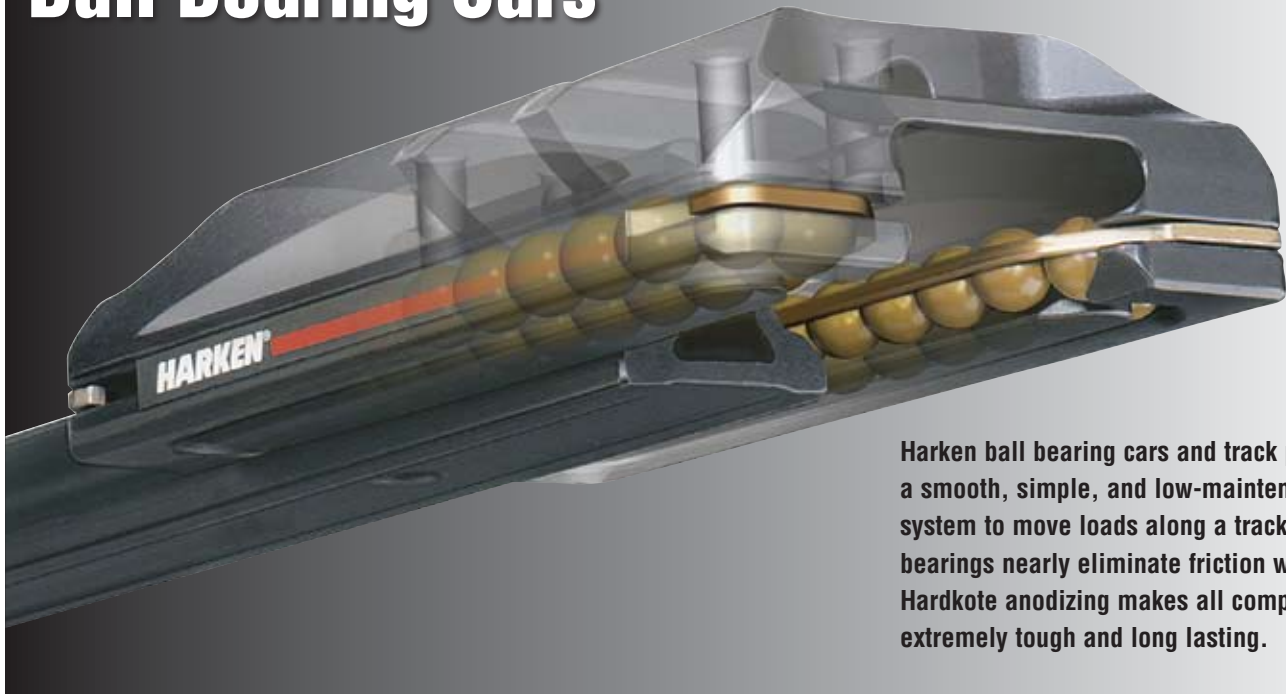


Ball Bearing Cars



Harken ball bearing cars and track provide a smooth, simple, and low-maintenance system to move loads along a track. Ball bearings nearly eliminate friction while Hardkote anodizing makes all components extremely tough and long lasting.

USES

Harken cars and track are used in everything from sliding seats and window washing to exercise machines and acrobatic theater productions.

FEATURES

Tension and compression loads up to 12,000 lb (5443 kg) run freely on the car's recirculating ball bearings.

Ball bearings are held captive, making it easy to take cars off the track.

Black Hardkote anodizing makes cars and track extremely durable, long lasting, and UV and weather resistant.

Cars can run on curved track.

MATERIALS

Cars and bearing races are machined out of 6061-T6 aluminum.

Track is extruded from high-grade 6061-T6 aluminum.

OPTIONS

Use high-beam track if you plan to span unsupported areas with the track.

Pinstop cars and endstops let you quickly remove cars for storage, transport, and maintenance. They can also control the range of movement or lock cars in position.

Contact Harken for different load ranges, clear (silver-colored) anodizing, track bolt-hole spacing, and CE certified systems.

INSTALLATION

Installation requires you to bolt track and endstops to a strong structural surface.

Harken can bend and cut track to your specifications.

MAINTENANCE

Cars and track can be flushed clean with water.



