Tor Johnson

ATLANTIC GEAR TEST

PART 1: MECHANICS AND MACHINERY

If you're thinking about equipping your yacht for long-distance cruising, our unique annual Atlantic Gear Test, the largest independent test of marine gear in the world, is invaluable. In the first of a two-part special feature, Toby Hodges reveals the results of a survey of 220 boats in last year's ARC

Yachts in the 2010 ARC 233

220 Skippers replied to our survey

Different nationalities 26

660,000 Total number of nautical miles sailed by our survey boats

Two hundred and thirty three yachts from 26 different countries set off on the 25th Atlantic Rally for Cruisers (ARC) last November. Not only was this an impressive gathering in Las Palmas for the start, it also furnished *Yachting World* with over 220 completed ARC Survey forms to create our annual Atlantic Gear Test, the world's largest independent test of marine gear.

A collective total of over 660,000 nautical miles of ocean sailing by these boats and their crews put equipment through the most comprehensive of roadtests, and feedback from previous Gear Tests shows how valuable this resource is to owners equipping their boats for an ocean crossing or any long passage in the future.

So this year we are reporting even more fully on the results and dividing the feature into two parts. This month we examine equipment that falls under the heading 'Mechanics and Machinery', from autopilots to watermakers, before going on to look at 'Electronics and Sails' next month.

How the Gear Test works

Every ARC entrant is given a six-page survey to complete and hand in at the finish in St Lucia. We ask them about equipment currently on the market and to rate it 0–5 ('Useless' to 'Superb') for three different categories: Reliability, Ease of Use, and Value for Money.

Skippers and crews are also asked to add comments on the performance of each item, which helps us ascertain why certain products excelled and others failed to live up to expectations.

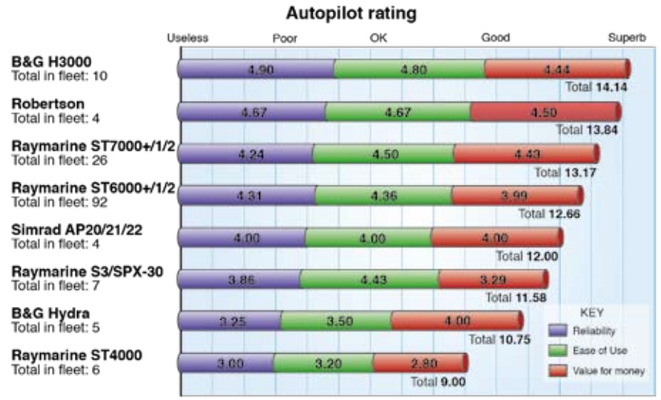
In order to ensure that the results are statistically viable, we can only include products that have been carried by at least four boats on the Atlantic rally.

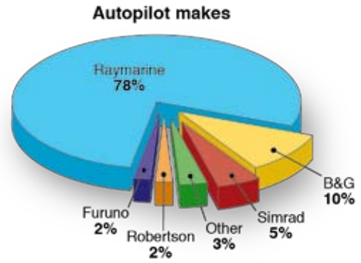
PART 2 NEXT MONTH

Electronics and Sails

This feature includes navigation, data communications, downwind sails and, crucially, those items our respondents found most useful on board. See the June issue

Autopilots





182 the number of autopilots used, of which 78 per cent were made by Raymarine

Consistently rated as one of the most valuable (and most common) items of gear on board, the autopilot gets to steer the majority of yachts across the Atlantic Ocean for most of their crossing. Ratings and comments for each make and model are thus taken very seriously and it's no surprise autopilots are generally regarded as 'an extra crewmember'.

Raymarine may consistently devour by far the biggest slice of the customer pie, but it was B&G that topped the ratings, their H3000 model receiving the highest scores in the whole survey.

Kaj Liljebladh on *Amelit* was quick to sing its praises on his Amel 54 after "steering a whole day with the Parasailor flying without any adjustments needed except once for a wind change", while the crew of Swan 66 *Lionessa* agreed, describing theirs as "excellent" after they "had no problem in the three years that the system has been installed."

Challenger 2 (one of two Challenge 72s) didn't use theirs during the crossing, but skipper Paul Prentice justified the high marks he gave his H3000 by advising: "Having used many pilots, it's the only one I would trust running in 40 knots without gybing." And proving it's not just a big boat product, Mike de Figueiredo agreed the H3000 was "excellent throughout, especially downwind" on his Dufour 45.

