

HARKEN®

INSTRUCTIONS

2801 Zircon™ Cat Mainsheet System

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Description and Features

Zircon ceramic sheave mainsheet system for high-performance/foiling catamarans like the Nacra 17 and F18.

Features:

- Composite sheaves insert-molded with low friction ceramic bearings
- Hardcoat-anodized aluminum sideplates and ratchet sheave
- Easily converts into 10:1 or 11:1 configurations using supplied wrench and becket spacers
- Soft-attach upper block to attach to supplied soft-attach snap shackle, for quick attach to boom using a strop
- Infinitely adjustable cam arm angle
- Ratchet sheave for controlled and smooth release. Interchange Power3 ratchet sheaves to customize grip

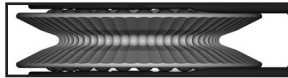


System features 40 mm sheaves with self-contained ceramic bearings.

Included components



- H-88661 Soft attach snap shackle (strop included)
- HCP1089 Hex key wrench 3 mm
- H-76629 becket spacers for converting to 11:1/12:1
- Mesh carrying case (Not shown)



Power3 ratchet sheave

The 2801 Zircon catamaran mainsheet system comes with a 57 mm Power3 ratchet sheave with 1.5x grip. Two other ratchet sheaves with varying grip options are available and can change out. See appendix.



System ships reeved with trace line for 12:1 purchase.

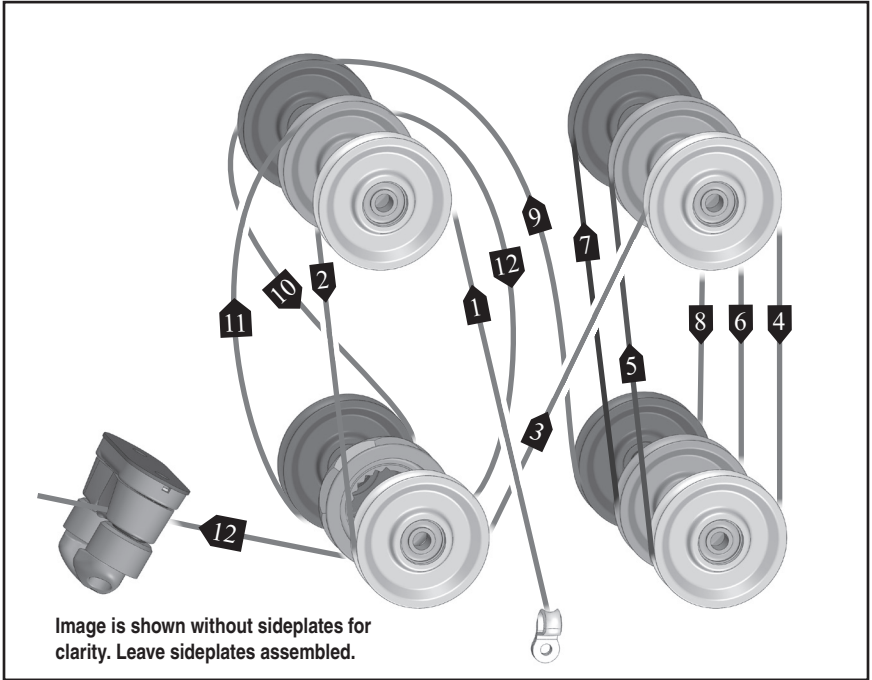
Specifications

Part No.	Sheave Ø ceramic		Sheave Ø ratchet		Weight		Max line** Ø		Maximum working load		Breaking load	
	mm	in	mm	in	g	oz	mm	in	kg	lb	kg	lb
2801	40	1 9/16	57	2.25	1039	36.6	8	5/16	545	1200	1636	3600

