

TRACK BENDING

In certain applications it is advantageous to curve tracks either horizontally ('A' bend) or vertically ('B' bend). Track can be bent to match deck camber, or to ensure that the tension on a purchase system attached to a traveller car remains constant as the car moves along the track.

HORIZONTAL PLANE – 'A' BEND

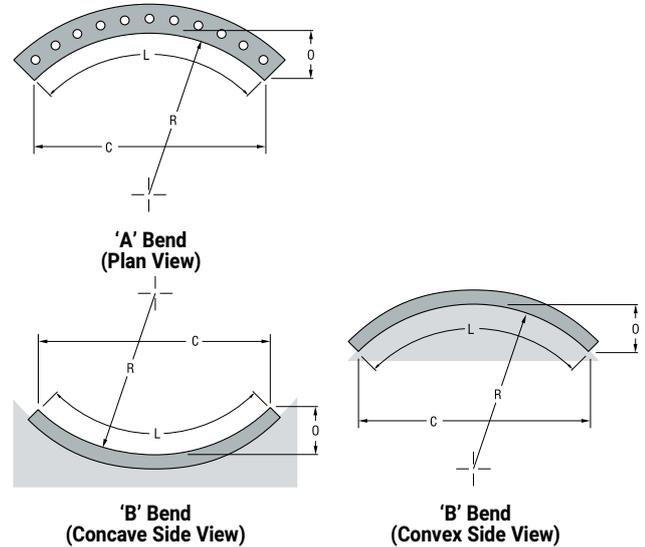
In situations where cars and fittings are required to rotate around a central pivot point, horizontal 'A' bending of the track will ensure the load applied to the car remains vertical. This results in maximum strength and free rolling ability being maintained by the car. Maintaining this vertical alignment also ensures tension in an attached purchase system remains constant, a feature often sought after in sailboat mainsheet and boom vang traveller systems.

VERTICAL PLANE – 'B' BEND

Traveller tracks can be bent vertically to fulfil certain requirements. They can be top mounted or underhung mounted with either concave or convex track bends.

'B' bends are often required to match the mounting surface to which a track is to be fixed; as when matching deck camber on a sailboat.

'B' bending can also be used to maintain constant tension in a purchase system mounted on a traveller car. This application is very popular on sailboat mainsheet and self-tacking jib systems where the increased load applied to the car during tacking or gybing may affect sail trim or increase rolling friction.



MINIMUM BEND RADIUS

TRAVELLER SERIES	CAR LENGTH mm	MINIMUM HORIZONTAL 'A' BEND RADIUS mm	MINIMUM HORIZONTAL 'B' BEND RADIUS mm	MINIMUM BEND RADIUS		
				CAR LENGTH in	MINIMUM HORIZONTAL 'A' BEND RADIUS in	MINIMUM HORIZONTAL 'B' BEND RADIUS in
BB Series 14	47	1300	800	1 27/32	51 7/32	31 17/32
	50	1400	970	1 31/32	55 1/8	38 7/32
	68	2000	2000	2 11/16	78 13/16	78 13/16
	78	3500	4500	3 1/16	137 29/32	177 5/16
BB Series 19	50	1500	1500	1 31/32	60	27 29/32
	70	2500	3000	2 3/4	98 1/2	118 3/16
	85	3500	4500	3 11/32	137 29/32	177 5/16
	100	5000	5500	3 15/16	197	216 11/16
BB Series 22	75	1500	2000	2 31/32	59 3/32	78 13/16
	125	5000	5000	4 15/16	197	197
	175	9000	13000	6 29/32	354 19/32	512 3/16
	180	9000	13000	7 3/32	354 19/32	512 3/16
BB Series 26	108	2500	2500	4 1/8	98 13/32	98 13/32
	120	4000	4000	4 23/32	157 19/32	157 19/32
	200	8000	8000	7 7/8	315 3/16	315 3/16
	205	9000	9000	2 1/16	354 19/32	354 19/32
	210	9400	9400	8 1/4	370 3/32	370 3/32
BB Series 30	100	2500	2500	3 15/16	98 1/2	98 1/2
	108	2875	2875	4 1/4	113 3/16	113 3/16
	120	4900	4900	4 23/32	192 1/32	192 1/32
	150	8000	8000	5 29/32	315 3/16	315 3/16
	210	12400	12400	8 1/4	488 3/16	488 3/16
	225	16000	16000	8 7/8	630 13/32	630 13/32
	332	22500	22500	13 1/16	885 13/16	885 13/16
I-Track 19	51	400	400*	2	15 3/4	15 3/4
	86	1200	Not suitable	3 3/8	47 1/4	Not suitable
I-Track 32	76	500	500*	3	19 11/16	20
	157	500	Not suitable	6 3/16	19 11/16	Not suitable

Please contact our sales team for minimum bend radius requirements for Series 42 and 55 traveller cars.

* Manufacture of B-Bends for I-track 19 & 32 have length & radius limitations, please contact our sales team with your requirements.

CURVED TRACK SPECIFICATION REQUIREMENTS

Specifications are required for each type of bend, including two critical dimensions (three if possible), and clear drawings where possible.

Critical Dimension Required

Radius	R	and	O	Offset
			OR	
Radius	R	and	L	Length of Track
			OR	
Radius	R	and	C	Chord Length
			OR	
Offset	O	and	C	Chord Length

In many 'B' bend situations, the radius R is not known and it is easiest to specify the curve by C (chord length) and O (offset) values. In these cases, the radius the track is to follow MUST be constant.

It should be noted that:

- Although track bends may appear desirable to provide ideal alignment and avoid angular loads being applied to the car, in a ball bearing system the bend may reduce the load capacity of the system by loading the balls unevenly over the length of the car.
- Light bends can be 'sprung in' during installation, however considerable care must be taken to ensure that the curves are even with no tight spots and that the track is not over-bent (permanently deformed) during installation.
- Not all track types are suited to both types of bends, and some types of tracks cannot be curved at all.
- A minimum track radius is specified for each length of traveller car. This is the tightest curve a car will run around freely. Refer to the recommendations on this page for each track type regarding suitability and minimum radius values.

For best results, track should be ordered pre-bent from Ronstan.

Ordering

- Specify the type of track profile (by product no.)
- Indicate the type of bend required 'A' Bend (horizontal), or 'B' Bend (vertical) Concave or Convex.
- Provide the appropriate dimensional specifications as described above.