

# Quick Service

## CAM CLEATS & ACCESSORIES

Cam-Matic® & Carbo-Cam®



### SERVICE AT REGULAR INTERVALS

Flush with fresh water. Periodically clean with mild detergent and water solution. Rotate cams to distribute soap solution evenly. Flush with fresh water.

#### Inspect Carefully:

- **Cam motion isn't smooth:** Cams may be dirty. Flush with fresh water.
- **Cam motion is uneven:** Make sure correct number of balls are in each row. See chart below for replacement balls.
- **Cams do not snap shut:** Springs are damaged or missing. Replace.
- **Line drops out of cam (underside mounts):** Add a second spring to each cam alongside the original.
- **Line pops out of cams:** Lead is not fair. Use risers or wedges so line enters straight into the cam.

Identify your cam		Replacement parts				Compatible parts	
Part No.	Description	Fasteners	Springs	Ball bearings	Washer/base plate	Cam w/ fairlead kit	Accessories
150	Cam-Matic®	#10 (5 mm) FH*	MS-006 150KIT includes all replacement parts: springs, ball bearings, washer, base plate	150BALLS	HSB86	327 Wire 459 X-Treme Angle	137 Eyestraps*; 201 Low-profile eyestraps*; 298 Wire fairlead; 375 X-Treme angle fairlead; 425BL/Y/G/B/R Color coded fairlead; 145 15° wedge kit; 295 28 mm flat riser; 296 15° riser 438 Cam adapter plate; 431BL/Y/G/B/R Colored cam caps**
280	Offshore Cam-Matic®	1/4" (6 mm) FH*	MS-094	MP-121 x 78	—	—	282 Eyestraps; 283 Wedge kit
491	Offshore Cam-Matic®-SS						
365	Carbo-Cam®	#10 (5 mm) FH*	MS-006	MP-119 x 46	—	326 Wire 458 X-Treme Angle	137 Eyestraps*; 201 Low-profile eyestraps*; 298 Wire fairlead; 380 X-Treme angle fairlead; 425BL/Y/G/B/R Color coded fairlead**; 145 15° wedge kit; 295 28 mm flat riser; 296 15° riser 438 Cam adapter plate; 431BL/Y/G/B/R Colored cam caps**
412	Double Cam-Matic®	#10 (5 mm) TH*	MS-006	MP-119 x 66	—	—	355 Adapter plate
468	Micro Cam-Matic®	#8 (4 mm) RH	MS-093	MP-124 x 48	—	469 Wire	281 Eyestraps*; 475 Wire fairlead; 476 X-Treme angle fairlead; 424BL/Y/G/B/R Fairlead**; 293 16 mm flat riser; 294 15° riser 297 15° wedge kit; 431BL/Y/G/B/R Colored cam caps**
471	Micro Carbo-Cam®	#8 (4 mm) RH	MS-093	MP-124 x 48	—	472 Wire 474 X-Treme Angle	281 Eyestraps*; 475 Wire fairlead; 476 X-Treme angle fairlead; 424BL/Y/G/B/R Fairlead**; 293 16 mm flat riser; 294 15° riser 297 15° wedge kit; 431BL/Y/G/B/R Colored cam caps**

\*Use RH round head screws when mounting eyestraps on cleats. TH=truss head. FH=flat head.

\*\*Caps and baseplates will not fit cleats made before 1993. Cap colors: B=Black, BL=blue

## 150 CAM REBUILD

See cam rebuild video at [www.harken.com/How-To-Videos/](http://www.harken.com/How-To-Videos/)

**Note:** Cam cleats built before 1993 have different baseplates. Cam caps and cam bases will not fit. Replace only balls, torsion springs, and washers.

### Disassembly

1. Remove cam from deck.
2. Take off red baseplate. Carefully work one end of baseplate up, then other.
3. Remove torsion springs.
4. Carefully put small bolt through fastener hole to remove red cam caps.
5. Lift cam off base, remove balls.
6. Lift off red plastic washer.
7. Remove remaining balls.

### Cleaning/Repair

1. Replace plastic parts, balls and springs as needed.
2. Wash parts using soap and hot water.

### Reassembly

**Tip:** When replacing balls use shaving cream or liquid detergent to keep balls in place on race.

1. Put 11 balls in lower race.
2. Put on red plastic washer, lip up.
3. Put 11 balls in next race.



Put on red plastic washer so lip is up.

4. Replace aluminum pawl. Make sure it seats on balls.
5. Fill cam top with 11 balls.
6. Push in red plastic cam cap.
7. Repeat steps 1-6 on other cam.
8. Turn cam over. Replace torsion springs. Hook each end of spring around posts.

**Tip:** Use two springs on each side to stiffen cam action or to act as a backup if first spring breaks.

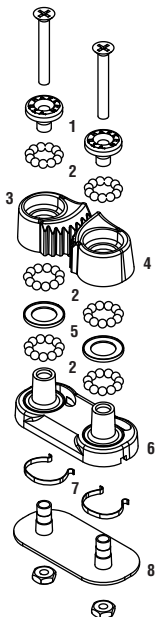
9. Push on red plastic baseplate. Plate is not symmetrical. Make sure to orient it correctly.
10. Flush shaving cream/soap away using fresh water.
11. Install cam on boat. Do not over-tighten mounting screws; pawls will bind.



Put 11 Delrin® balls in next race.



Hook each end of torsion spring around posts.



No.	Qty	Description	No.	Qty	Description
1	2	Cam Cap	5	2	Washer
2	66	Delrin® Balls	6	1	Baseplate
3	1	Pawl (R)	7	2	Torsion Spring
4	1	Pawl (L)	8	1	Cam Base

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INNOVATIVE SAILING SOLUTIONS