**Optimal line diameter is 6 mm or 7 mm (1/4" or 9/32").

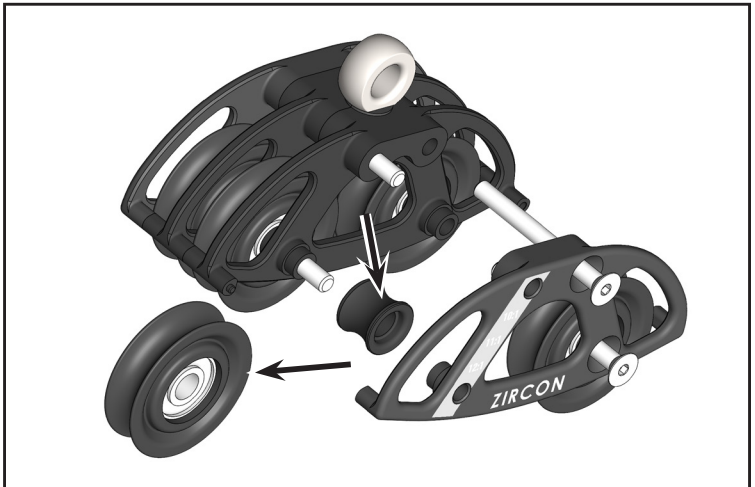
Reeving 12:1 System

The mainsheet system comes with a trace line reeved as shown below for a 12:1 purchase. Use tape to splice the trace line to the mainsheet, then pull through the system. Use the sequence below if no trace line is in place.



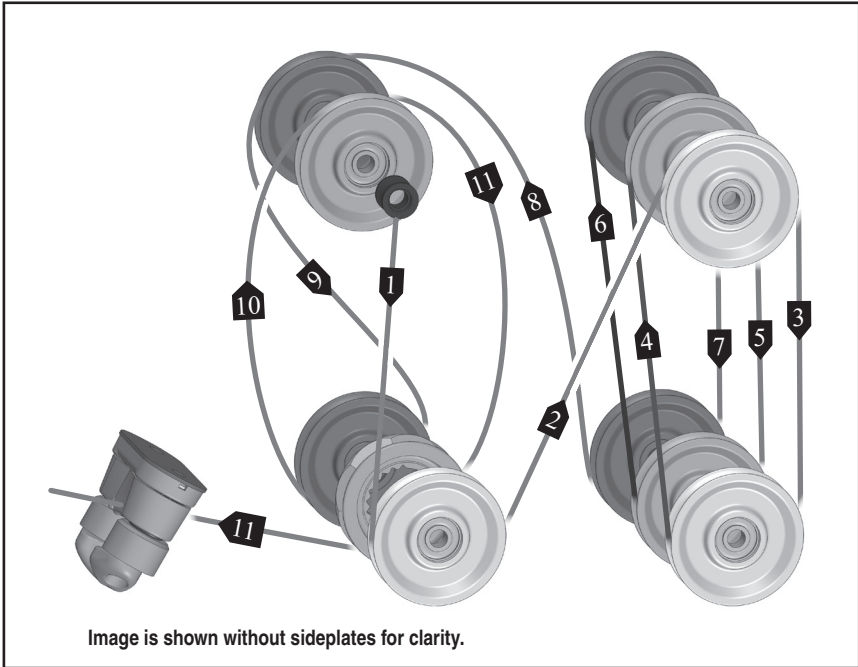
Reeving 11:1 System

To transform the system to an 11:1 purchase, use 3 mm hex key provided to completely loosen the four screws far enough to remove the sideplate and sheave as shown below. Replace the sheave with one of the supplied bucket spacers. Use Blue Loctite® on screw threads in sideplates. Use TefGel® on underside of screw heads for isolation to prevent corrosion. Remove deadend tang.



