



Installing Roof Handrails and Roof Rungs

1. Align the angled holes in the handrail posts (2) with the holes in the roof rungs (1) and make sure the flat side of the angle is facing the opposite handrail post (2). (See detail [on Page 4.](#))
2. Install the handrail posts (2) to the roof rungs (1) using bolts (10) and nuts (11).

NOTE: *Handrail posts are installed only to every other rung. (See detail [on Page 3.](#))*

3. Install the handrail mount brackets (3) to the end of the handrail posts (2) using bolts (10) and nuts (11).

NOTE: *Make sure bracket is positioned with the curve to the outside of the walkway and that the bolt heads are installed towards the walkway.*

4. Starting at the eave of the roof, fasten the roof rungs (1) to the roof panel using the existing holes and bin hardware (11 and 12).

NOTE: *Make sure rungs are centered on the roof panel and that the bolt heads are located on the bottom of the roof panels. (See parts list for ladder rung quantity and sizes for your diameter [on Page 2.](#))*

NOTE: *If the rung falls on a location where a roof ring is present, field drill holes in the roof ribs just above the roof ring and install the rung right above the roof ring. Use standard roof bolts with sealing washers and make sure the bolts are to the inside of the bin.*

5. Starting at the eave and working towards the peak, install the top handrails (4) to the handrail mount brackets (3) using self-drilling screws (9).

NOTE: *Make sure the swaged end is up and connect top handrails (4) together by inserting the larger end of the next top handrail (4) over the swaged end of the previous top handrail (4).*

NOTE: *Make sure the posts are vertical and level before installing the handrails.*

6. Align one end of the cross brace (5) with the hole second from the top in the first handrail post (2), then align the other end with the middle hole of the second handrail post (2) and fasten with bolts (10) and nuts (11).

NOTE: *Bolt heads must be installed towards the walkway.*

7. Starting at the eave and working towards the peak, install the intermediate rails (6) to the handrail posts (2) using self-drilling screws (9).

NOTE: *Make sure the swaged end is up and connect intermediate rails (6) together by inserting the larger end of the next intermediate rails (6) over the swaged end of the previous intermediate rail (6).*

