedures and measurements in the following installation instructions. These installation instructions are intended as a general guideline on common building practices used in railing installations.

Important Pre-Installation Notes:

Read All Sections Before You Start.

Prior to installing any composite balustrade it is recommended that you check with local building codes for any special requirements or restrictions. The diagrams and instructions outlined in this guide are for illustrative purposes only and are not meant or implied to replace a licensed professional. Any construction or use of this railing must be in accordance with all local zoning and/or building codes. The consumer assumes all risks and liability associated with the construction and use of this product.

Safety

When dealing with any type of construction project, it is necessary to wear appropriate safety equipment to avoid any injuries. We recommend using the following safety equipment when handling, cutting, and installing NeoTimber® balustrade products: gloves, a dust mask, long sleeves, and safety glasses.

Tools

Standard woodworking tools may be used. It is recommended that all blades have a carbide tip. Standard stainless steel or acceptable coated deck screws and nails are recommended.

Environment

A clean, smooth, flat, and strong surface is needed to install this product correctly. Please always check with local building codes before installing any type of railing. If installation does not occur immediatley, this product will need to be put on a flat surface at all times. It should never be put on an uneven surface.

Planning

Plan a layout for your railing before installation to ensure the best possible results for your project. Building codes and zoning ordinances generally apply ro permanent structures, meaning anything that is anchored to the ground or attached to the house. So nearly every kind of railing requires permits and inspections from a local building department. We recommend drawing out a site plan of your proposed project that you intend to do to minimise errors and make your perfect railing.

Construction

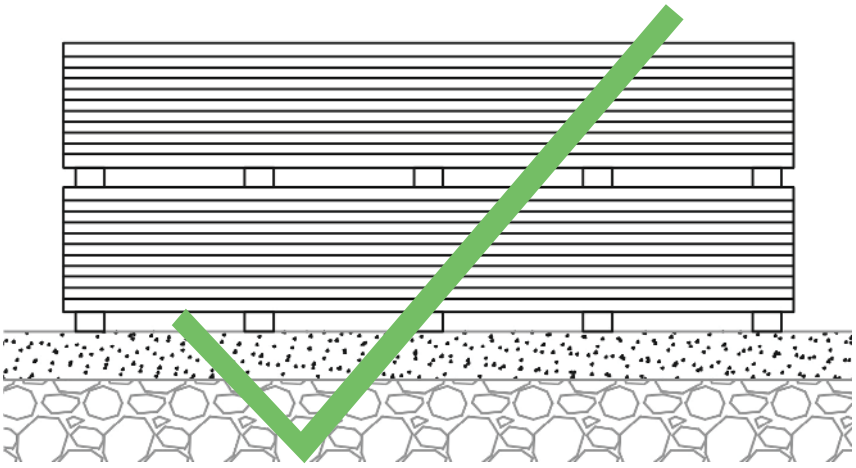
This product is NOT intended for use as columns, support posts, beams, joist stringers, or other primary load bearing members. This products must be supported by a code-compliant substructure.

Static

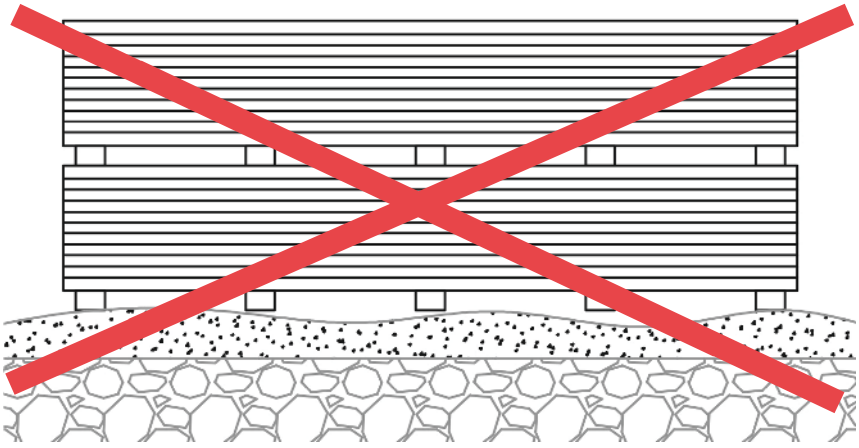
Static build-up ins a naturally occuring phenomenon that can occur with many plastic products. Dry and windy environments may make this even more apparent; this all varies depending on the climate and age of the railing.

Product Handling And Storage

This product always needs to be stored on flat solid surfaces. Surfaces such as dirt and grass are not sufficient as they can move over time.



This product shown above put on a flat surface on joists, this is the correct way for storage.



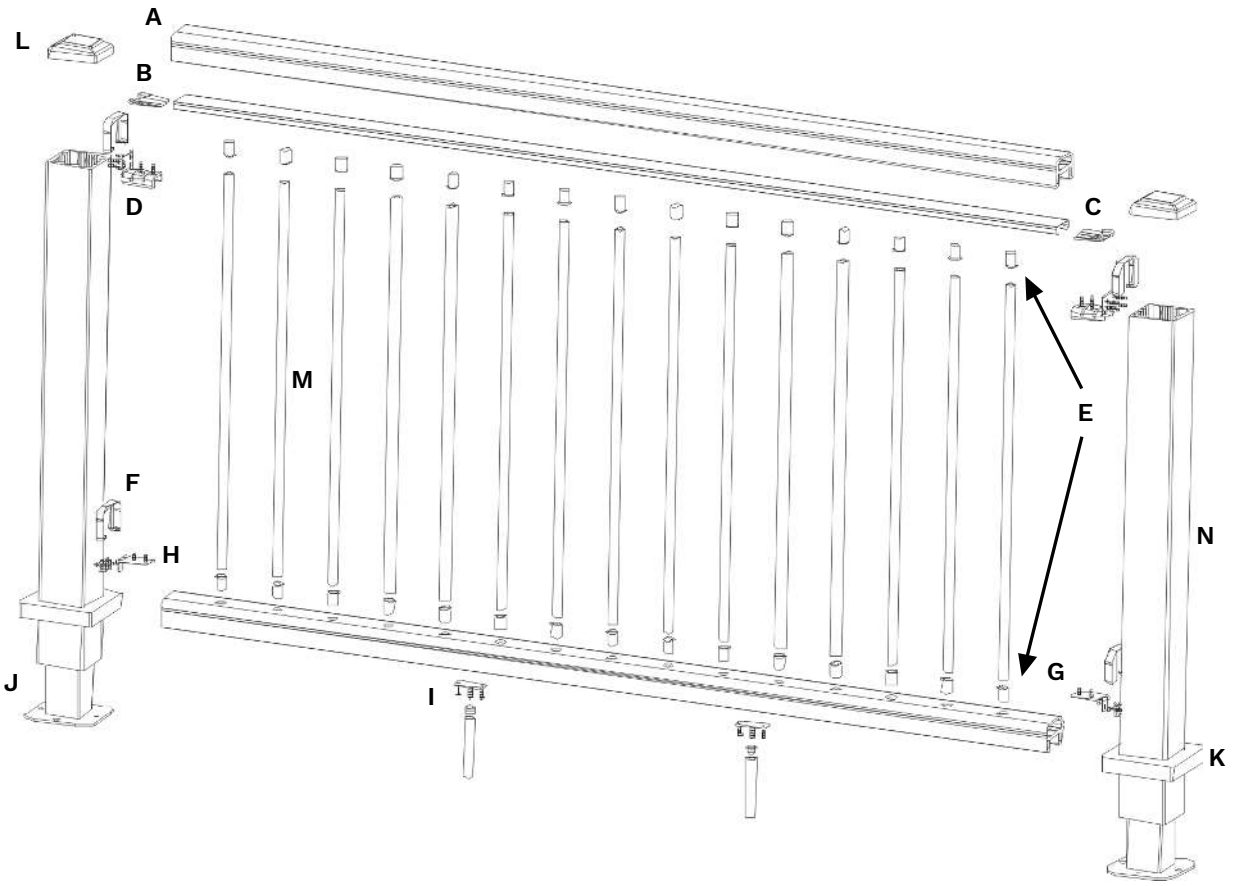
This product shown above is on an uneven surface which will make the products prone to warping and distortion.

Straight Railing And Post Parts:

IMPORTANT POINTS:

• Parts D, E, and F will be different from those displayed in the stair railing and post parts.

• All other fixings are the same for both straight and stair railings and posts.



A - JM087
(X2)

E - LV-0218-B
(X30)

I - LV-0216
(X2)

L - LV-0120
(X2)

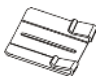
B - LV-0209
(X1)

F - R0102
(X4)

J - LV-0215-36
(X2)

M - LV-0218-A-36
(X15)

C - LV-0210
(X2)



G - R0205
(X2)

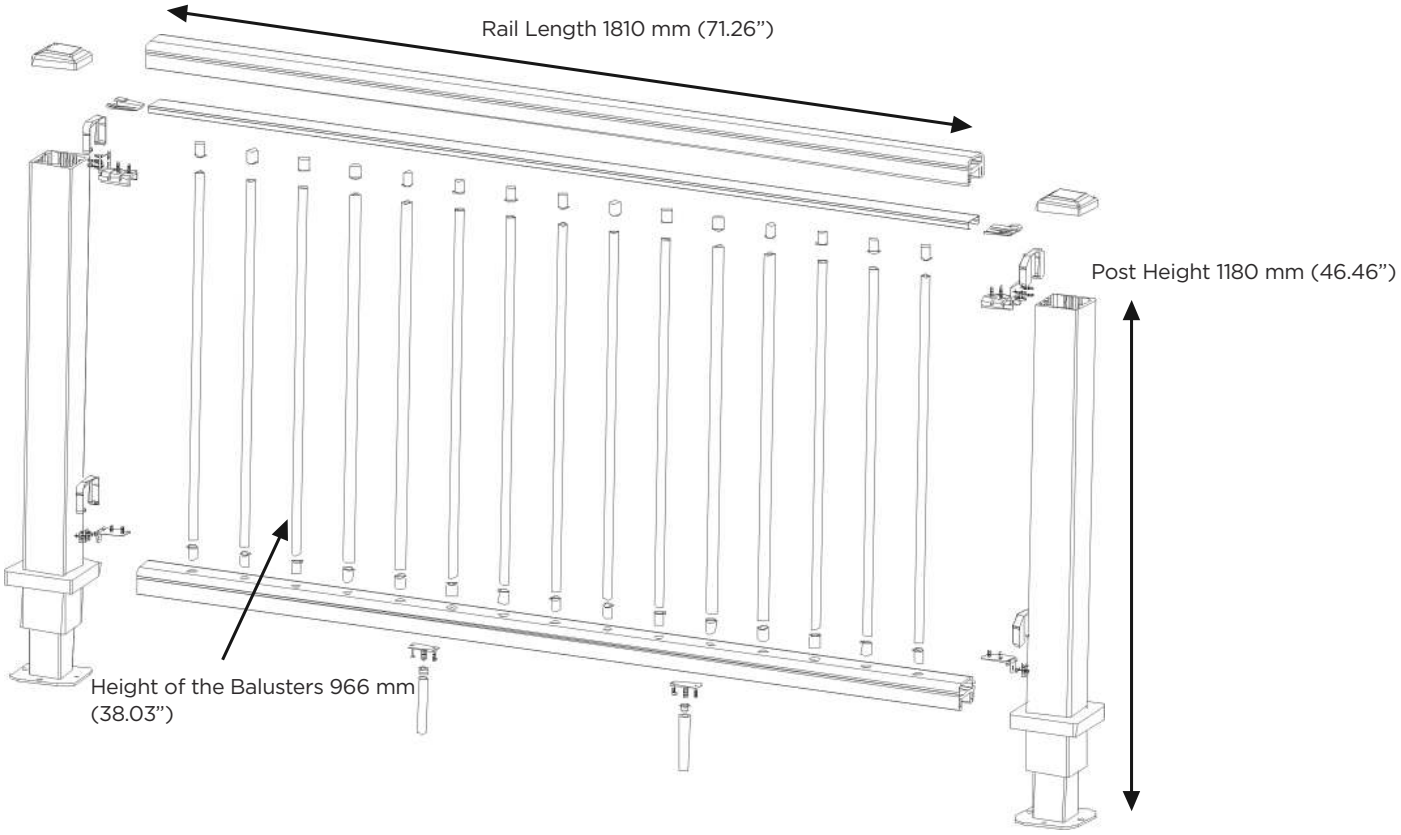
D - R0211
(X2)

H - R0204
(X2)

K - LV-0119
(X2)

N - JM088
(X2)

Straight Railing Installation:



IMPORTANT POINTS:

- This railing is designed for a maximum of 1810 mm (71.26") internal rail length.
- Foot blocks should be evenly spaced out depending on the length of the final rail.
- Foot blocks cannot be installed underneath a pre-drilled baluster hole.

