

Purpose

This document provides a listing of the maximum flange thickness of the RH trolleys. Included is a chart listing the trolley clearances on various beams, which was derived from the maximum flange thickness. The clearances are accurate for both the Standard and Ultralow trolley configurations.

Background

The trolley anti-kick up feature dictates the trolleys maximum flange thickness dimension. Therefore the thickness dimensions leave little tolerance between the trolley and the beam flange. This dimension is the clearance between the trolley and the beam. There have been instances where the RH trolley wheel/beam flange clearances have not been accounted for properly by customers. This could cause the trolley to rub or scrape on a beam. The maximum flange thickness' for the RH trolleys are listed on page 15 of the RH Technical Manual and page 20 of the RH Owner's Manual.

Criteria

The RH trolley maximum flange thicknesses are listed below by trolley size.

RH TROLLEY	
TROLLEY SIZE	MAXIMUM FLANGE THICKNESS (INCHES)
1	0.79
2	0.91
3	1.50
4	1.69

As a convenience, some common beam sizes are listed in the following charts by trolley size. The charts indicate Tf = Beam Flange Thickness, Bf = Beam Flange Width, and the beam dimensions that the RH trolley will NOT fit.

The following assumptions apply.

Thickness: 1/16 inch (0.0625) minimum clearance; S beams use the average flange thickness, therefore borderline cases MAY fit.

Width: Uses exact dimensions, minimum and maximum.

Height: ½ inch (0.5) minimum clearance between the top of the wheel tread and the bottom side of the top flange or

Wheel Diameter + ½ inch < Beam Height – 2 X Flange Thickness

RH TROLLEY CLEARANCE

RH TROLLEY SIZE ⇒			SIZE 1 (0.79 inches)			SIZE 2 (0.91 inches)			SIZE 3 (1.50 inches)			SIZE 4 (1.69 inches)		
BEAM	Tf	Bf	THK	WIDTH	HT	THK	WIDTH	HT	THK	WIDTH	HT	THK	WIDTH	HT
W4X13	0.345	4.06			NO		NO	NO		NO	NO		NO	NO
W5X16	0.36	5			NO			NO		NO	NO		NO	NO
W5X19	0.43	5.03			NO			NO		NO	NO		NO	NO
W6X9	0.215	3.94					NO			NO	NO		NO	NO
W6X15	0.26	5.99									NO		NO	NO
W6X12	0.28	4					NO			NO	NO		NO	NO
W6X20	0.365	6.02									NO		NO	NO
W6X16	0.405	4.03					NO			NO	NO		NO	NO
W6X25	0.455	6.08									NO		NO	NO
W8X10	0.205	3.94					NO			NO	NO		NO	NO
W8X24	0.4	6.495									NO		NO	NO
W8X13	0.255	4					NO			NO	NO		NO	NO
W8X28	0.465	6.535									NO		NO	NO
W8X31	0.435	7.995									NO		NO	NO
W8X15	0.315	4.015					NO			NO	NO		NO	NO
W8X35	0.495	8.02									NO		NO	NO
W8X18	0.33	5.25								NO	NO		NO	NO
W8X40	0.56	8.07									NO		NO	NO
W8X21	0.4	5.27								NO	NO		NO	NO
W8X48	0.685	8.11									NO		NO	NO
W8X58	0.81	8.22			NO						NO		NO	NO
W8X67	0.935	8.28			NO			NO			NO		NO	NO
W10X33	0.435	7.96												NO
W10X12	0.21	3.96					NO			NO			NO	NO
W10X39	0.53	7.985												NO
W10X49	0.56	10												NO

RH TROLLEY SIZE ⇒		SIZE 1 (0.79 inches)			SIZE 2 (0.91 inches)			SIZE 3 (1.50 inches)			SIZE 4 (1.69 inches)			
BEAM	Tf	Bf	THK	WIDTH	HT	THK	WIDTH	HT	THK	WIDTH	HT	THK	WIDTH	HT
W10X15	0.27	4					NO						NO	NO
W10X54	0.615	10.03												NO
W10X45	0.62	8.02												NO
W10X17	0.33	4.01					NO						NO	NO
W10X22	0.36	5.75											NO	NO
W10X19	0.395	4.02					NO						NO	NO
W10X60	0.68	10.08												NO
W10X26	0.44	5.77											NO	NO
W10X68	0.77	10.13				NO								NO
W10X30	0.51	5.81											NO	NO
W10X77	0.87	10.19				NO								NO
W10X88	0.99	10.265				NO								NO
W10X100	1.12	10.34				NO								NO
W10X112	1.25	10.415				NO								NO
W12X14	0.225	3.97								NO			NO	
W12X40	0.515	8.005												
W12X16	0.265	3.99								NO			NO	
W12X45	0.575	8.045												
W12X53	0.575	9.995												
W12X65	0.605	12												
W12X19	0.35	4.005								NO			NO	
W12X50	0.64	8.08												
W12X58	0.64	10.01												
W12X26	0.38	6.49												
W12X22	0.425	4.03								NO			NO	
W12X30	0.44	6.52											NO	
W12X35	0.52	6.56											NO	