Pinstop car



Low-beam track



High-beam track



Black Hardkote

Clear-anodized

STANDARD CARS



UTILITY CARS



Carriage System Cars

Part No.	Description	Length		Width		Car body height		Weight		Maximum working load		Breaking load	
		in	mm	in	mm	in	mm	oz	g	lb	kg	lb	kg
Micro													
2700	Car/pivoting shackle	2 ⁵ / ₁₆	56	1 ¹ / ₁₆	40	3/4	19	1.76	50	75	34	1500	680
HC6707	Utility car	2 ⁵ / ₁₆	56	1 ¹ / ₁₆	40	3/4	19	—	—	75	34	1500	680
HC8187	Utility car	2 ⁵ / ₁₆	56	1 ¹ / ₁₆	40	3/4	19	—	—	75	34	1500	680
Small													
2726	Car/pivoting shackle	2 ⁷ / ₈	73	2 ¹ / ₄	57	1 ⁵ / ₁₆	24	4.64	132	125	57	2500	1134
2727	High-load car/pivoting shackle	2 ⁷ / ₈	73	2 ¹ / ₄	57	1 ⁵ / ₁₆	24	4.64	132	210	95	2500	1134
2735	1250 Series/pivoting toggle	4 ⁷ / ₈	105	2 ¹ / ₄	57	1 ⁵ / ₁₆	24	6.72	191	310	141	2500	1134
HC7986	Utility car	2 ⁷ / ₈	73	2 ¹ / ₄	57	1 ⁵ / ₁₆	24	—	—	125	57	2500	1134
HC8374	High-load utility car	2 ⁷ / ₈	73	2 ¹ / ₄	57	1 ⁵ / ₁₆	24	—	—	210	95	2500	1134
HC8418	1250 Series utility car	4 ⁷ / ₈	105	2 ¹ / ₄	57	1 ⁵ / ₁₆	24	—	—	310	141	2500	1134
HC8473	Utility car/M8 holes	2 ⁷ / ₈	73	2 ¹ / ₄	57	1 ⁵ / ₁₆	24	—	—	125	57	2500	1134
Midrange													
1624	Car/shackle	4 ¹ / ₄	108	2 ³ / ₄	70	1 ¹ / ₈	28	11.04	313	450	204	5000	2268
1625	Long car/shackle	5 ⁹ / ₁₆	132	2 ³ / ₄	70	1 ¹ / ₈	28	12.48	354	575	261	5000	2268
HC9606	2-Car external access car assembly/coupler/pinstop	10 ³ / ₄	273	2 ³ / ₄	70	1 ¹ / ₈	28	—	—	220	100	—	—
Big													
3163	3000 Series/shackle	5 ³ / ₈	136	3 ³ / ₈	85	1 ³ / ₈	35	24	680	750	340	7000	3175
3165	4500 Series/shackle	7 ⁷ / ₁₆	188	3 ³ / ₈	85	1 ³ / ₈	35	24	680	1125	510	9000	4081
3167	5000 Series/2 toggles	9 ¹ / ₈	231	3 ³ / ₈	85	1 ³ / ₈	35	41.12	1166	1250	567	10000	4536
Mini-Maxi & Maxi*													
3068	Mini-Maxi	10	254	4 ³ / ₈	111	3 ³ / ₄	95	81	2296	2185	991	18000	8164
3070	Maxi	14	357	5 ¹ / ₄	133	5	127	179	5075	3000	1361	25000	11340

Clear-andodized cars available by special order. Add ".CLEAR" to end of part number. Cars can be ordered without shackles and pulleys. *Mini-Maxi and Maxi cars have non-captive bearings.

Maximum working loads are 4:1 coefficient ratio of the breaking load. Human suspension applications require 10:1 ratio.