1 Mark where the post mount (J-LV-0215-36) will be installed. The maximum distance of the post mount is 1910 mm (75.2") from centre to centre as shown in diagram 1.

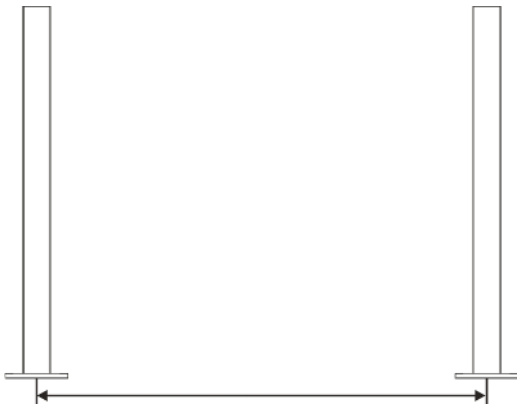


DIAGRAM 1

2 Install the post mount as shown in diagram 2, and fix with screw WJ0133.

Then, install the post sleeve (N-JM088) as shown in diagram 3.

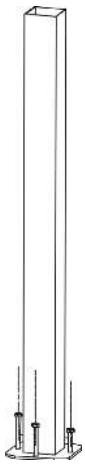


DIAGRAM 2

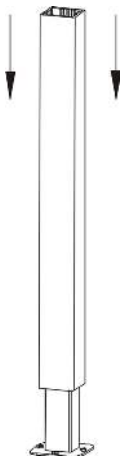


DIAGRAM 3

3 Mark where the post brackets will be installed with the "Straight Railing" cardboard template as shown in diagram 4. Use the top post brackets and use the bottom 2 holes for the bottom post brackets as shown in diagram 5.

Note: The pre-drilled holes should be measured from the ground level to the top of the line drawing on the template provided.

Pre-drill post bracket holes with a 3 mm (7/64 inch) bit.

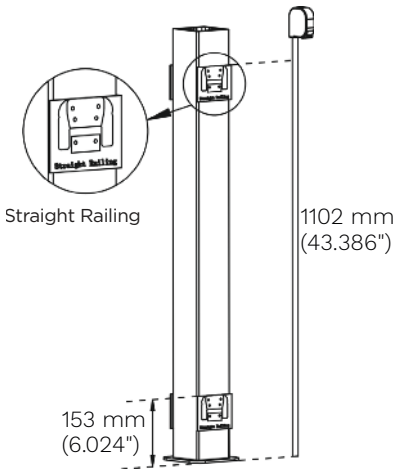


DIAGRAM 4

DIAGRAM 5

4 Lower the post skirt (K-LV-0199) over the post sleeve (N-JM088) as shown in diagram 6.

Drill in the top post brackets (D-R0211) with screw WJ0130 as shown in diagram 7.

Drill in the bottom post brackets (G-R0205) with screw WJ0131 as shown in diagram 8.

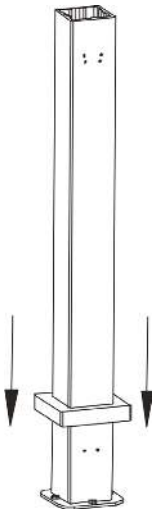


DIAGRAM 6

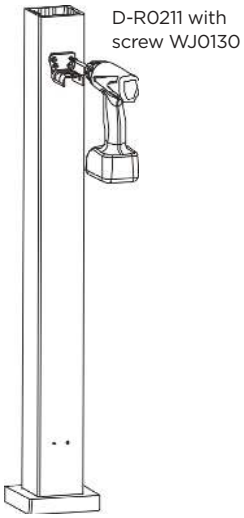


DIAGRAM 7

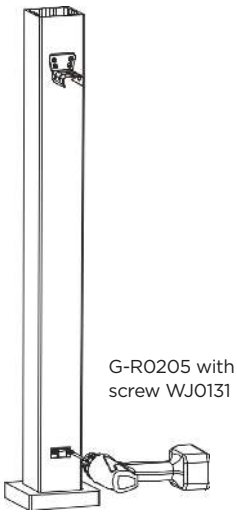


DIAGRAM 8

5 NeoTimber's balustrades are supplied at a standard length of 1810mm.

Should you need to cut the balustrade rail, follow the below steps.

Cut rail (A-JM087) to the length between the post sleeve (N-JM088) minus 3mm (0.118") on each side for inserting the gaskets (FR0102) as shown in diagram 9.

Remember to take out the galvanised insert (B-LV-0209) before cutting rail (A-JM087).

The galvanised insert (B-LV-0209) should be cut 6mm shorter than the rail (A-JM087).

Note: You must leave at least 75mm (2.953") between the ends of the rail and the first hole of each end as shown in diagram 10.

DIAGRAM 9

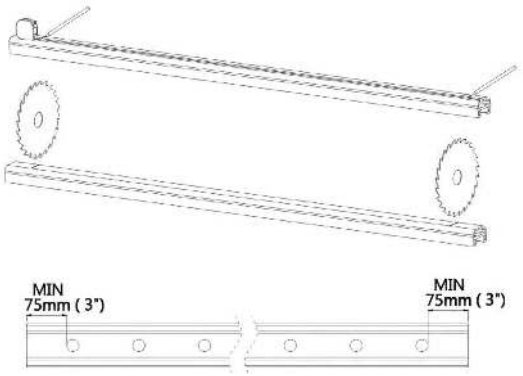


DIAGRAM 10

6 The bottom bracket (H-R0204) should be installed with screw WJ0020 at 29.5mm (1.2") and 24mm (1") from the ends of the rail as shown in diagram 11.

Alternatively, a flat board can be used to press the bracket up against the end of the rail to line up the correct distance.

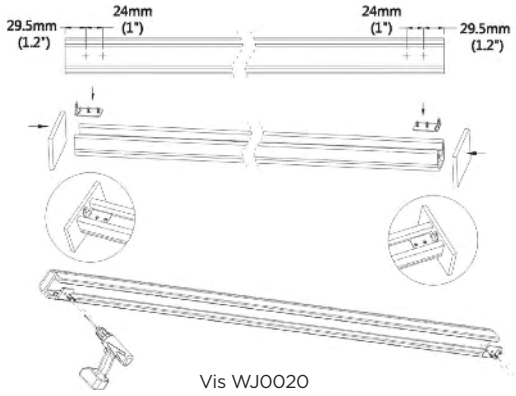


DIAGRAM 11

7 Pre-drill and install the foot blocks (I-LV-0216) with screw WJ0020 on the bottom rail as shown in diagram 12. Foot blocks should be evenly spaced out depending on the length of the final rail and cannot be installed underneath a pre-drilled baluster hole.

Note: The holes in the top rail (A) in diagram 13 should be facing downwards. The holes in the bottom rail (B) should be facing upwards.