8. At the peak, cut the top handrails (4) and intermediate rails (6) to remove any excess rail.

9. Install the 1-1/2" tube plugs (7) in the ends of the top handrails (4).

10. Install the 1" tube plugs (8) in the ends of the intermediate rails (6).



Roof Handrail Installation for Ladder Package

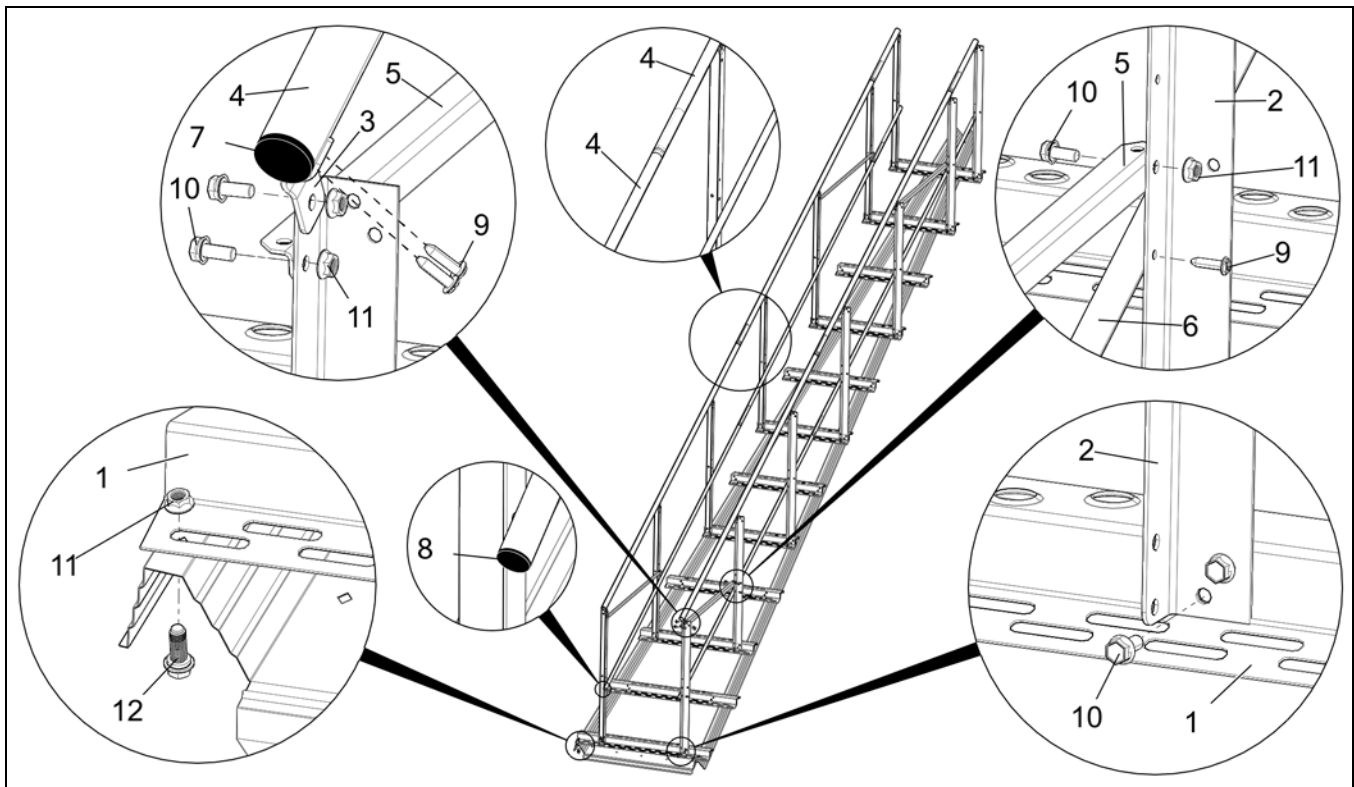


Figure 1 Roof Handrail Connection Details

Roof Handrail Parts List

Ref #	Part #	Description	Diameter (Ft.)																		
			12	15	18	21	24	27	30	33	36	42	48	54	60	72	75	78	90	105	135
1	RFS-0020-42	42" Roof Rung	1	1	1	1	2	2	2	2	2	2	3	3	0	0	0	0	0	0	
	RFS-0020-36	36" Roof Rung	1	1	1	1	1	1	1	1	2	2	3	2	3	1	1	1	2	1	2
	RFS-0020-29	29" Roof Rung	1	2	3	4	4	5	6	6	6	8	9	10	10	18	19	19	24	28	34
2	RFS-0021	Handrail Post	4	6	6	8	8	10	10	10	12	14	16	16	18	20	22	22	26	30	38
3	WBS-0319	Handrail Mount Bracket	4	6	6	8	8	10	10	10	12	14	16	16	18	20	22	22	26	30	38
4	RFS-0007	Top Handrail	2	2	2	4	4	4	4	4	4	6	6	6	8	8	8	8	10	12	16
5	RFS-0022	Cross Brace	2	2	2	2	2	4	4	4	4	4	6	6	6	6	8	8	8	10	12
6	RFS-0008	Intermediate Rail	2	2	2	4	4	4	4	4	4	6	6	6	8	8	8	8	10	12	16
Hardware																					
7	S-10382	1-1/2" O.D. Tube Plug	6	6	6	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
8	S-10383	1" O.D. Tube Plug	6	6	6	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
9	S-7229	Screw, SDS 1/4" x 1"	20	30	30	40	40	50	50	50	60	70	80	80	90	100	110	110	130	150	190
10	S-6606	Flange Bolt 5/16"-18 x 3/4"	30	45	45	60	60	75	75	75	90	105	120	120	135	150	165	165	195	225	285
11	S-3611	Flange Nut 5/16"-18 YDP Grade 2	30	45	45	60	60	75	75	75	90	105	120	120	135	150	165	165	195	225	285
12	S-10260	Bin Bolt 5/16" x 1" JS500	Use the bolts supplied with the bin.																		