In terms of numbers carried, Raymarine dominated the autopilot field with 143 users, 92 of whom carried the ST6000 series and 26 the ST7000 models (which also rated slightly better). The Bevans

B&G H3000

B&G H3000 is a complete system pack that includes instruments and sensors as well as an autopilot

aboard their Amel *Caduceus* described how their ST7000 "steered the whole trip, far better than a human – essential for doubled-handed." John Craven on *Seaduced* was certainly happy, describing his as "excellent, very reliable and handled all conditions – very satisfied." Meanwhile, Oyster 56 *Sulana* said theirs "was simply superb and worked faultlessly throughout." Interestingly, this carries a linear drive, whereas fellow Oyster 56 *Shaya Moya* used a ST6000 with a hydraulic drive, yet both were equally happy, showering them with top marks.

But the skipper of a Malo 42 cautioned that, although theirs worked very well, it "needs a stronger clutch mechanism" after their drive unit clutch went, and a Privilege 495 owner said theirs was "sketchy" after "replacing everything, especially useless linear drive for hydraulics after two transats". Problems with Raymarine units tended to be with the drive unit – an issue Martin Dixon-Tyrer didn't find unreasonable, however, after ten years' use on his Moody 376.

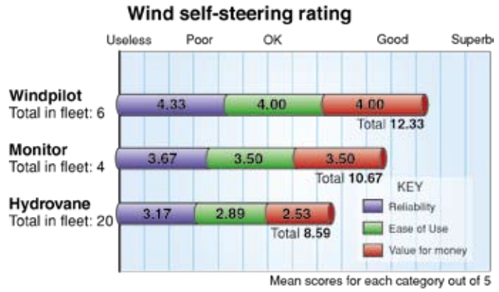
Four users had the traditional bugbears associated with the popular ST6000 ranges, which have them randomly dropping out to standby mode. But the Croatians aboard the Bénéteau 57 *Dora* found theirs to be "just a perfect crewmember", backed up with a fair few "excellent/faultless" comments, and the Summers had no problems aboard their Oceanis 473: "100 per cent reliable, plus it was checked out in Las Palmas by two very efficient Raymarine engineers."

Robertson were the manufacturers that actually came second in terms of scores, but as there were only four examples, all different models and no one left any feedback, we can't extrapolate any meaningful results for these.

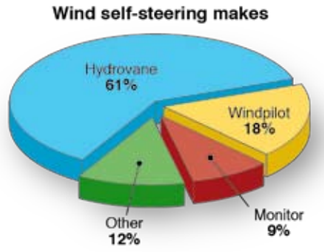
Simrad fared pretty averagely, two users experiencing problems with their control units – and although the tireless Swan 51 *Northern Child* had to change their hydraulic ram, skipper Christian Reynolds did note how it had worked perfectly for the previous seven years.

"Consistently rated as one of the most valuable items on board, it's no surprise autopilots are regarded as 'an extra crewmember'

Wind self-steering



32 the number of yachts on the ARC that used windvanes, from six different manufacturers



Wind self-steering mechanisms have long been the weapon of choice for the traditional long-distance cruiser and, despite today's voltage reliance, they remain a smart choice for any ocean voyage. Hydrovanes are the most widely used, but although carried by the most ARC participants, they failed to make many friends, barring the Phypers aboard their Bowman *Stella* who said they "would not cross without it".

Most failed to get the hang of the auxiliary rudder system, couldn't get it to steer a straight course, or had problems following servicing. An Amel crew rubbished theirs after they couldn't get it to steer downwind (but crucially admitted it might have been an installation problem after they removed the paddle).

Two Jeanneau Sun Odyssey owners rated their Hydrovane's performance poorly, but a Malo owner's comments were more practical: "Worked very well, but did not like the wind on the beam or light airs. Recommend that supplied with a stronger bracket." A Jeanneau Sun Legend owner had his incorrect mounting checked in Las Palmas, yet the vane still didn't work properly and a Moody owner blamed the poor performance on the installation job of a local agent in the Canaries.

One Oyster owner described his Hydrovane as "hopeless compared to a good servo pendulum unit, as it's not powerful enough", while the crew of a Sadler 34 reckoned "performance was poor on a run, with poor instructions for fine tuning, and very difficult to remove rudder, but excellent on a reach and in heavy conditions". Three different users mentioned the requirement of a good breeze (15 knots apparent at least according to a Moody owner).