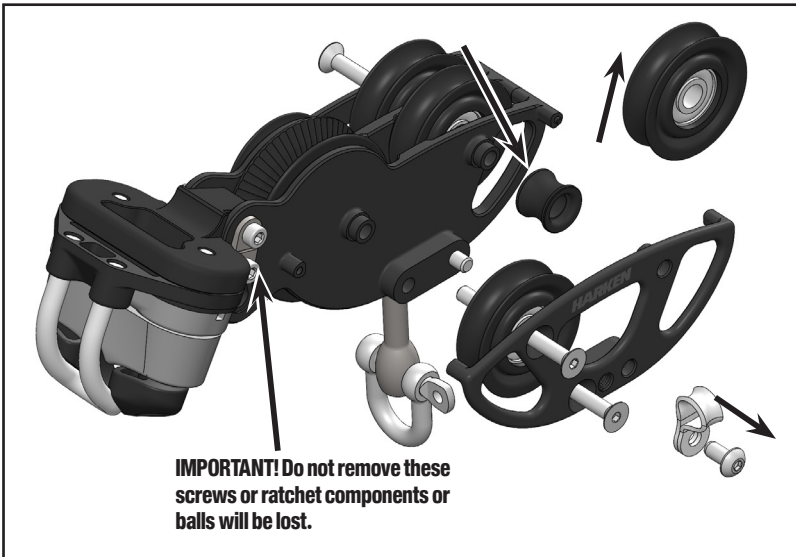
Reeving 11:1 System (continued)

The reeving for the 11:1 purchase is the same as the 12:1 with one leg of the purchase removed.



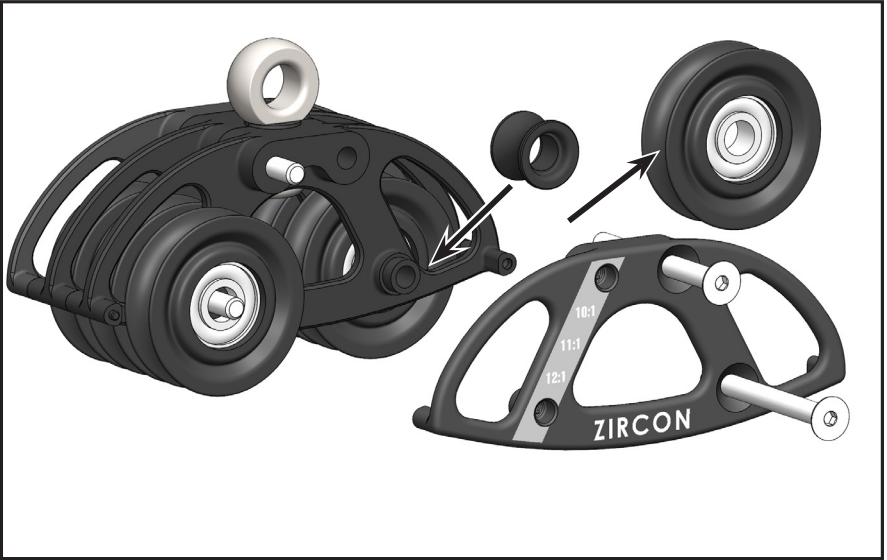
Reeving 10:1 System

To transform the system to a 10:1 purchase, use 3 mm hex key provided to completely loosen the screws and move components far enough to remove the sheave as shown below. Replace the sheave with one of the supplied bucket spacers. Use Blue Loctite® on screw threads in sideplates. Use TefGel® on underside of screw heads for isolation to prevent corrosion. Remove deadend tang.