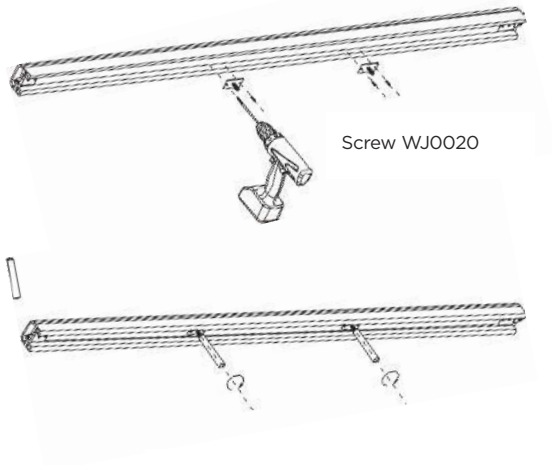


DIAGRAM 12

DIAGRAM 13

8 Attach the bottom rail (A-JM087) onto the bottom post brackets (G-R0205) as shown in diagram 14.

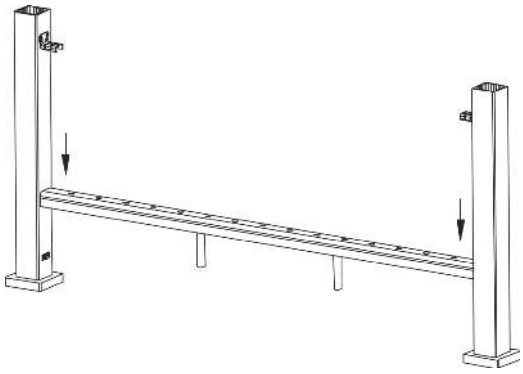


DIAGRAM 14

9 Install the baluster plugs (E-LV-0218-B) and aliminium balusters (M-LV-0218-A-36) as shown in diagram 15.

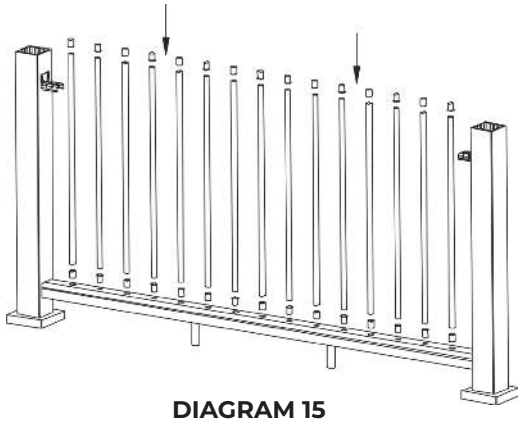


DIAGRAM 15

10 Attach the galvanised adaptors (C-LV-0210) on both ends of the galvanised insert (B-LV-0209) as shown in diagram 16.

DIAGRAM 16

11 Slide the galvanised insert (B-LV-0209) into the top rail (A-JM087) as shown in diagram 17.

DIAGRAM 17

12 Attach the top rail (A-JM087) onto the top of the post brackets (D-R0211) as shown in diagram 18.

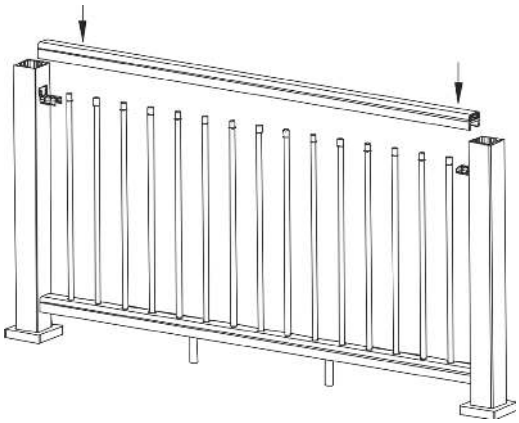


DIAGRAM 18

13 Pre-drill and install with screw WJ0142 as shown in diagram 19.

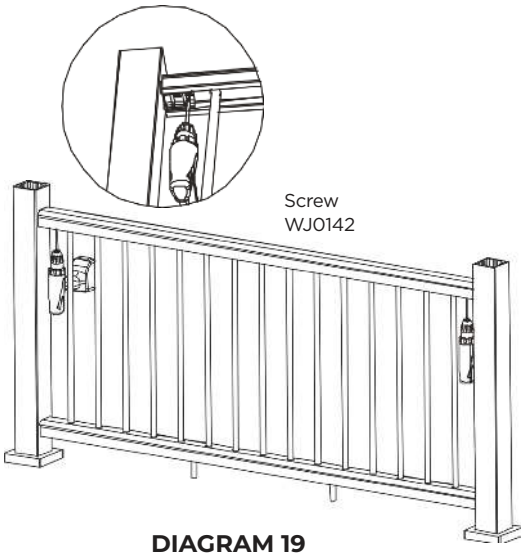


DIAGRAM 19

14 Attach post caps (L-LV-0120) and gaskets (F-R0102) as shown in diagram 20.

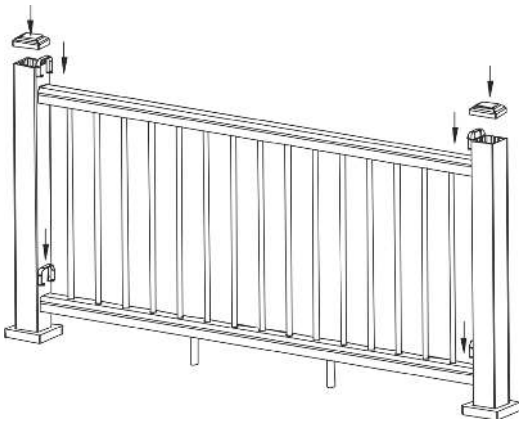


DIAGRAM 20

15 If needed adjust the foot blocks (I-LV-0216) to the correct height as shown in diagram 21.

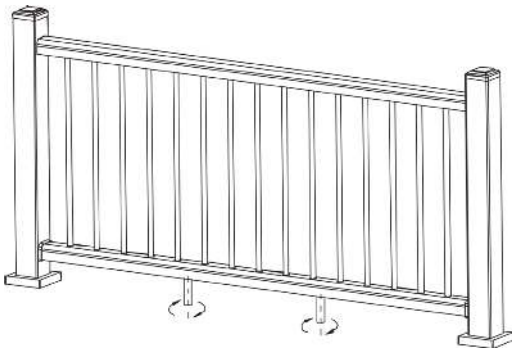
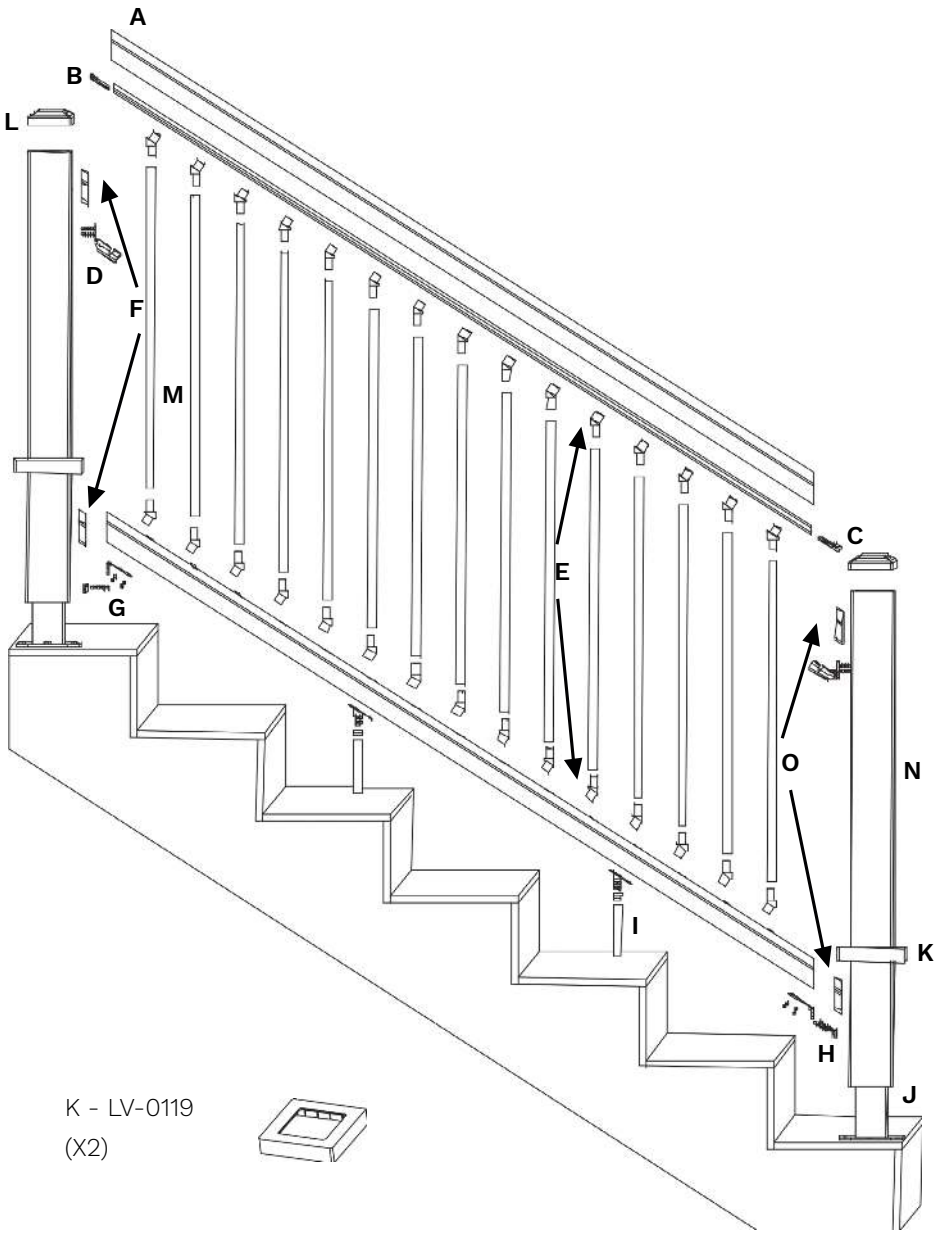


DIAGRAM 21

Stair Railing And Post Parts:

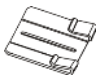
- Parts D, E, F, and O will be different from those displayed in the stair railing and post parts.
- All other parts are the same for straight and stair railings and posts.



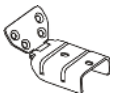
A - JM087
(X2)

B - LV-0209
(X1)

C - LV-0210
(X2)



D - R0203
(X2)

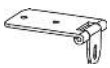


E - LV-0218-C
(X30)

F - R0113
(X2)

G - R0205
(X2)

H - R0204
(X2)



K - LV-0119
(X2)

I - LV-0217
(X2)

L - LV-0120
(X2)

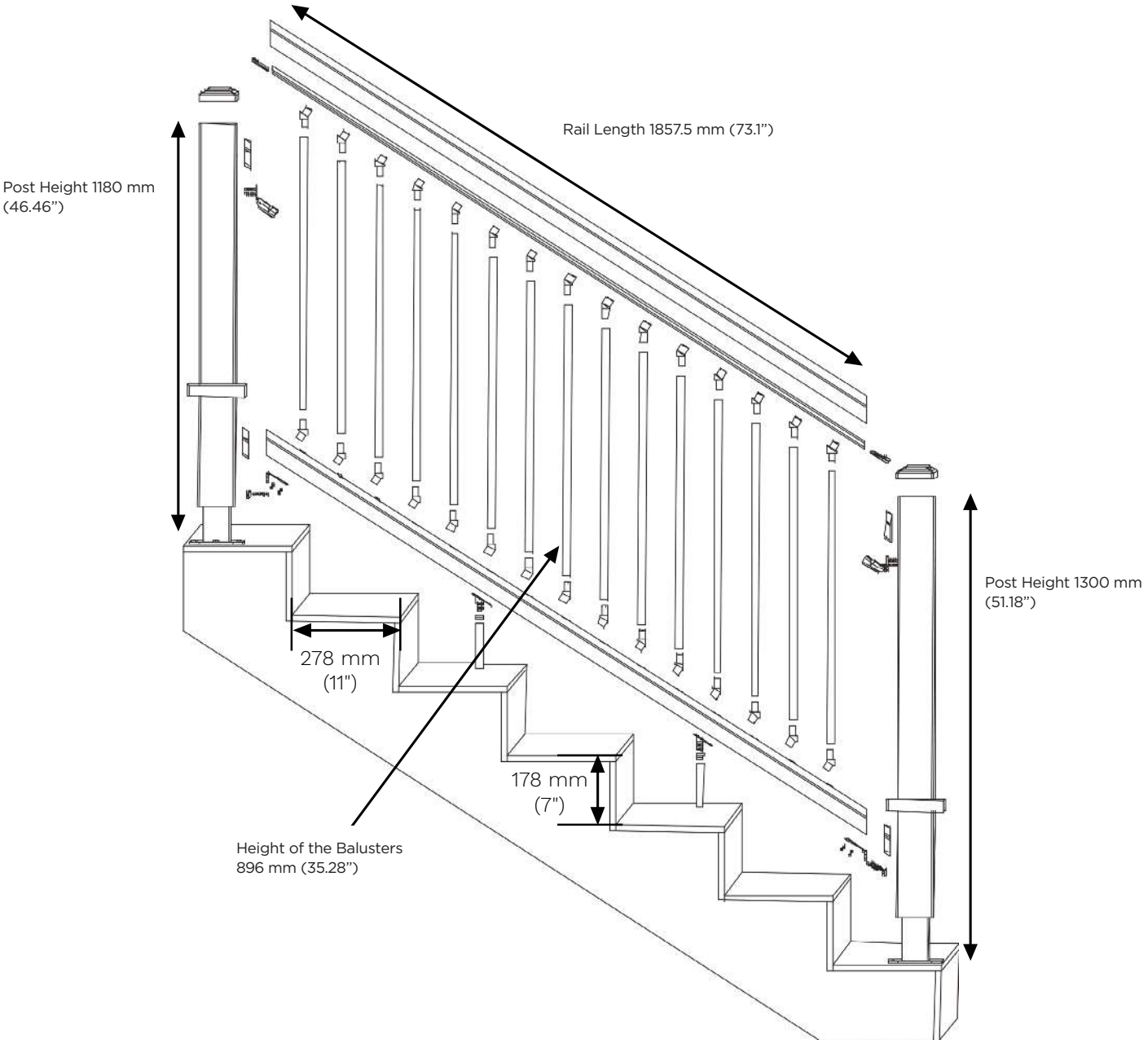
N - JM088
(X2)

J - LV-0215-36
(X2)

M - LV-0218-A-36
(X15)

O - R0115
(X2)

Stair Railing And Post Installation:



IMPORTANT POINTS:

- The stair railing is designed for a 32 degree angle with stair treads at 278 mm (11") and stair risers 178 mm (7").
- The stair railing is designed for a 1857.5 mm (73.1") rail length.