Cross Brace Locations

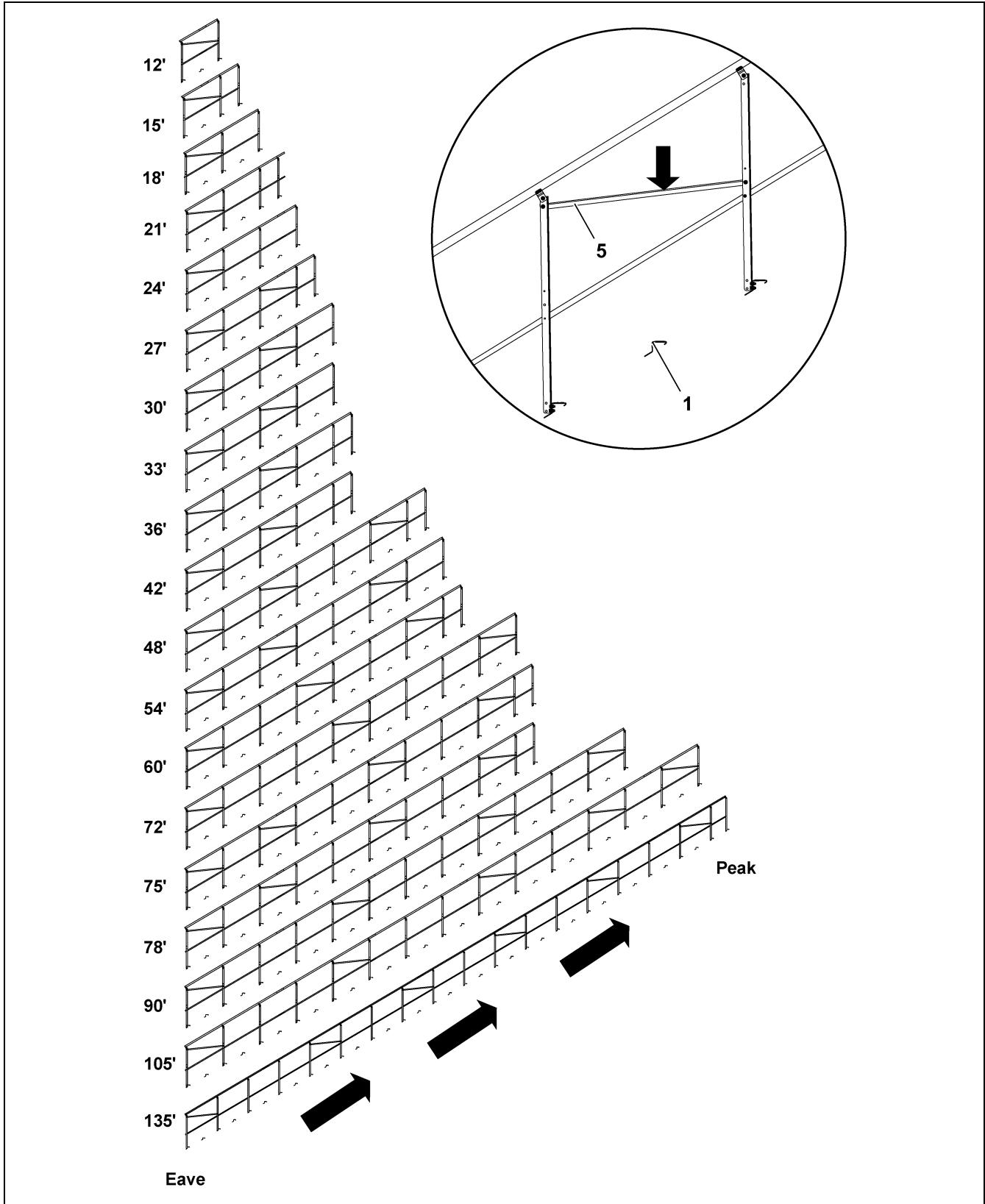


Figure 2 Cross Brace Locations

NOTE: The parts pointed out on this page are listed on [Page 2](#).