Windpilot

Performance comments on the six Windpilots were pretty scarce, but their scores were noticeably higher than the Hydrovanes – with both a French and a Norwegian skipper giving these servo types top marks. Monitor, meanwhile, fell between the two, and were used by boats up to 63ft (the 20 Hydrovane users were all in the 32ft-45ft bracket).

This is a tried and tested means of self-steering without needing electricity, but they can be complex and tricky to master, especially if you struggle to maintain sail balance, and ARC participants consistently have problems with them. Mounting, testing and thoroughly understanding them before setting off from the Canaries should be as crucial as any other equipment on board. Let's hope the modern trend for ever larger sugar scoops and tender garages doesn't force the humble vane into extinction.

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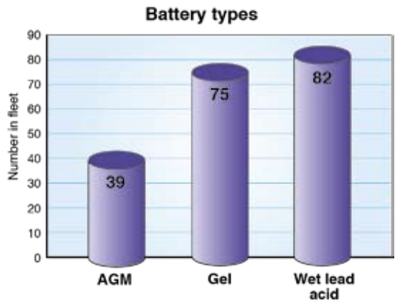
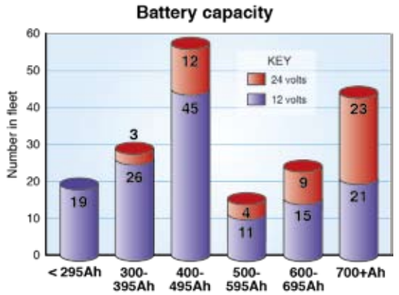
Power generation

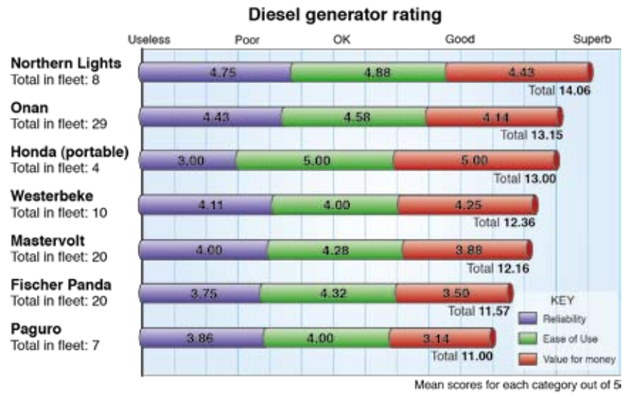
Onboard power is the lifeblood of today's gadget-happy cruising fraternity. But it still raised our eyebrows to see that 44 boats were carrying over 700ah worth of batteries – and these were largely in the 45-55ft range.

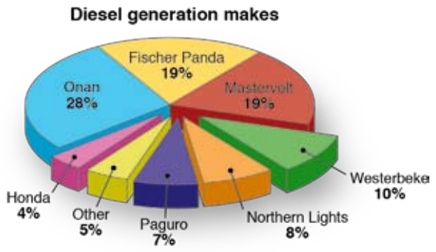
As you can see from the graphs, the majority of boats carried between 300 and 500ah of 12V batteries (mainly wet acid or gel types). Some 99 boats yachts used their engines to charge their battery banks, averaging around two to three hours out of 24 – although a French 50-footer marked an astonishing 20 hours' engine use a day.





Diesel generation





4 the average number of hours diesel generators were used by those carrying them during a 24-hour period

With over 100 boats carrying generators, it is clear diesel remains the primary means of generation aboard (ranking 3rd on participants' Top 5 Most Useful Gear list – see next month for more on this). Average use was 3.5–4 hours per day.

For the third year running **Northern Lights** came out as the most highly rated performer, with **Onan** models 2nd. Generally a choice for the larger boats (50-80ft), **Northern Lights** were used by eight boats this year, scoring a commendable 4.67 out of 5, with near-perfect feedback, including "faultless", "very reliable" and "with more than 2,500 hours on, it's still quiet, on the button and hassle-free" from one of the Challenge 72s.

Onan's Quiet Diesel range had 27 users and was once again rated highly. Bénéteau 57 skipper Marin Bosotina simply said: "Buy Onan!" The Bevans reported that, although theirs worked without fault on their Amel 54, at 11kVa "the main problem was providing adequate load (watermaker and aircon to cool the fruit and veg)."