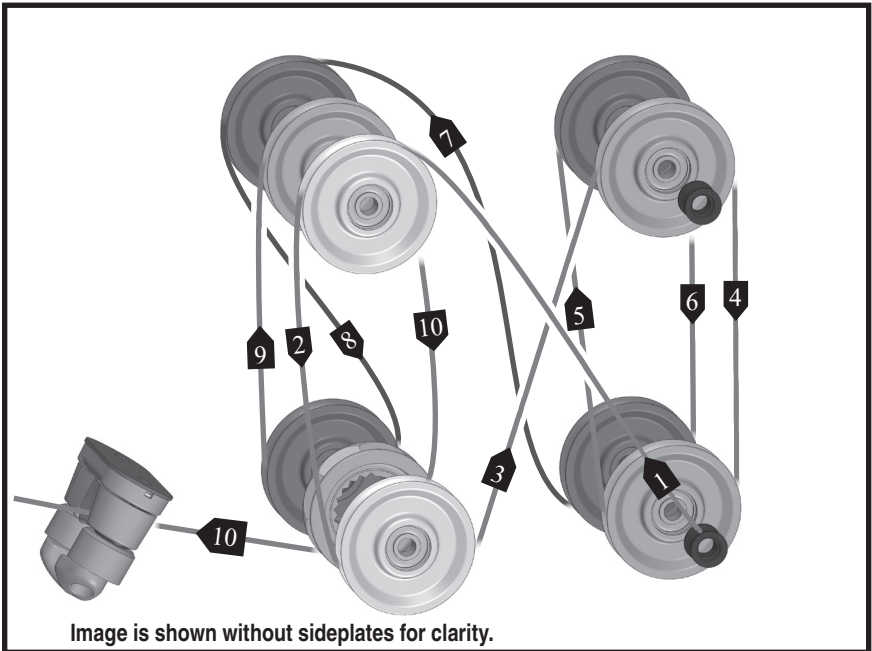


Reeving 10:1 System (continued)

The upper-block sheave indicated in the diagram below is not used in the 10:1. Remove it to lighten system. Use 3 mm hex key provided to completely loosen the screw far enough to remove the sideplate and sheave as shown below. Replace the sheave with one of the supplied buckets. Use Blue Loctite® on screw threads in sideplates. Use TefGel® on underside of screw heads for isolation to prevent corrosion.

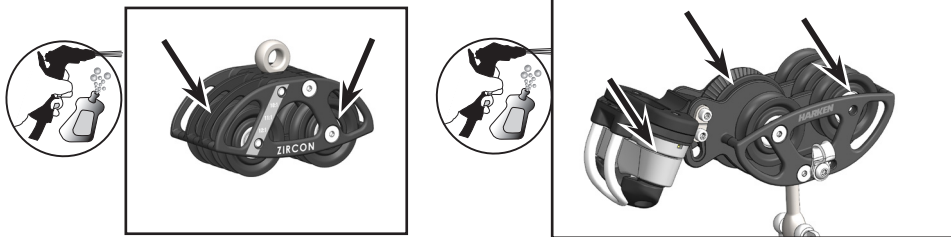


Reeving for the 10:1 purchase uses the deadend on the lower block assembly.



Short-Term Maintenance

Clean block and attachments frequently with detergent and fresh water applied into sheave and sideplate areas as well as cam cleat pawls. Rotate sheaves and cam pawls to distribute. Flush with fresh water while rotating parts.

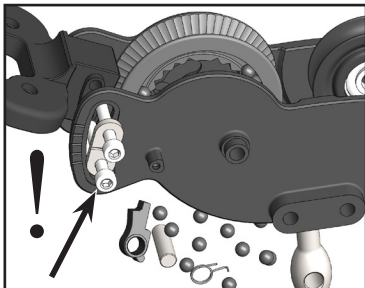


Long-Term Maintenance

Partially disassemble lower block, carefully following exploded view below. **IMPORTANT! Do not disassemble or loosen the cam adjustment screws unless necessary. Balls, pawl, springs etc. will fall out. These screws can hold the two center sideplates and ratchet sheave assembly captive as you remove the screws holding the outer assemblies for cleaning.** For basic long-term maintenance, clean ratchet and aft sheave with the sheaves in place. Clean with detergent and fresh water. Rotate sheaves and cam pawls to distribute. Flush with fresh water while rotating parts. Once components are dry, assemble using Blue Loctite® on threads in sideplates and cam screws. Use TefGel® on underside of sideplate screw heads for isolation to prevent corrosion.