1. Mark where the post mount (J-LV-0215-36) will be installed. The maximum distance of the post mount is 1646 mm (64.803") as shown in diagram 22.

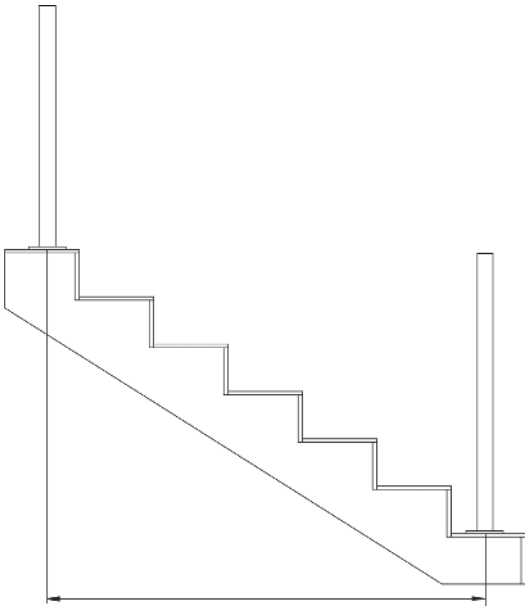


DIAGRAM 22

2. Cut post mount (J-LV-0215-36), which will be placed on the top, to the length of 1130 mm (44.49") as shown in diagram 23. The post mount on the lower side does not need to be cut.

Cut the post sleeve (N-JM088), which will be placed on the top, to the length of 1160mm (45.67") as shown in diagram 24. The post sleeve on the lower side does not need to be cut.

DIAGRAM 23

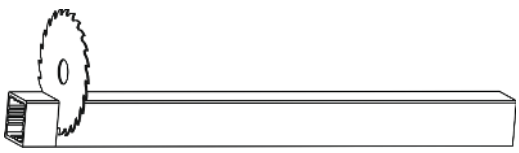


DIAGRAM 24

3. Install the post mount (J0LV-0215-36) as shown in diagram 25.

Install the post sleeve (N-JM088) as shown in diagram 26, and secure in place with screw WJ0133.

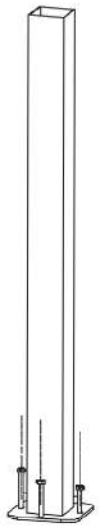


DIAGRAM 25

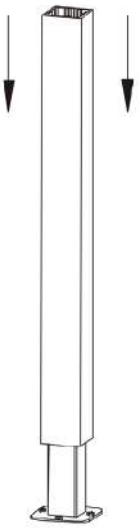


DIAGRAM 26

4. Mark the post at the top of the stairs using the "Stairs - Top Post" cardboard template. Use the top 4 holes for the top post brackets, and the bottom 2 holes for the bottom post brackets.

To accurately mark the angle of the banister, pull a string from both the top and bottom marks from your cardboard template at a 32 degree angle, as shown in diagram 27.

Note: The markings for the pre-drilled holes should be measured from ground level to the top of the line drawing on the cardboard template provided.

Use the cardboard template to leave a mark to outline where you will need to pre-drill. Remove the cardboard template before pre-drilling.

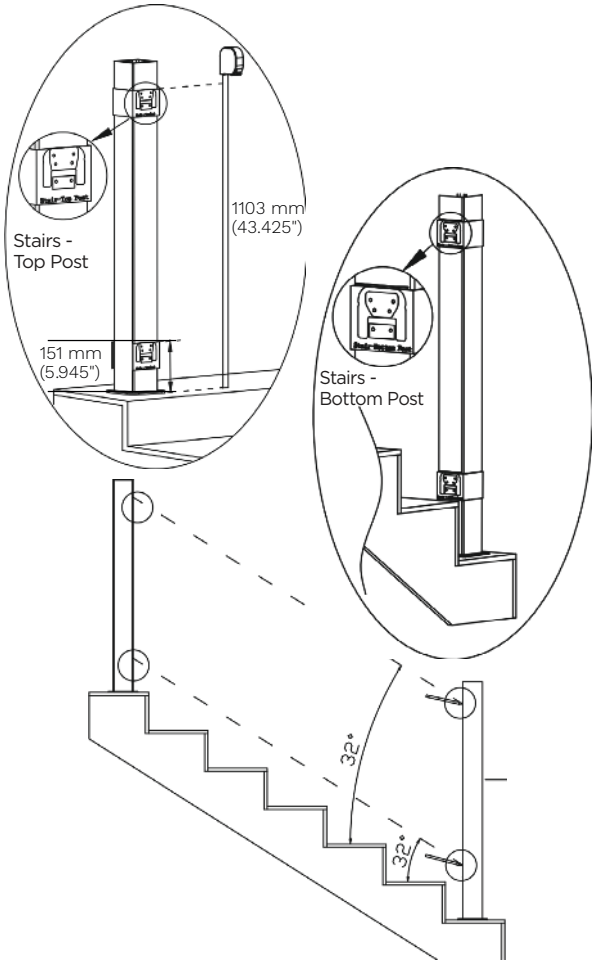


DIAGRAM 27

5 Pre-drill post bracket holes with a 3mm (7/64 inch) bit as shown in diagram 28.

Lower the post skirt (KV-LV-0119) over the post sleeve (N-JM088) as shown in diagram 29.

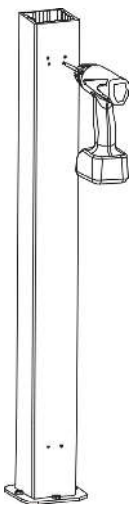


DIAGRAM 28

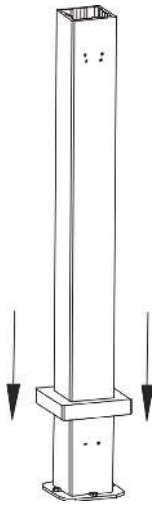


DIAGRAM 29

6 Drill in the top post brackets (D-R0203) with screw WJ0130 as shown in diagram 30.

Drill in the bottom post brackets (G-R0205) with screw WJ0131 as shown in diagram 31.

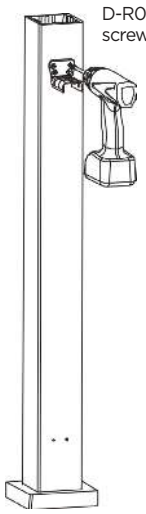


DIAGRAM 30

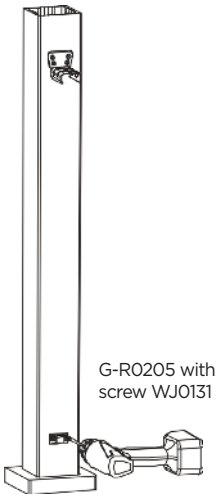


DIAGRAM 31

7 Cut rails (A-JM087) to the length (L1 in diagram 32) between the post sleeve (N-JM088) minus 3mm (0.118") on each side for inserting gaskets (F-R0102) at a 32 degree angle. L1 can be measured like L minus 3mm (0.118") on each side.

Remember to take out the galvanised insert (B-LV-0209) before cutting rail (A-UR02). The galvanised insert (B-LV-0209) should be cut 6mm shorter than the rail (A-JM087).

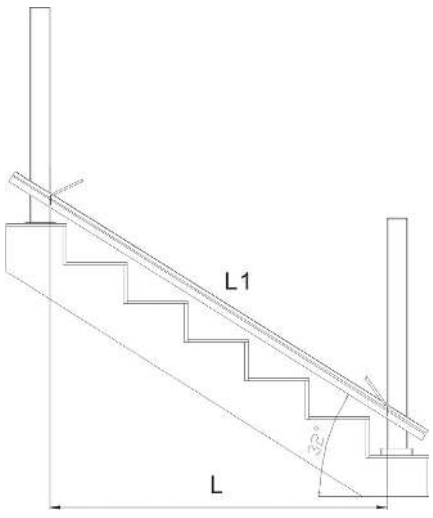


DIAGRAM 32

Note: You need to leave at least 83mm (3.3") between the ends of the rail and the first hole of each end as shown in diagram 33.

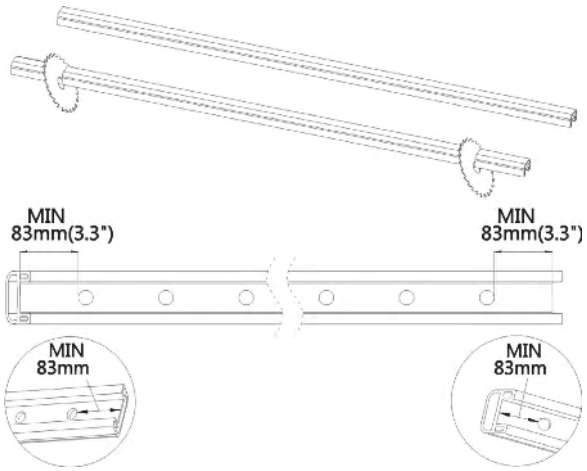


DIAGRAM 33

The galvanised insert (B-LV-0209) is designed for a maximum of 1825.7 mm (71.9") as shown in diagram 34.

The railing is designed for a maximum of 1857.5mm (73.1") as shown in diagram 35.

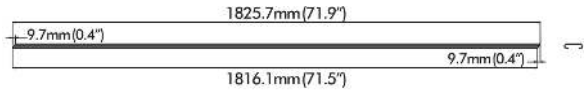


DIAGRAM 34

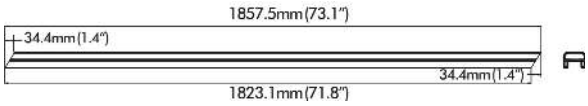


DIAGRAM 35

8 The bottom bracket (H-R0204) should be installed with screw WJ0020 at 32.5 mm (1.28") and 24 mm (1") from the end of the rail which will be placed on the higher side of the stairs as shown in diagram 36.

The bottom bracket (H-R0204) should be installed with screw WJ0020 at 28 mm (1.1") and 24 mm (1") from the end of the rail which will be placed on the lower side of the stairs. Alternatively, a flat board can be used to press the bracket up against the end of rail to line up the correct distance.

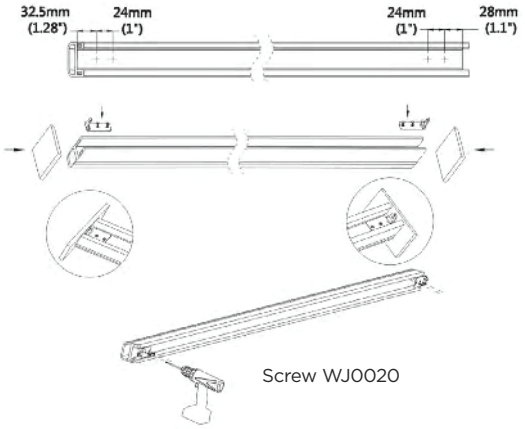


DIAGRAM 36

9 Pre-drill and install the foot blocks (I-LV-0217) with screw WJ0020 on the bottom rail as shown in diagram 37. Foot blocks should be evenly spaced out depending on the length of the final rail and cannot be installed underneath a pre-drilled baluster hole.

