



Wichard 55
84701



Seldén 60
406-301-01

Ratchet Block C



Harken 57
21235



Harken 57
2625

Versatile Ronstan block features

With an apology to dogs, blocks are a sailor's best friend. Like dogs, they come in many breeds. From the traditional to the younger innovations, the ratchet block.

As you might expect, Practical Sailor routinely takes a spin through the world of blocks (and sheaves) in terms of design and improvements. Our most recent features on this topic have been on the evolution of the ratchet block. Since blocks do the heavy lifting on board, it is not surprising that over the years, old bearings and sheaves (destroyed by UV rays), aluminum bodies (pulverized by galvanized corrosion) are common failure points. For a broad look at the evolution of block design, go to the archive article "Block Efficiency," first published on June 1, 2002.

All of this brings us to the ratchet block, which, as mentioned, is one of the more recent innovations. Inside the block, attached to the sheave, is a toothed wheel and a pawl that engages the wheel. When the line is pulled, the clicking sound you hear is the pawl riding over a tooth and falling into the next one. When the line is pulled in the opposite direction, the pawl is engaged in a tooth and the line cannot be pulled (without power). The walls and facets of the sheave grip the line. A gust hits. The spinnaker sheet cannot be pulled in the reverse direction because the internal pawl is engaged in a tooth.

This means you don't have to exert as much energy trying to keep the sheet from moving. Under a heavy enough load, the sheet will slip through the sheave, but not nearly as easily as if the block were a standard block.

Holding Power, Friction, User-friendliness

Ratchet blocks need to have several sterling attributes: good holding power to take the strain off your hand and arm; low friction so that energy isn't wasted and lines run out freely and quickly when released; easy operation; and quality materials and workmanship. We examined each block according to these criteria; the results of our holding power and friction tests are listed in the table on page 14.

To test holding power, we suspended each block from a strong point overhead in our shop and then reeved a length of New England Ropes Sta-Set of the specified diameter through the sheave. To one end, a 5- or 10-pound weight was attached (for 3/8-inch and 1/2-inch line, respectively). These weights represented the pull on the line, enough so that the line seated well into the sheave. To the other end of the line, we tied a large bucket that we could fill with weights until the line slipped in the sheave. The results appear in the table. Two of the blocks—the Wichard and Holt Allen—state that maximum line size is 12 millimeters (15/32 inches), so we tested them with both the 3/8- and 1/2-inch line. The numbers for the 3/8-inch line were better and comparable to the others in the test, so we used those.

Each block was tested twice, and numbers did

not vary by more than 10 percent, giving us confidence in the results.

Friction was tested in a similar fashion. A competition in which two blocks were tested at once and model were used. Two metal plates, one at each end of the line, were shaded to represent the plates, one at each end of the line. One metal plate was attached to the line, and the opposing plate was attached to the other end. In turn, each block was tested with the turnbuckle weight. The results of the blocks would not vary by more than 10 percent. The blocks were then paired with the other blocks for a final round of elimination, with the best block winning. The results of the tests are listed in the table.

We're not certain that the results of the friction are all that useful to report, but it's a good idea to know the performance, but it's not useful to report.

Note that only the blocks were tested for friction. The results of the friction cannot be prevented, but it's a good idea to know the performance, but it's not useful to report.

The holding power was tested twice for each block.

APPLICATIONS

The most common uses for ratchet blocks are on smaller racing boats, where you're belaying it to a cleat, or even, under the conditions, securing it in a cam cleat. You're not using the block, your arm, wrist, and fingers will thank you for the assistance.

As we reported in the May 1, 2005 review of Harken's Carbo Ratchet blocks, there are many applications. For example, when releasing the control line on a headsail furler, it has a tendency to result in overrides that must be cleared before taking the sail in. Letting the control line run tighter, more uniform wrap on the drum. Other applications include traveler control.

On any line that you're trimming by hand rather than with a winch, the ratchet block

DIFFERENT TYPES




We ordered ratchet blocks from five different manufacturers: Swedish sparmaker S. Wichard, Australia's Ronstan, and Wisconsin-based Harken Yacht Equipment.

We noted two distinct operating mechanisms among the class.

- The first and simplest is an on/off switch on the cheek. Flip the switch on, and the block will hold. Flip the switch to "off." We found differences in the ease of operating the switch.
- Auto sensing flips the switch for you. When the load on the sheave increases, the block will hold. When the load is relieved below the set point, the sheave is allowed to freewheel. You can adjust the set point with an Allen wrench inserted into the guts of the block and turning it one way or the other.
- Only one block, Ronstan's RF 56101, has both an on/off switch and auto sensing.

It would make testing easier if each of the five manufacturers made blocks in the same size. The diameter from 45 millimeters to 70 millimeters, which makes comparative friction tests more difficult. Larger blocks inherently have more friction than smaller blocks.