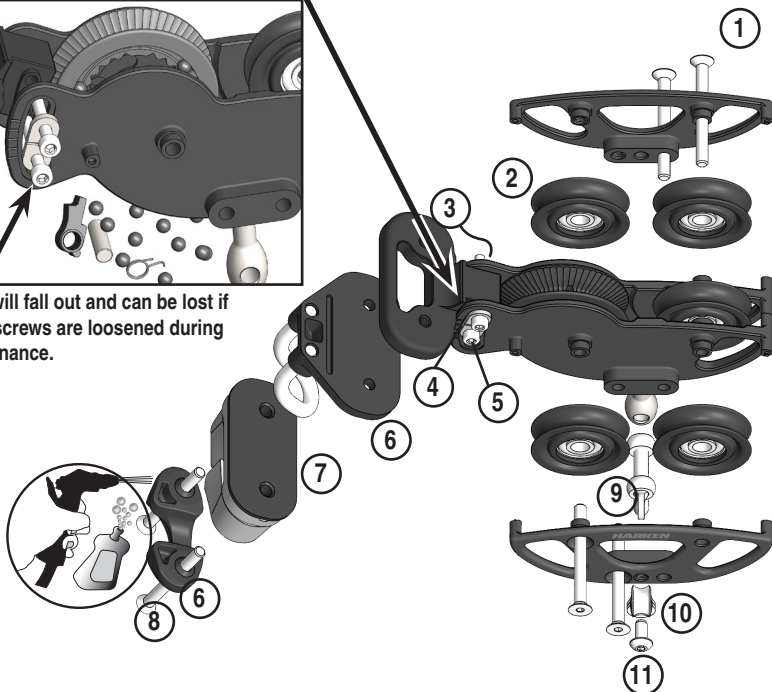
For more thorough cleaning, inspection, or ratchet sheave change see appendix.

IMPORTANT! Make sure these screws are secured during disassembly.

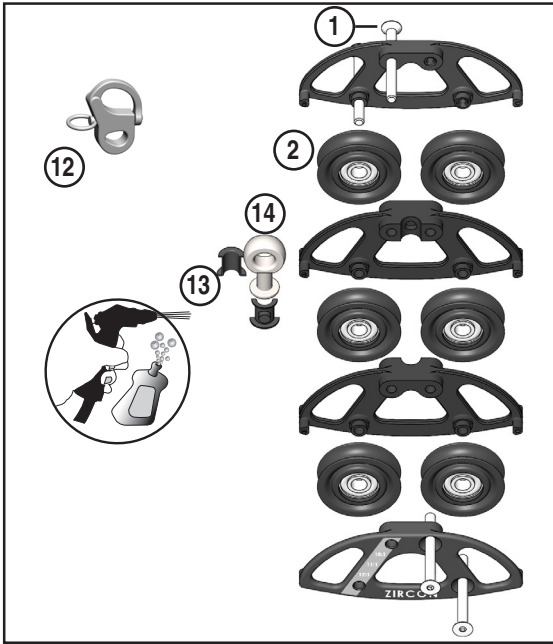


Parts will fall out and can be lost if these screws are loosened during maintenance.

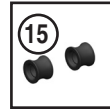
Numbers refer to reorder parts. See next page for part numbers.



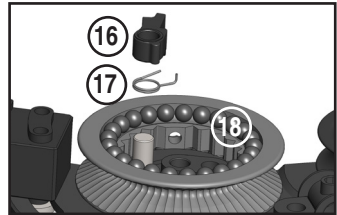
Long-Term Maintenance (continued)



Disassemble upper block. Flush with detergent and fresh water. When dry, use Blue Loctite® on threads in sideplates. Use TefGel® on underside of sideplate screw heads for isolation to prevent corrosion.