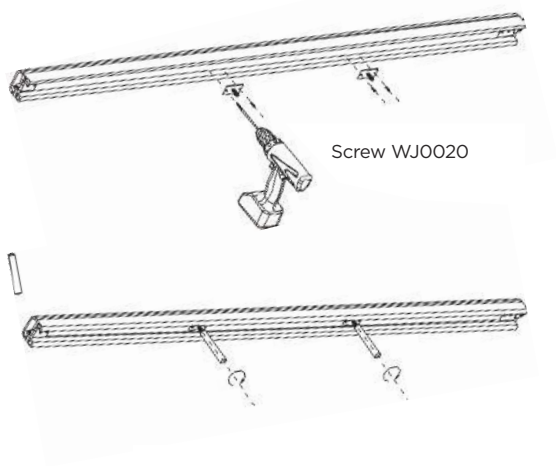


DIAGRAM 37

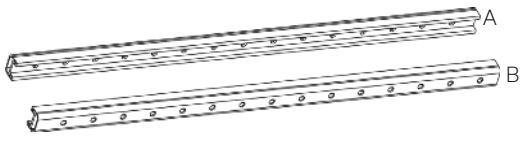


DIAGRAM 38

10 Attach the galavanised adaptors (C-LV-0210) on both ends of the galvanised insert (B-LV-0209) as shown in diagram 39.

DIAGRAM 39

11 Slide the galvanised insert (B-LV-0209) into the top rail (A-JM087) as shown in diagram 40.

DIAGRAM 40

12 Attach the bottom rail (A-JM087) onto the bottom post brackets (G-R0205) as shown in diagram 41.

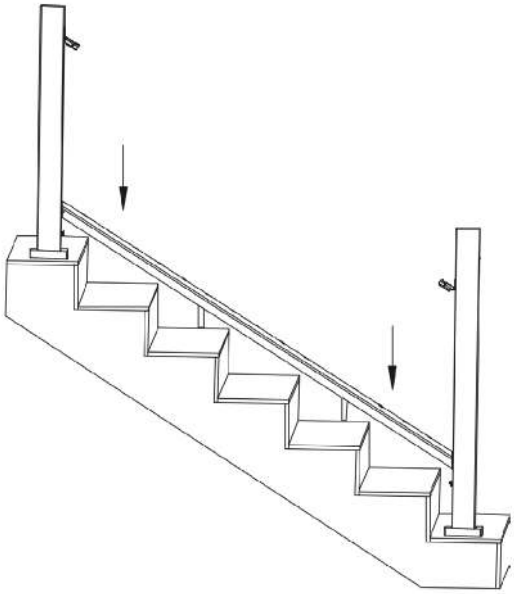


DIAGRAM 41

13 Install the baluster plugs (E-LV-0218-C) and aluminum balusters (M-LV-0218-A-36) as shown in diagram 42.

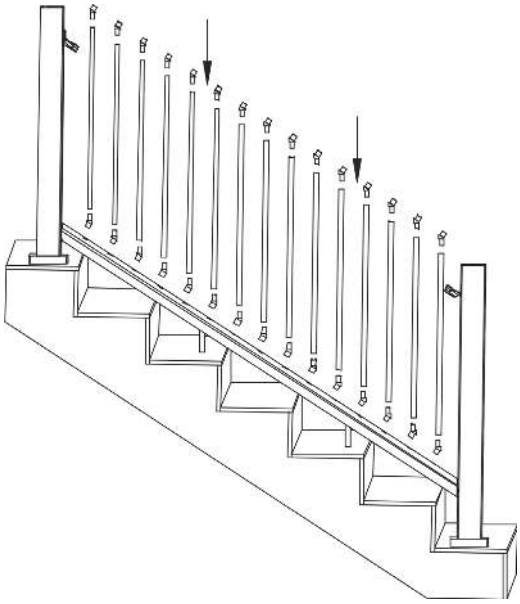


DIAGRAM 42

14 Attach the top rail (A-JM087) to the top brackets (D-R0203) as shown in diagram 43.

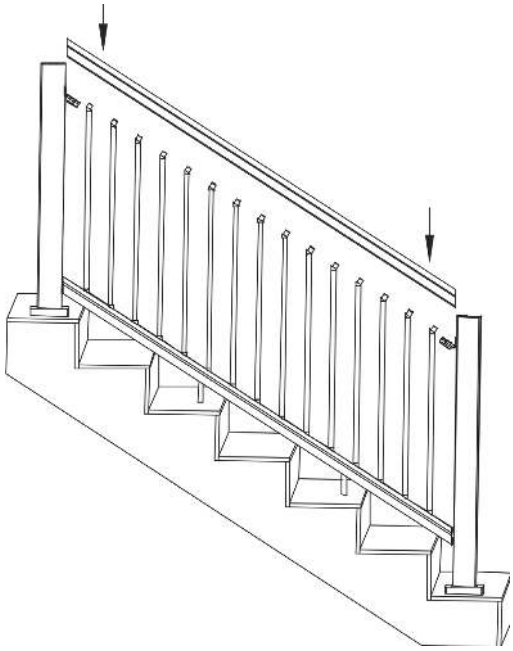


DIAGRAM 43

15 Pre-drill and install with screw WJ0143 as shown in diagram 44.

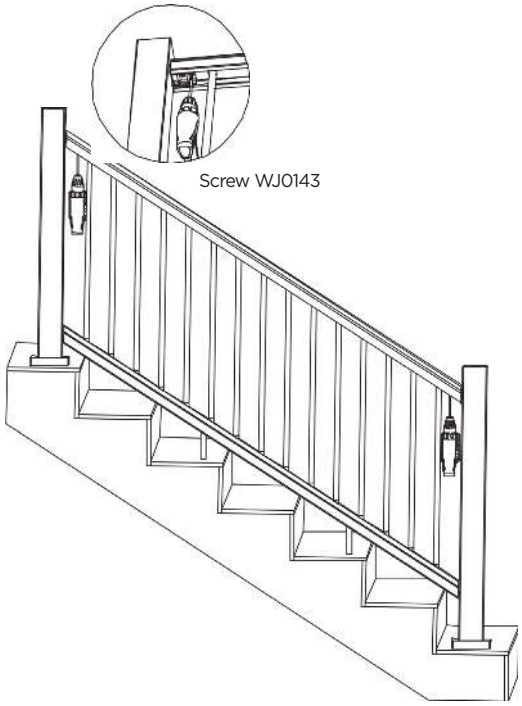


DIAGRAM 44

16 Install the post cap (L-LV-0120) and gaskets (F-R0113, O-R0115) as shown in diagram 45.

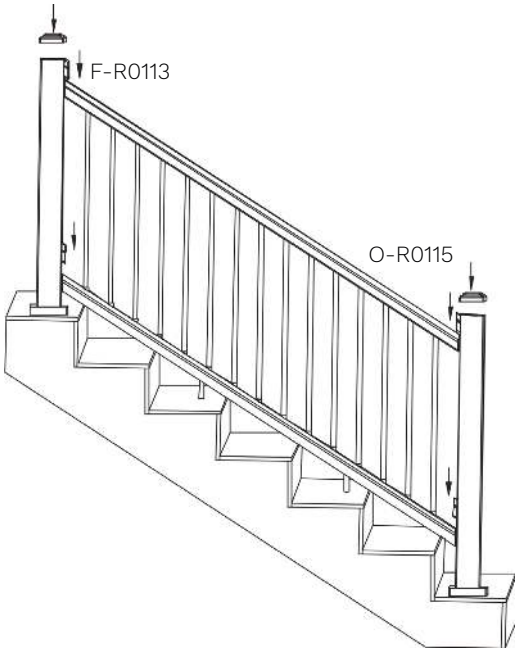


DIAGRAM 45

17 If needed adjust the foot blocks (I-LV-0217) to the correct height as shown in diagram 46.

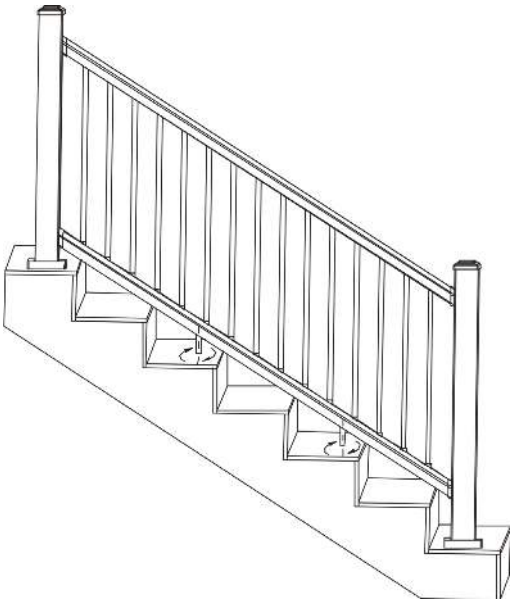


DIAGRAM 46

Installing the Post Mount on a Deck

1. Following diagram 47 and 48, position the post (J-LV-0215-36) correctly.

Note: Installing directly onto a solid deck board requires a substrate underneath in order for the screws to fully secure the post mount (J-LV-0215-36).

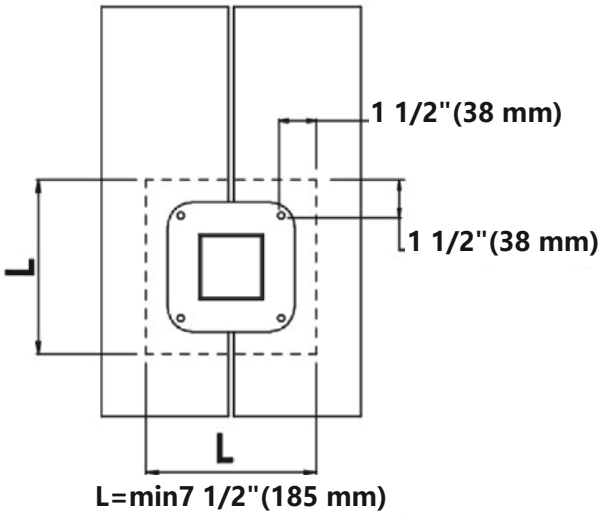
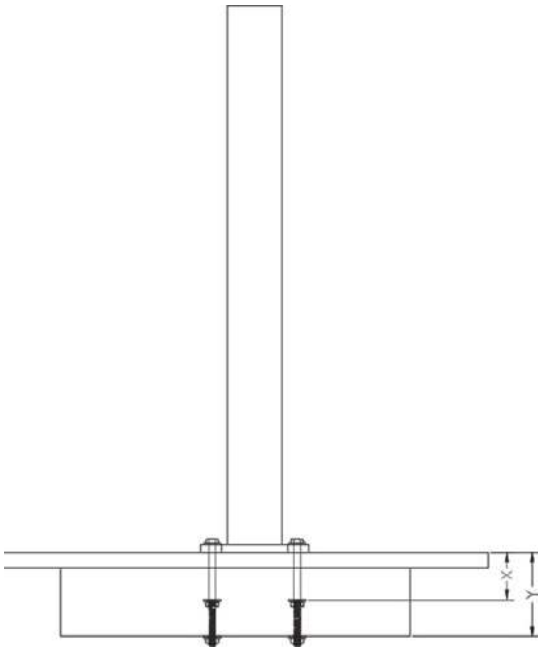


DIAGRAM 47



X ≥ 2 11/20" (65 mm)
Y ≤ 4 1/2" (115 mm)

DIAGRAM 48

Note: The substrate underneath has to fit in between the range shown in diagram 48.