PS	VALUE GUIDE	RATCHET BLOCKS		
MAKE	HARKEN 	HARKEN	HOLT ALLEN 	RONSTAN
MODEL TESTED	57	57	57	55
PART NO.	2135	2625	HT92074	RF56101
SWL	500 lbs.	500 lbs.	528 lbs.	550 lbs.
MWL	2000 lbs.	2000 lbs.	1100 lbs.	1650 lbs.
WEIGHT	3 oz.	3.7 oz.	3.8 oz.	2.8 oz.
MAX LINE	10 mm	10 mm	12 mm	10 mm
BALL BEARINGS	Acetal plastic	Acetal plastic	Acetal plastic	Acetal plastic
TYPE	On/Off	Auto	On/Off	On/Off +
HOLDING POWER	27 lbs.	27 lbs.	36 lbs.	82 lbs.
FRICTION RANK	3 (tie)	N/A	3 (tie)	2
PRICE/WARRANTY	\$52 / 3 yrs.	\$60 / 3 yrs.	\$32 / 3 yrs.	\$50 / 3 yrs.
SOURCE	West Marine	Intensitysails.	apsltd.com	West Marine
★ Best Choice \$ Budget Buy  Recommended N/A = not tested because it is an autoratchet. *See manufacturer's website for details				

Harken, Ronstan, and Seldén make just a few sizes; besides the small-diameter blocks, 55 millimeter, respectively. Line diameter is critical to holding power, so different diameter loads also vary accordingly.

In any case, we focused on the midsizes: 55 millimeter, 57 millimeter, and the slightly larger 60 millimeter.

HARKEN

The Harken website is one of the best in the business, and its section on ratchet blocks emphasizes the importance of correct line diameter, and how aggressive sheave designs may hold more line.

Sheaves on the two ratchet blocks we tested are anodized aluminum. The ball bearings are described as “long-glass reinforced engineered nylon.” Shackles are stainless steel and are fixed.

Both Harken blocks—the Carbo Ratchet and Carbo Ratchamatic—ranked lowest in our tests. Harken blocks meet what they believe is the right trade-off between grip and trimming feel. Harken also says its blocks are designed to minimize wear on a wider range of line diameters.

Bottom line: You can’t go wrong buying Harken gear, and its Carbo Ratchamatics are a good option.

HOLT ALLEN

Holt Allen is a British company that, at least in our perception, over the years has made a name for itself (along with Antal, Ronstan, Seldén). But its Performance line now has many of the features found in the other top brands (Dupont’s trademark homopolymer acetal plastic) and stainless-steel ball bearings. It also has glass-filled nylon cheeks. Listed at 57 millimeters when we began this evaluation, it’s now 60 millimeters, said to protect the deck.



From B

While holding power and ease of use are equally important in this comparison, the block that wins in the field also has some nice details like sharp edges, switches, and so on.

1. Using a hex key, adjust the sheave and the Allen block.

2. Both the Wichard and the Ronstan have rugged stainless steel fittings. The Wichard's holding load is far greater than the other blocks tested.

Where most blocks are entirely riveted together, the Holt sheave can be removed, a big deal, but we have a natural tendency to like taking things apart and putting them back together. The Holt's holding power was comparable with the more expensive Seldén and Wichard. Holt Performance hardware is available from Annapolis Performance Sailing (www.annapolisperformance.com).
Bottom line: At least in the U.S., other brands are easier to lay your hands on. Its



Ronstan
An American-made and made in the U.S. RF56

The seldén fiber. stabil

In the twice the strength of the other loads sheave close

The F

...the
ratchet blocks in this size. Clearly a lot of thought has gone into the block. It has great grip and is the most versatile of the

Seldén

Seldén is perhaps best known in this country for its mainsail and headsail furling systems. It also makes a line of blocks. For now, you may have to download the 6MB Deck Hardware

We checked out the 45- millimeter and 60-millimeter ratchet blocks, which have Deck Hardware cheeks.

The 45-millimeter block is automatic, adjustable by means of a set screw and Allen key.

center to alternate between ratchet and freeturning modes.

The switch isn't that easy to turn—especially with gloves—but it won't accidentally flip. The Harken was the only one that passed the test and rated No. 1 in the friction test.

Bottom line: We were pleasantly surprised to learn that the 60-millimeter's price, at \$120, was a good deal. That makes this smooth block a good deal.



Wichard

Wichard's snap hook line of products is a good example of a high-quality, safe, and reliable product.

Wichard's aluminum line of products is a good example of a high-quality, safe, and reliable product.

When it comes to large, heavy-duty pulleys, the safe and reliable other brands are a good example of a high-quality, safe, and reliable product.

In the end, the Harken and Holt Allen also turned out to be a good example of a high-quality, safe, and reliable product.

Bottom line: bearing in mind the price, the Harken 60mm pulley is a good deal.

CONCLUSION

We found no real flops in this test field in terms of quality, but there was a wide variety of products to choose from.

Overall, the Ronstan was the most impressive with its smooth operation and high-quality construction.

Each of the others has its niche: the Harken's slippery sheave for light-load tweaking, the serviceable Holt Allen offers good value. We plan to put many of these blocks in our test field.