Lower block ratchet assembly - replaceable parts. See appendix



Replacement parts - upper and lower assemblies

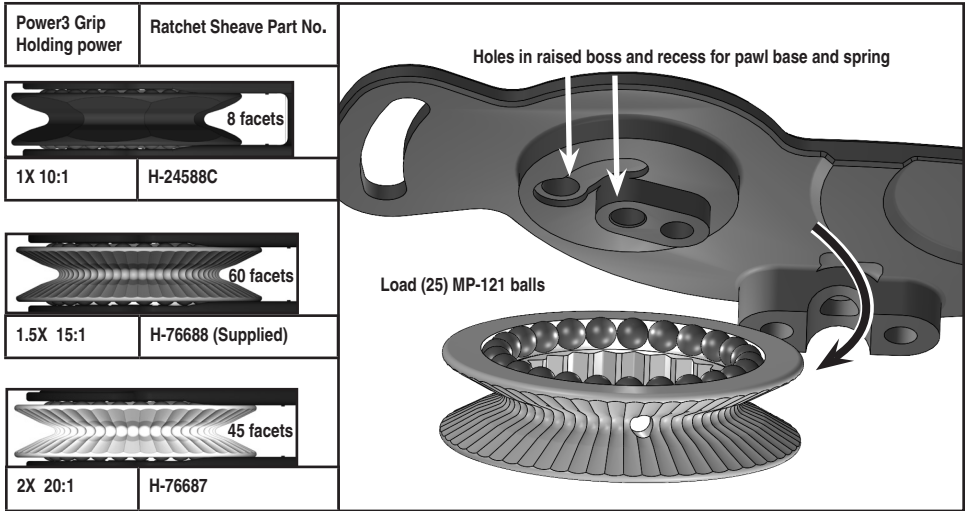
Ref	Part	Description	Quantity
1	HFS1394	Sideplate screws M5X50MM FHCS	8
2	H-77828	40 mm sheave with ceramic bearings	11
3	H-85417	Adjuster arm clamp plate tapped	1
4	H-85416	Adjuster arm clamp plate	1
5	HFS1396	Cam arm adjuster screws M4X30MM SHCS	2
6	494	Fast release fairlead	1
7	150	Cam cleat	1
8	HFS1029	Cam cleat screws M5X50MM FH (Phillips)	2
9	2108	D Shackle - 6 mm screwpin	1
10	H-77105	Deadend tang	1
11	HFS1166	Deadend tang screw M5X10MM BHCS	1
12	H-88661	Snap-shackle assembly	1
13	MP-3030	Headpost collar	2
14	H-85419	Headpost	1
15	H-76629	Becket spacer for deadend (replaces sheave in 10:1, 11:1)	2
16	H-58556	Pawl for 57 mm Carbo® ratchet	1
17	H-58557	Spring for 57 mm Carbo ratchet	1
18	MP-121	Ball bearing 3/16" black Delrin®	50

Appendix - Inspection, Cleaning or Installing Ratchet Assembly

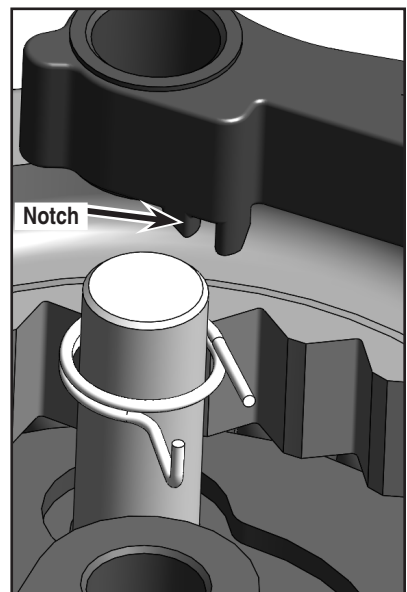
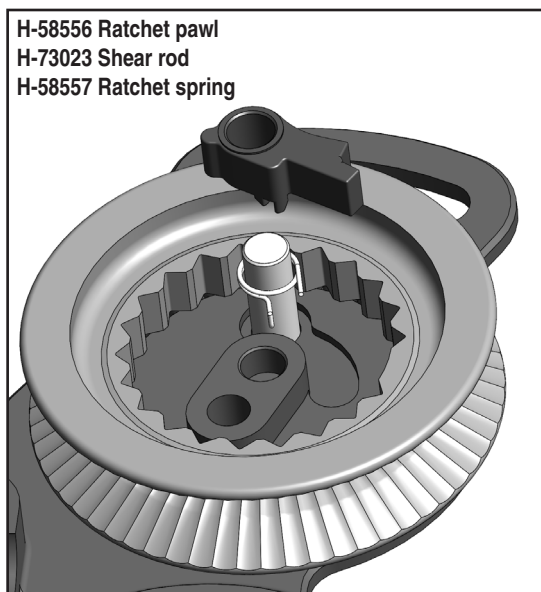
IMPORTANT! If you plan to disassemble and assemble the center parts make sure you have a catch tray and have time for intricate assembly. Note: Ratchet sheaves can interchange.