2. Once the post is in the correct position, mark the holes with a marker or pencil as shown in diagram 49.

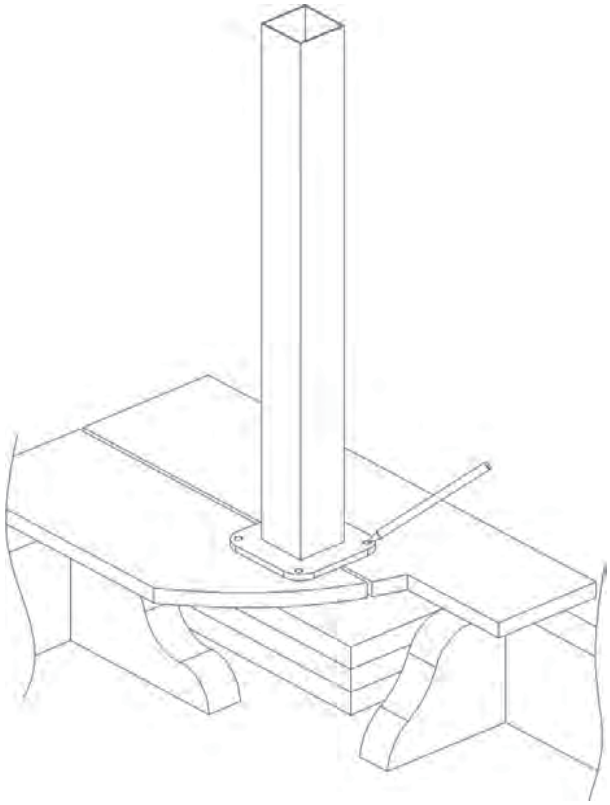


DIAGRAM 49

3. Next, drill into the floor where you have placed your marks as shown in diagram 50.

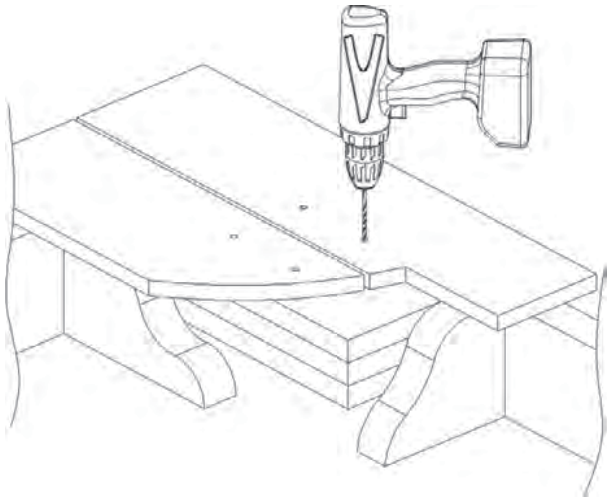


DIAGRAM 50

4 Place the post back over the pre-drilled holes, and drill the screws into place as shown in diagram 51.

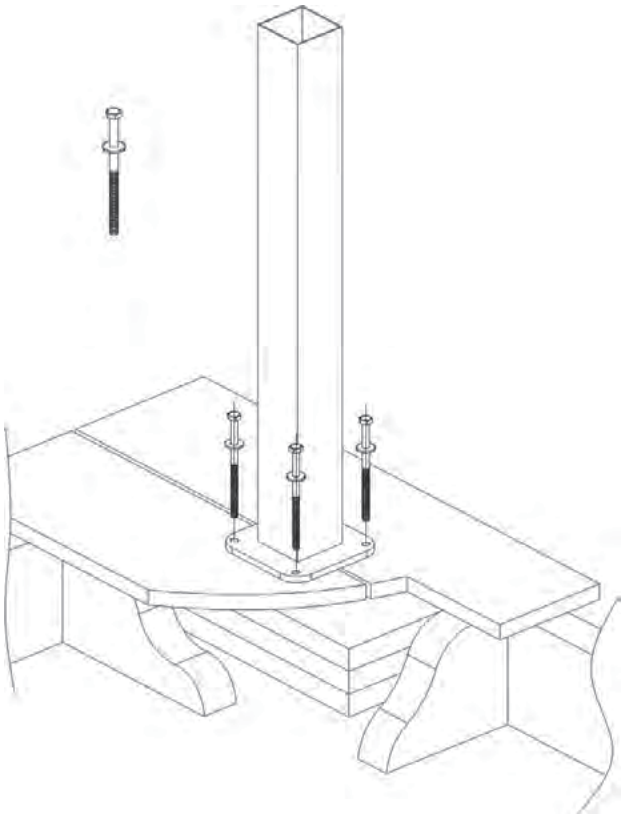


DIAGRAM 51

5 Tighten the lag bolts with washers underneath the substrate, as shown in diagram 52.

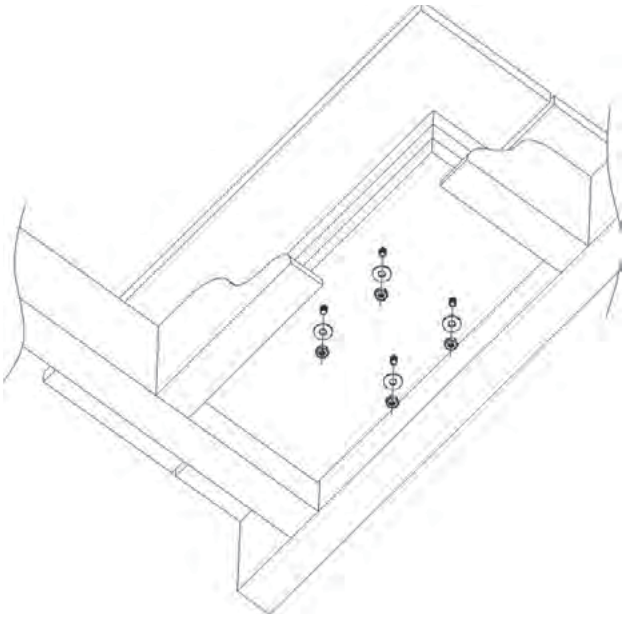


DIAGRAM 52

6 The composite post can now be put over the metal insert (N-JM-088), as shown in diagram 53.

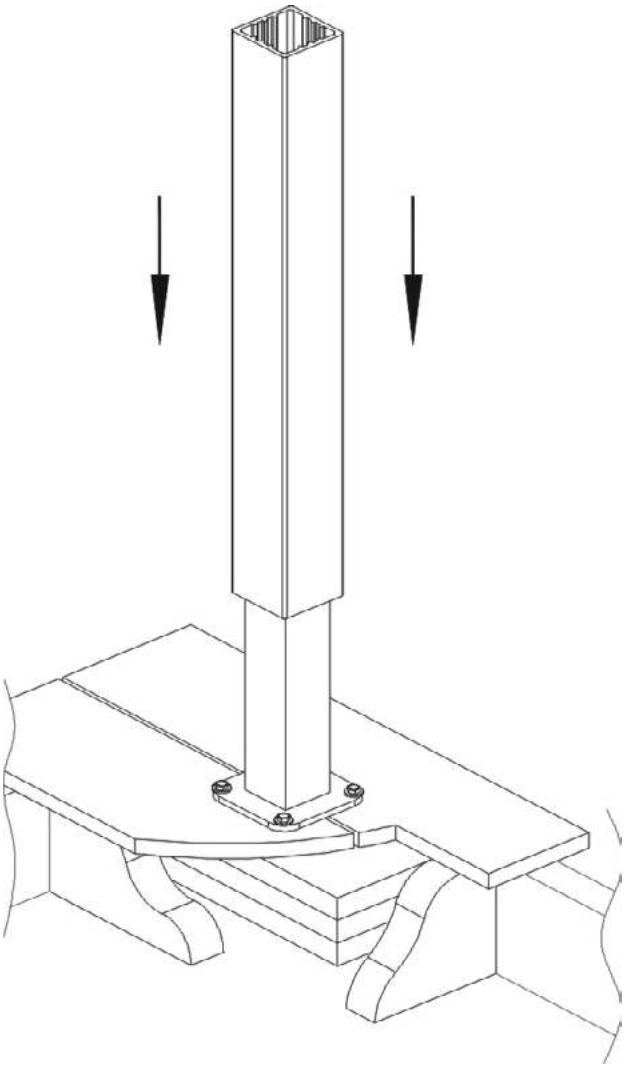


DIAGRAM 53

7 Take the post skirt (K-LV-0119) and put it over the post, covering the bottom of the metal insert, as shown in diagram 54. Next, take the post cap (L-LV-0119) and cover the top of the post as shown in diagram 55.