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BEAM	Tf	Bf	THK	WIDTH	HT	THK	WIDTH	HT	THK	WIDTH	HT	THK	WIDTH	HT
W14X43	0.53	7.995												
W14X22	0.335	5					NO						NO	
W14X48	0.595	8.03												
W14X30	0.385	6.73												
W14X61	0.645	9.995												
W14X26	0.42	5.025											NO	
W14X53	0.66	8.06												
W14X34	0.455	6.745												
W14X90	0.71	14.52												
W14X68	0.72	10.035												
W14X38	0.515	6.77												
W14X74	0.785	10.07				NO								
W14X82	0.855	10.13				NO								
W16X26	0.345	5.5											NO	
W16X36	0.43	6.985												
W16X31	0.44	5.525											NO	
W16X40	0.505	6.995												
W16X45	0.565	7.035												
W16X50	0.63	7.07												
W16X67	0.665	10.235												
W16X57	0.715	7.12												
W16X77	0.76	10.295				NO								
W16X89	0.875	10.365				NO			NO					
W16X100	0.985	10.425				NO			NO					
W18X35	0.425	6											NO	
W18X40	0.525	6.015											NO	
W18X50	0.57	7.495												

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BEAM	Tf	Bf	THK	WIDTH	HT	THK	WIDTH	HT	THK	WIDTH	HT	THK	WIDTH	HT
W18X46	0.605	6.06											NO	
W18X55	0.63	7.53												
W18X76	0.68	11.035												
W18X60	0.695	7.555												
W18X65	0.75	7.59	NO											
W18X86	0.77	11.09	NO											
W18X71	0.81	7.635	NO											
W18X97	0.87	11.145	NO			NO								
W18X106	0.94	11.2	NO			NO								
W18X119	1.06	11.265	NO			NO								
W18X130	1.2	11.16	NO			NO								
W18X143	1.32	11.22	NO			NO								
W18X158	1.44	11.3	NO			NO			NO					
W18X175	1.59	11.357	NO			NO			NO					
W18X192	1.75	11.455	NO			NO			NO			NO		
W21X44	0.45	6.5											NO	
W21X50	0.535	6.53											NO	
W21X62	0.615	8.24												
W21X57	0.65	6.555											NO	
W21X68	0.685	8.27												
W21X73	0.74	8.295	NO											
W21X83	0.835	8.355	NO											
W21X111	0.875	12.34	NO			NO								
W21X93	0.93	8.42	NO			NO								
W24X55	0.505	7.005												
W24X68	0.585	8.965												
W24X62	0.59	7.04												

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BEAM	Tf	Bf	THK	WIDTH	HT	THK	WIDTH	HT	THK	WIDTH	HT	THK	WIDTH	HT
W24X76	0.68	8.99												
W24X104	0.75	12.75	NO											
W24X84	0.77	9.02	NO											
W24X94	0.875	9.065	NO		NO									
W24X103	0.98	9	NO		NO									
W24X146	1.09	12.9	NO		NO									
W27X84	0.64	9.96												
W27X94	0.745	9.99	NO											
W27X102	0.83	10.015	NO											
W27X114	0.93	10.07	NO		NO									
W27X146	0.97	13.96	NO		NO									
W27X129	1.1	10.01	NO		NO									
W27X178	1.19	14.085	NO		NO									
W30X90	0.61	10.4												
W30X99	0.67	10.45												
W30X108	0.76	10.475	NO											
W30X116	0.85	10.495	NO		NO									
W30X124	0.93	10.515	NO		NO									
W30X132	1	10.545	NO		NO									
W30X148	1.18	10.48	NO		NO									
W33X118	0.74	11.48	NO											
W33X130	0.855	11.51	NO		NO									
W33X141	0.96	11.535	NO		NO									
W33X152	1.055	11.565	NO		NO									
W33X169	1.22	11.5	NO		NO									
W36X135	0.79	11.95	NO		NO									
W36X150	0.94	11.975	NO		NO									

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BEAM	Tf	Bf	THK	WIDTH	HT	THK	WIDTH	HT	THK	WIDTH	HT	THK	WIDTH	HT
W36X230	1.26	16.47	NO	NO		NO	NO						NO	
S3X5.7	0.26	2.33		NO	NO		NO	NO		NO	NO		NO	NO
S3X7.5	0.26	2.509		NO	NO		NO	NO		NO	NO		NO	NO
S4X7.7	0.293	2.663		NO	NO		NO	NO		NO	NO		NO	NO
S4X9.5	0.293	2.796		NO	NO		NO	NO		NO	NO		NO	NO
S5X10	0.326	3.004		NO	NO		NO	NO		NO	NO		NO	NO
S5X14.75	0.362	3.284		NO	NO		NO	NO		NO	NO		NO	NO
S6X12.5	0.359	3.33		NO			NO	NO		NO	NO		NO	NO
S6X17.5	0.359	3.565		NO			NO	NO		NO	NO		NO	NO
S7X15.3	0.392	3.662		NO			NO			NO	NO		NO	NO
S7X20	0.392	3.86		NO			NO			NO	NO		NO	NO
S8X18.4	0.426	4					NO			NO			NO	NO
S8X23	0.426	4.171					NO			NO			NO	NO
S10X25.4	0.491	4.661												
S10X35	0.491	4.944												
S12X31.8	0.544	5								NO			NO	
S12X35	0.544	5.078								NO			NO	
S12X40.8	0.659	5.252								NO			NO	
S12X50	0.659	5.477											NO	
S15X42.9	0.622	5.501											NO	
S15X50	0.622	5.64											NO	
S18X54.7	0.691	6											NO	
S18X70	0.691	6.251											NO	
S20X66	0.795	6.255											NO	
S20X75	0.795	6.385				NO							NO	
S20X86	0.92	7.06				NO						NO		
S20X96	0.92	7.2				NO						NO		

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BEAM	Tf	Bf	THK	WIDTH	HT	THK	WIDTH	HT	THK	WIDTH	HT	THK	WIDTH	HT
S24X80	0.87	7	NO			NO								
S24X90	0.87	7.125	NO			NO								
S24X100	0.87	7.245	NO			NO								
S24X106	1.09	7.87	NO			NO								
S24X121	1.09	8.05	NO			NO								

END