Tools	Small flat-bladed screwdriver	Small wood block spacers
Tweezers	Electrical tape	3 mm hex key (included)

1. Load 25 balls in ratchet sheave. Note: Sheave can be either side up; ratchet teeth are symmetric.
2. Identify the sideplate with two holes in the raised boss and with recess for the pawl base. Lower the plate onto the sheave.

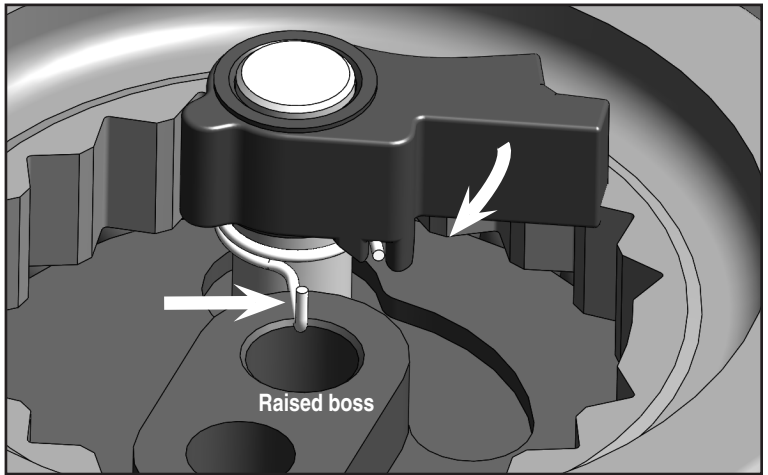


3. Carefully flip the assembly taking care to retain the balls. Load the pawl post and set the spring on the raised boss as shown below. Note notch in pawl shown by arrow and lower onto straight leg of post.

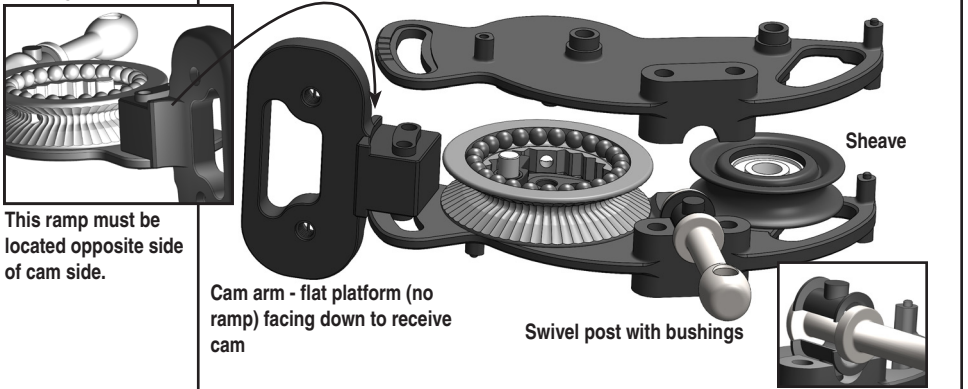


Appendix - Installing Ratchet Assembly (continued)

4. Start to lower the pawl and pick up the straight leg of the spring in the notch. Use your finger to gently press down on the pawl toward the teeth. At the same time, use a small flat-bladed screwdriver to push the bent leg of the spring over the raised boss. While the post is straight up, lower the pawl and spring into place.



5. Load 25 MP-121 balls. Load cam arm so that cleat platform of the cam arm is down. **Tip:** Support plate with 5/8" (16 mm) thick wood block so cam arm can rest. Load sheave either side up. Load headpost with bushings.



6. Gently place the other plate on the assembly. Carefully tape sideplates together to secure assembly so you can assemble cam-arm screws and plates. Follow earlier general assembly sequence to finish.