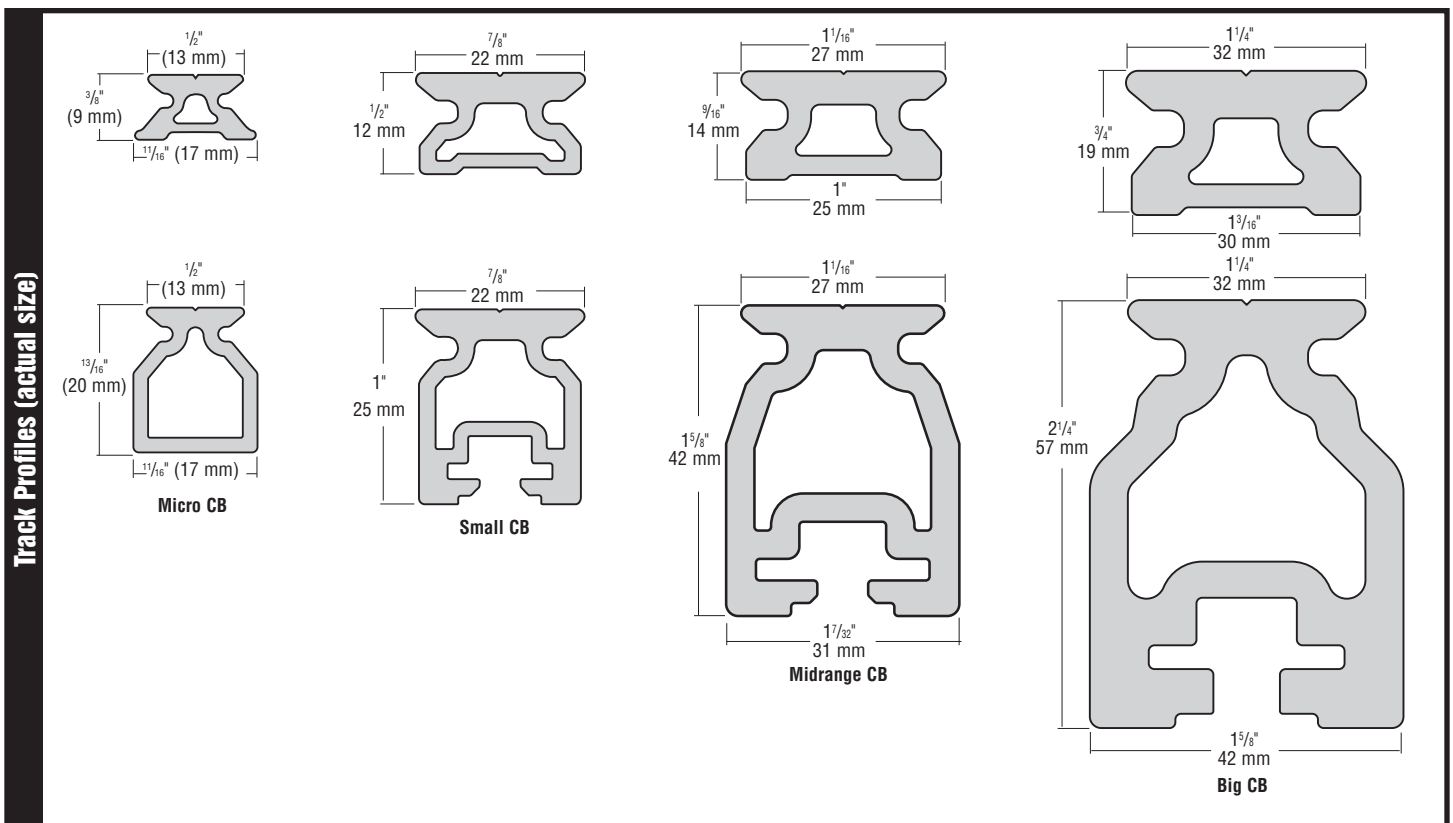
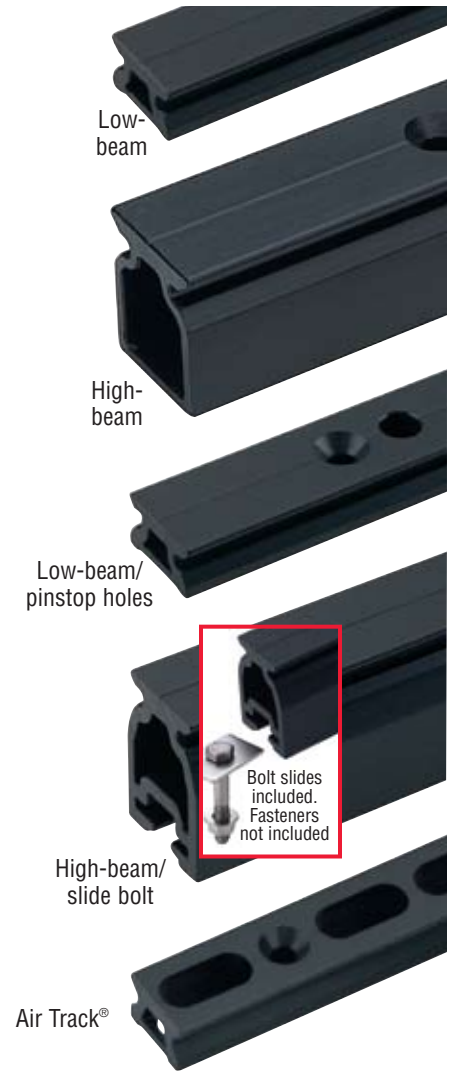
! WARNINGS AND INSTRUCTIONS. You must carefully read, understand, and follow all of the warnings and instructions in the User Manual provided by Harken in order to avoid an accident. Never, under any circumstances, exceed the maximum rated load.