Rung Locations

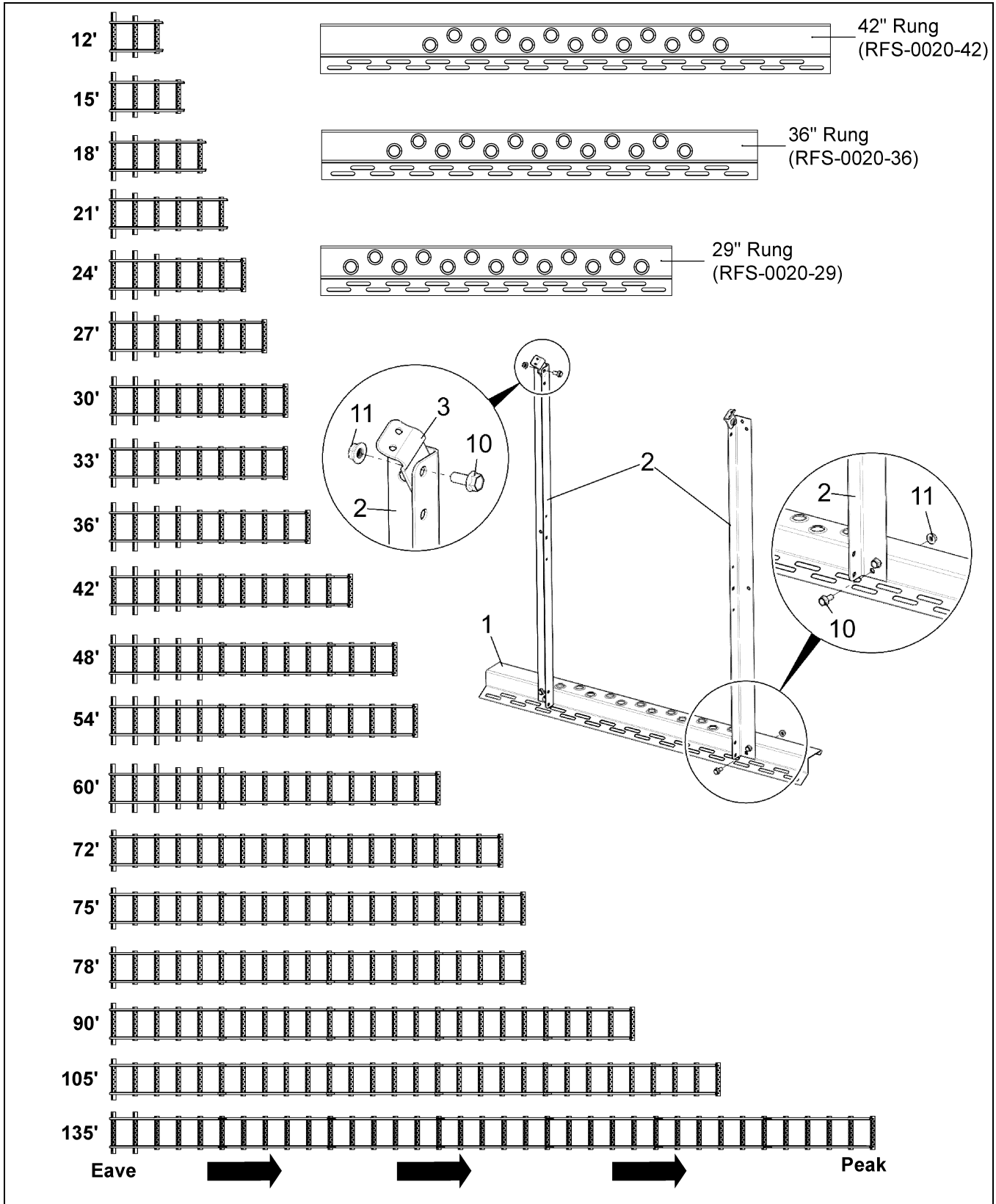


Figure 3 Rung Locations

NOTE: The parts pointed out on this page are listed on [Page 2](#).