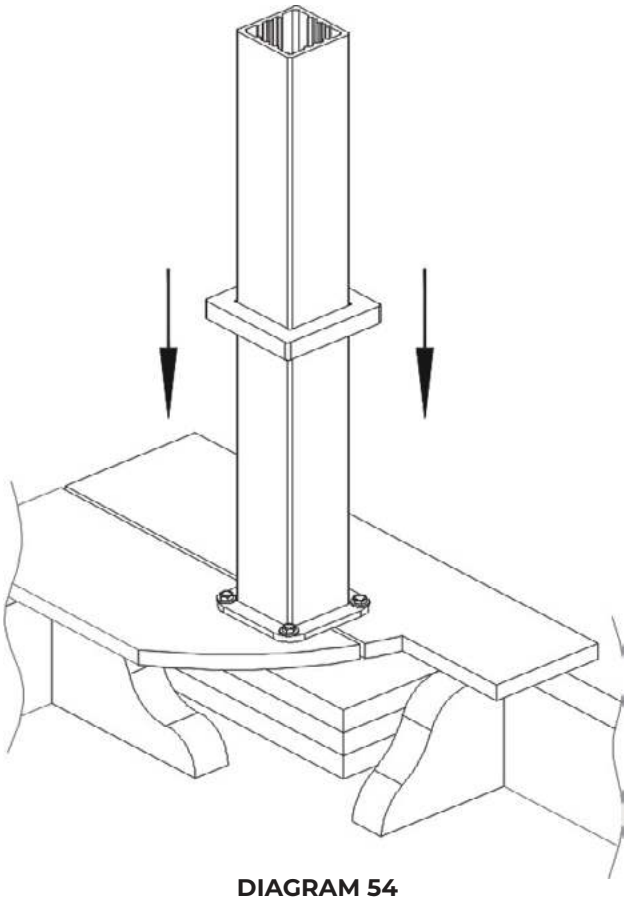


DIAGRAM 54

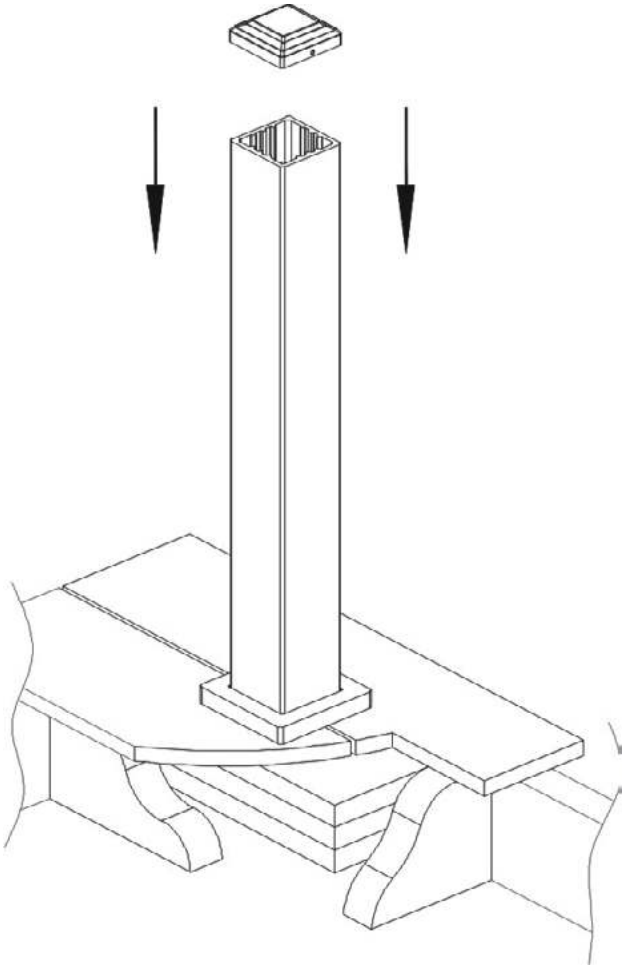


DIAGRAM 55

Installing the Post Mount on a Concrete Surface

1. First, position the post with the metal base (J-LV-0215-36) where you want to install your railing. Next, use a marker or pencil to mark the drilling hole positions as shown in diagram 56.

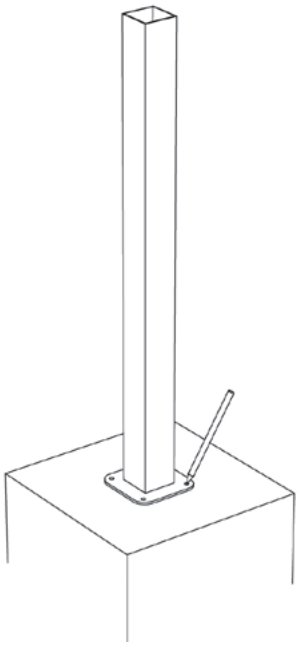


DIAGRAM 56

2. Next, drill into the floor where you have placed your marks as shown in diagram 57.

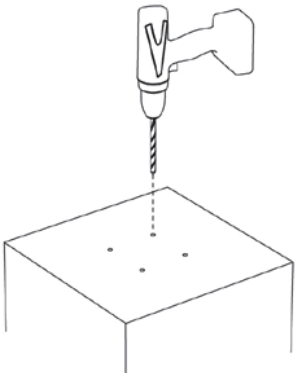


DIAGRAM 57

3. Insert the plastic anchors into the drilled holes as shown in diagram 58.

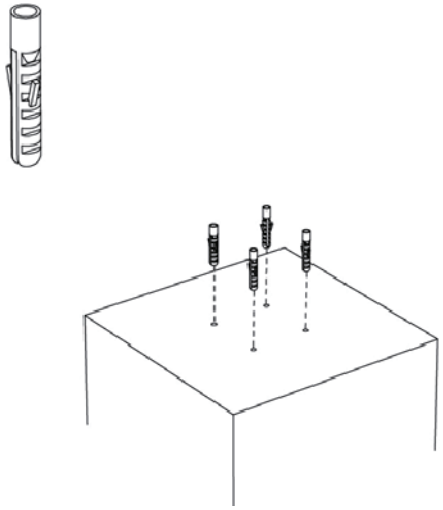


DIAGRAM 58

4. Position the metal base of the post mount (J-LV-0215-36) over the pre-drilled holes. Insert the screws as shown in diagram 59.

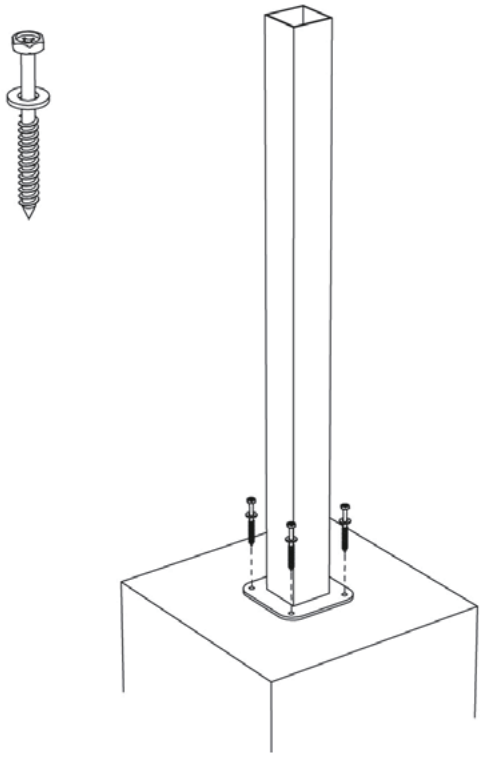


DIAGRAM 59

5 Fix and tighten each screw. Once complete, your post shoud look like diagram 60.

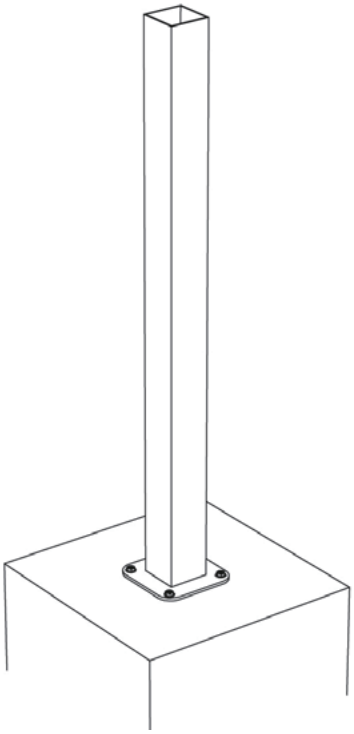


DIAGRAM 60

6 Install the post sleeve (N-JM088) over the post as shown in diagram 61.

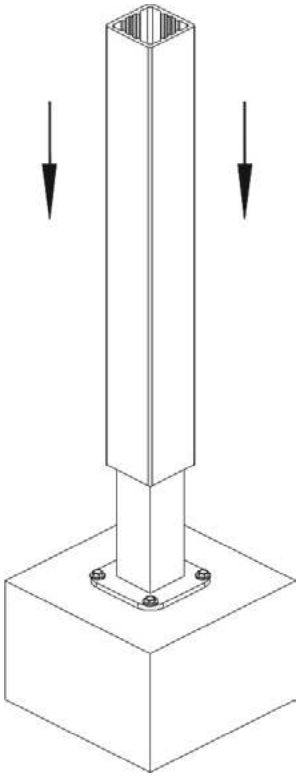


DIAGRAM 61

7 Place the post skirt (K-LV-0119) over the post sleeve as shown in diagram 62.

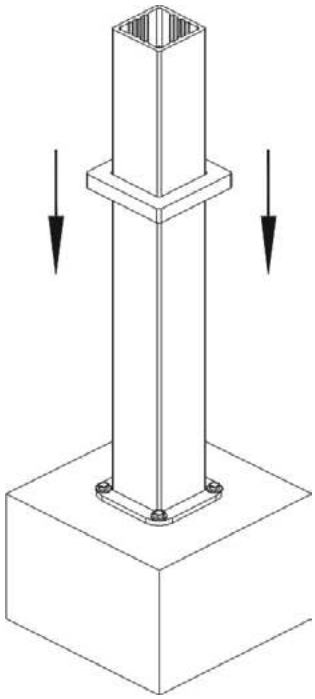


DIAGRAM 62

8 Next, place the post cap (L-LV-0120) on top of the post sleeve as shown in diagram 63.

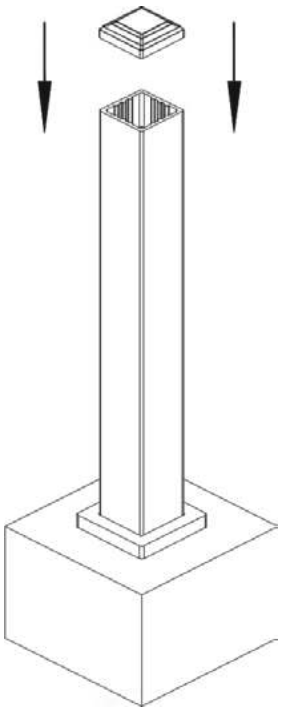


DIAGRAM 63

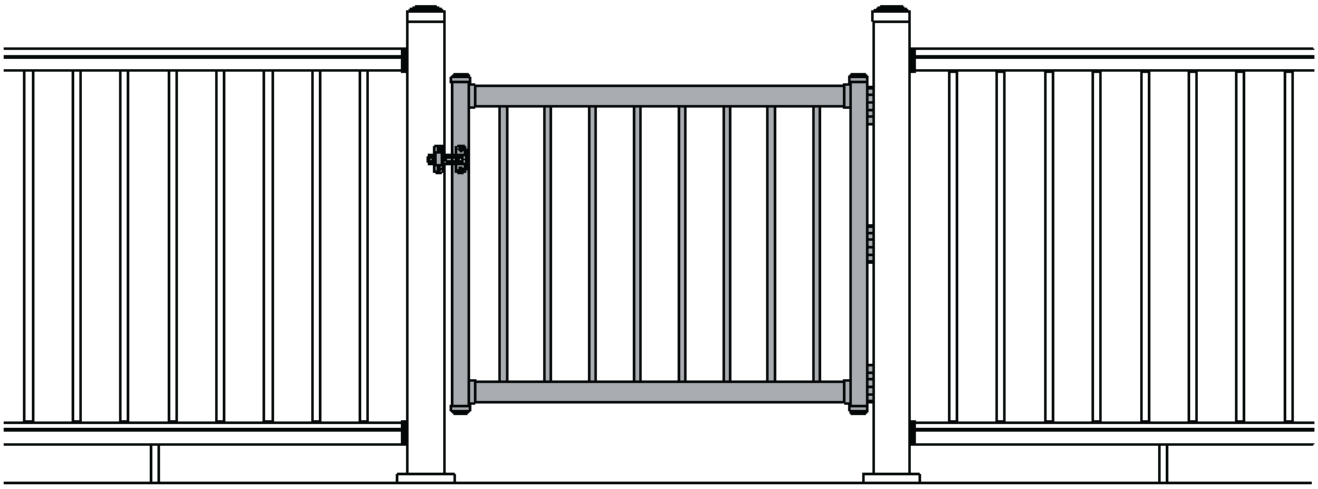
Railing Gate Parts

IMPORTANT POINTS:

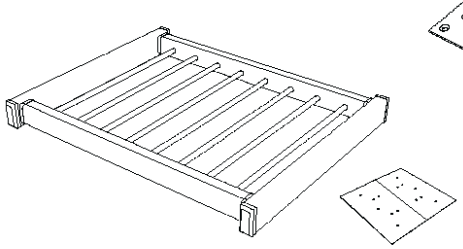
• The NeoTimber® railing gate comes part assembled, with all necessary fixings to join NeoTimber's balustrade posts.