Track for Carriage Systems

Part No.	Description	Length*		Hole spacing		Fasteners	
		ft/in	m	in	mm	in	mm
Micro							
2707.2m	Low-beam metric	6.56	2	1 ³¹ / ₃₂	50	#8	4 mm
2709.2m	High-beam metric	6.56	2	3 ¹⁵ / ₁₆	100	#8	4 mm
Small							
2720.3m	Low-beam metric	9'10 ¹ / ₁₆ "	3	3 ¹⁵ / ₁₆	100	10FH	5FH
2725.3.6m	High-beam metric	11'9 ³ / ₄ "	3.6	3 ¹⁵ / ₁₆	100	10FH	5FH
2721.3.6m	High-beam variable hole spacing	11'9 ³ / ₄ "	3.6	Slide bolt		—	5HH
373.6	Low-beam imperial	6	1.83	4	102	10FH	5FH
374.6	High-beam imperial	6	1.83	4	102	10FH	5FH
Midrange							
1616.3m	Low-beam metric	9'10 ¹ / ₈ "	3	3 ¹⁵ / ₁₆	100	1/4FH	6FH
1617.3m	Low-beam pinstop track	9'10 ¹ / ₈ "	3	3 ¹⁵ / ₁₆	100	1/4FH	6FH
1618.3.6m	High-beam variable hole spacing	11'9 ³ / ₄ "	3.6	Slide bolt		1/4HH	6HH
1602.6	Low-beam imperial	6	1.83	4	102	1/4FH	6FH
1643.3m	High-load pinstop track	9'10 ¹ / ₁₆ "	3	3 ¹⁵ / ₁₆	100	5/16 FH	8 FH
1643.3.6m	High-load pinstop track	11'9 ³ / ₄ "	3.6	3 ¹⁵ / ₁₆	100	5/16 FH	8 FH
1643.6m	High-load pinstop track	19'8 ¹ / ₄ "	6	3 ¹⁵ / ₁₆	100	5/16 FH	8 FH
Big							
3154.3m	Low-beam metric	9'10 ¹ / ₈ "	3	3 ¹⁵ / ₁₆	100	5/16FH	8FH
3155.3m	Low-beam pinstop track	9'10 ¹ / ₈ "	3	3 ¹⁵ / ₁₆	100	5/16FH	8FH
3162.3.6m	Air Track®	11'9 ³ / ₄ "	3.6	3 ¹⁵ / ₁₆	100	5/16FH	8FH
3156.3.6m	High-beam variable hole spacing	11'9 ³ / ₄ "	3.6	Slide bolt		5/16HH	8HH
3159.6	Low-beam imperial	6	1.83	4	102	5/16FH	8FH

Clear-anodized track available by special order. Add ".CLEAR" to end of part number.

*Additional lengths available. Contact Harken.