• 3 hinges and a latch are provided to fix the pre-assmbled gate between posts.

• The railing gate only can be installed on the post which connects with the railing, as shown in diagram 64. Please do not install on just an individual post.

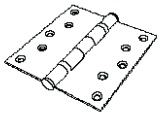


Parts



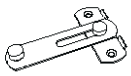
A ×1

E ×1



B ×3

C ×1



D ×1

5.5×32mm
F ×15

5.5×38mm
G ×15

4.2×38mm
H ×4

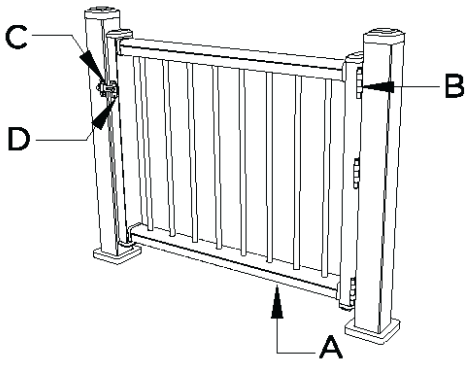
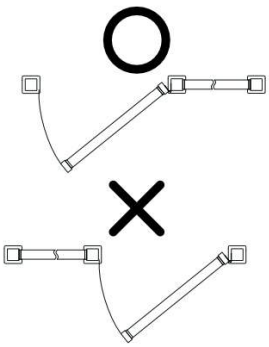


DIAGRAM 64



Installing the Railing Gate

1. Mark the location where the hinge will be installed using the carboard template (Part E) on the gate side post, as shown in diagram 65, using the holes as shown in diagram 67.

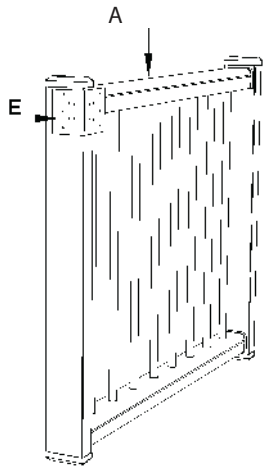


DIAGRAM 65

Diagram 66 indicates the required location at which to mark and subsequently pre-drill the WPC gate side post.

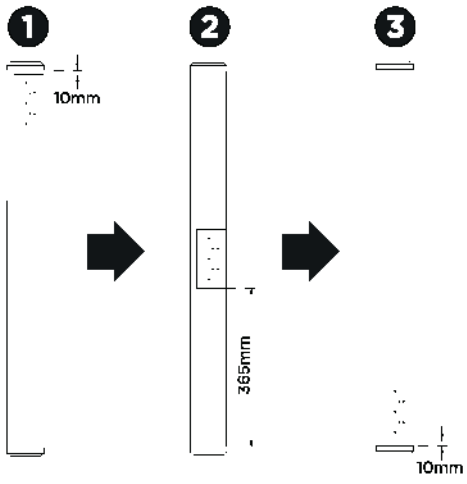


DIAGRAM 66

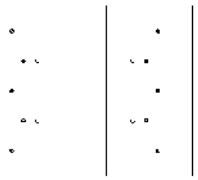


DIAGRAM 67

The hinge holes for the railing gate are contrary to the hinge holes for the railing.

2. Pre-drill the WPC gate side post and install the 3 hinges with screws (Part F) as shown in diagram 69.

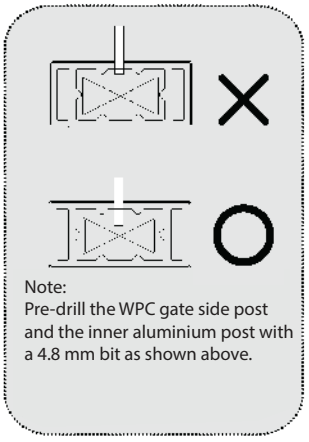


DIAGRAM 68

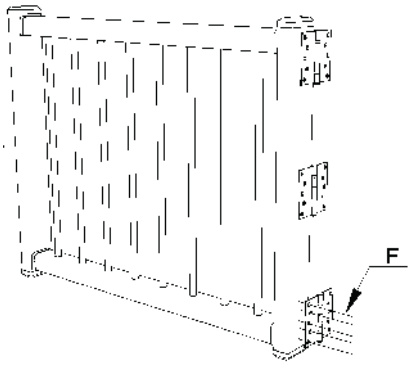


DIAGRAM 69

3 Once the railing posts are suitably spaced to accomodate the railing gate (see diagram 70), mark where the hinge will be installed with the cardboard template (Part E) on the railing post.

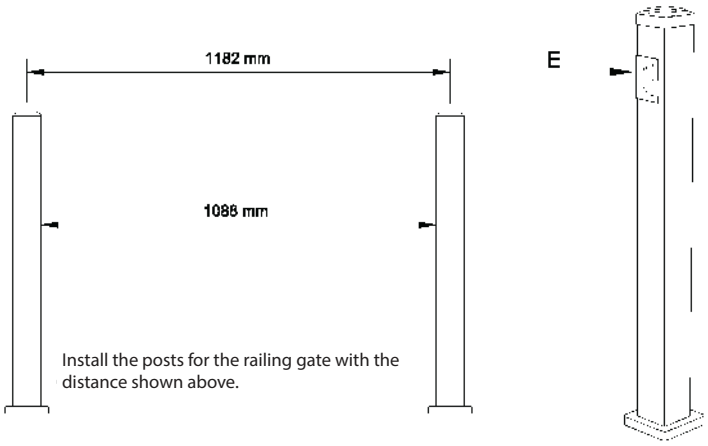


DIAGRAM 70

Diagram 71 indicates the required location at which to mark and subsequently pre-drill the railing post.

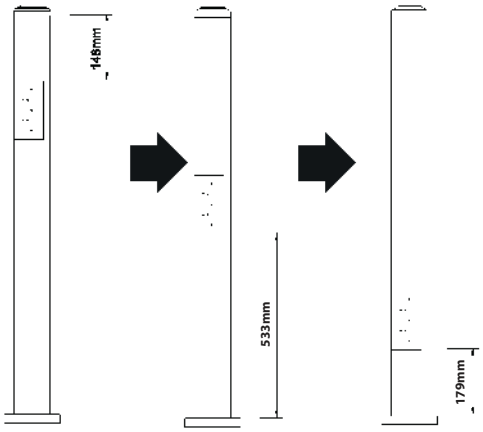
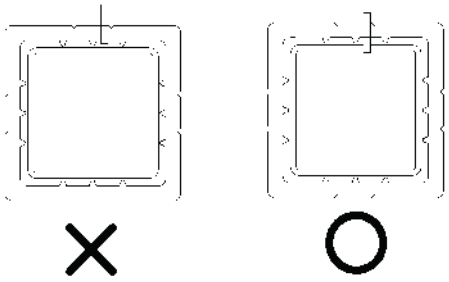


DIAGRAM 71



Note:
Pre-drill the WPC railing post and the inner iron post with a 4.8mm bit as shown above.

DIAGRAM 72

4 Fix the gate hinges to the railing post using supplied screws (Part G).

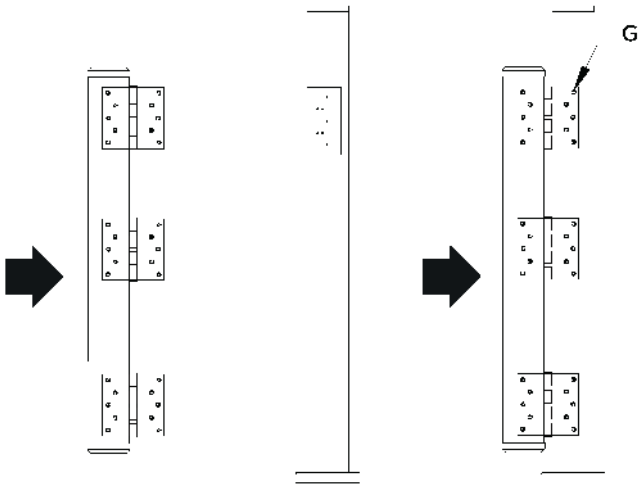


DIAGRAM 73

5 Mark where the door catch will be installed with the cardboard template (Part E) on the railing post & gate side post as shown in diagram 74, using the holes as shown in diagram 75.

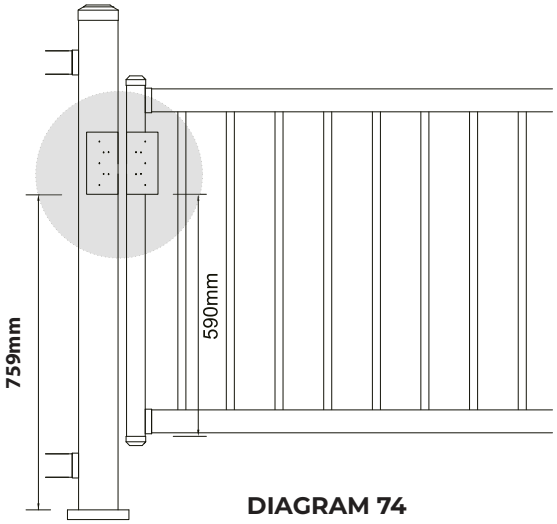


DIAGRAM 74

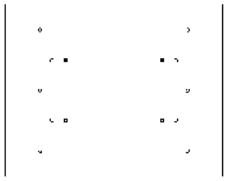


DIAGRAM 75

The holes for the door catch.

Note:
Pre-drill the WPC railing post, gate side post & inner post with a 3.5mm bit.

6 Finally, fix the door catch with screws (Part H) as shown in diagram 76.

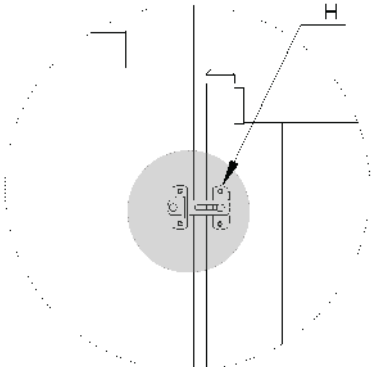


DIAGRAM 76

Maintenance Guidelines

Problem	Solution
Dirt and Debris	Use warm soapy water for the surface of your balustrades, cleaning with a soft bristled brush. For a deeper clean, use a jet wash with the fan attachment no greater than 3100 PSI to clear away the surface debris.
Ice and Snow	Avoid using metal objects to clear snow or ice off your balustrades. We recommend using a salt-free, non-corrosive ice melt designed not to leave any residue on the surface of the railing, as these are generally more effective than salt-based alternatives.
Oil / Grease / Food	All oil/grease/food spills must be removed promptly. To clean, use warm soapy water and a soft non-metal scrub brush. Grease and oil stains may require an all purpose cleaner if the initial warm soapy water does not work.
Mould and Mildew	Whist composite material is resistant to the damaging effects of both mould and mildew growth, this type of growth can occur on almost every outdoor surface. If you do see mould and mildew build up, remove it as quickly as possible. Use warm soapy water and a soft non-metal scrub brush to clean.
Irregular Heat Sources	Composite products have the tendency to retain heat. Proper precautions should be taken to avoid your balustrades being exposed to any fires or irregular heat sources to ensure no damage occurs.

NeoTimber®

COMPOSITE BALUSTRADES

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enquiries@neotimber.com for more information

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