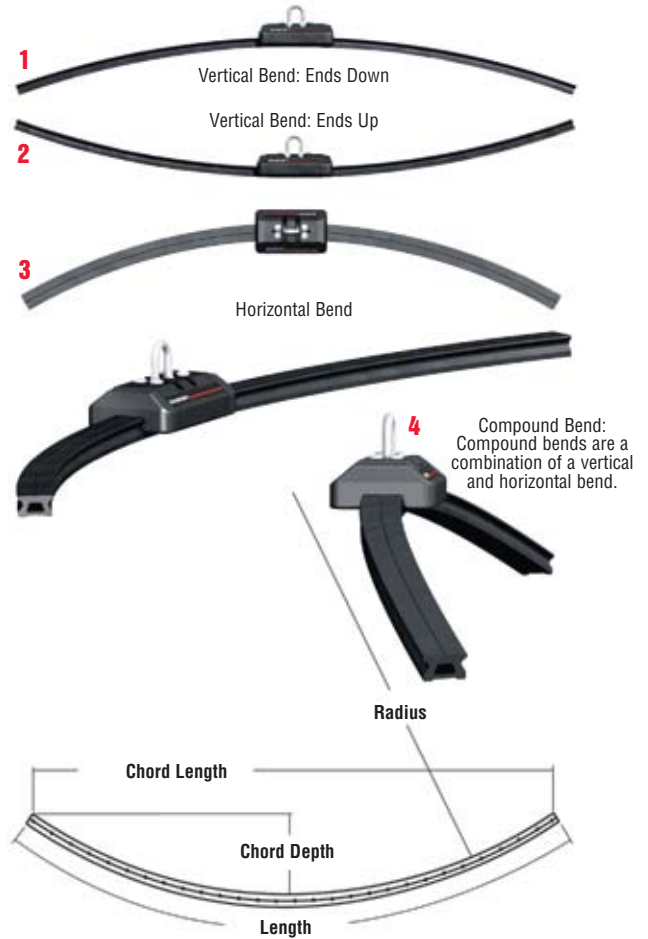


Curved Track

Track can be bent to suit various applications.

To perform smoothly and carry the correct load, the traveler car's length must suit track radius. See Track Bending chart below for the minimum radius on which each car will ride. If the load requires a long car, but the radius will be too tight, consider using two short cars joined by a coupler.

Minor bends can often be made when the track is installed. If the track requires more bend, Harken® can provide horizontal, vertical or compound curves to specification for a modest charge. If the bend is continuous, add 2 to 4 inches (50 to 100 mm) to each end because track cannot be bent to its ends. Standard Harken® Mini-Maxi and Maxi traveler cars cannot ride on vertical bends with a radius under 50 ft (15.25 m).



Track Bending

Track	Minimum Radius	
	in	m
Micro		
2707	42	1.07
2709	60	1.52
Car	Minimum Radius	
	ft	m
Small		
2726/2727/HC7986/HC8374/HC8473	3'6"	1.07
2735/HC8418	6'8"	2.03
Midrange		
1624	8	2.44
1625/HC9565	9	2.73
Big		
3163	8	2.44
3165	18	5.49
2 x 3163	8	2.44
3167	24	7.32

Track	Simple bend Part No.	Major bend Part No.	Compound bends	
			Simple Part No.	Major Part No.
373/374/2707/2709/2720/2721/2725/2751	274	275	276	286
1602/1616/1617/1643	1527	1528	1529	1581
1618	1530	1531	1532	1582
3154/3155/3159/3162	789	790	791	576
3156/1701/1706/1848	792	793	794	577
660/661	795	795	795	795

Simple Bend—Track length of 2 m (6'6 3/4") or less and chord depth less than 200 mm (8").

Major Bend—Track length of 2.1 m (6'10 1/16") or greater or chord depth of 200 mm (8") or greater.

Compound Bend—Bend in both horizontal and vertical planes.

Compound Simple Bend—Both bends are simple bends.

Compound Major Bend—One or both bends are major bends.

Ordering Information

To order curved traveler track, please specify the following information:

Track Part Number _____

Bend Part Number _____

Chord Length _____

Chord Depth: Horizontal _____ or Radius: Horizontal _____

Chord Depth: Vertical _____ or Radius: Vertical _____

Check One:

- Vertical Bend: Ends Down
- Vertical Bend: Ends Up
- Horizontal Bend: Ends Forward or Aft
- Compound Bend: Horizontal and Vertical (ends down)
- Compound Bend: Horizontal and Vertical (ends up)