But three Onan e-QD users had problems with their impellers – one on an Oyster 54 broke after 90 hours of use, and a Wauquiez found theirs "way too small and hard to fit". The 56ft Taswell *Alexes*, meanwhile, found that the brushes on their five-year-old Onan "need cleaning and replacing often".

Mastervolt's Whisper Range came in the middle of the pack, but wasn't backed up by any particular expressions of praise – indeed, a Malo owner found their support very poor, which comes as a surprise to me as I was impressed by their customer support base in Holland.

The **PMS8000NE** is **Fischer Panda**'s most popular model for the ARC, with 13 users, and although pretty average, the feedback for these proved better than for their other models. Problems were largely put down to installation, as highlighted by a Swan 51 owner who had many problems after a Fischer Panda AGT was installed incorrectly: "Since May 2010 when the genset was reinstalled (third time) it has worked faultlessly. In my view, after much experience, installation is the key."

It's interesting that fewer people had had professional installations (85) than hadn't (113) yet this didn't seem to have any effect on on performance.

Northern Lights

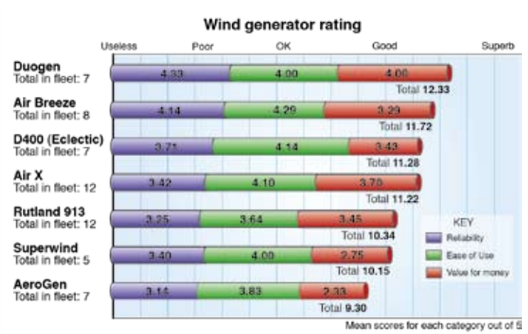
Wind generation

It was the usual story for wind generators, most carriers finding them ineffective in the downwind conditions of an Atlantic crossing and requiring at least 15 knots apparent wind to gain useful power. **DuoGen** users were the most satisfied with theirs, and while this may not be supported by any comments, this is likely to be because of the DuoGen's secondary role as a towed generator, for which purpose it has consistently been highly regarded by ARC sailors.

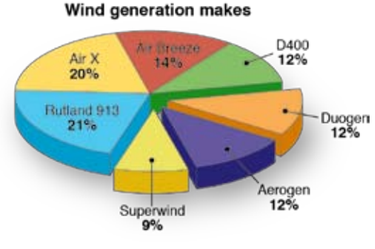
Sadler 34 *Summer Song* said of last year's poll-topper **Air X**: "Our most prolific power generator, quiet and efficient in over ten knots of wind", which was backed up by the Fortescues who described it as "excellent kit" for their Amel 54, adding that at sea it made a difference in 20 knots of wind and at anchor in ten knots. Yet a Jeanneau Sun Legend owner bemoaned Air X's "non-existent back-up service".

An Oyster crew were keen to highlight a similar lack of after-sales support from **Rutland** (as one of 12 users of the 913), having been supplied with a "poorly engineered mounting pole" and the unit "burning out due to a manufacturing fault" – although the skipper admits the problems were resolved satisfactorily. All comments on **Aerogen** types were unfortunately negative.

Once crews have been lazing in a Caribbean anchorage for a couple of weeks with trade breezes spinning those turbines all day, however, such comments will quickly be turned on their head.



DuoGen



65 yachts used wind-powered generators. This was consistent with the year before

Towed and solar power

Finding a reliable, non-oil-based means of power generation is an ongoing quest. According to the survey, there was not a single boat using a fuel cell, which suggests that method won't yet be the saviour.

Out of the 19 yachts carrying towed generators, seven were using **DuoGen**, always popular in the ARC.

Comments were all very positive, including Alison Brunstrom on her Hallberg-Rassy 53 *Vulcan Spirit* who praised her generator "particulary at higher speeds (5-7 kts)," and fellow Rassy 38 *Coba Libre*, who reported "when sailing over six knots it provided enough power to run the whole boat".

The five that carried **Ampair** were also complimentary, but out of the three using **Aquagen**, the crew of a Broadblue 385 cat found solar panels to be a wiser choice after they lost their towed prop. Moody 376 *Otra Vida* made a more useful comparison, though, saying that their Ampair "delivered 140ah/day" and 355W of solar panels gave them 80ah/day, a combination that left her crew "impressed and happy".

For anyone thinking about solar panels, *Sestina*'s Michael Wilczynski advises having "some of the panels movable for alignment to the sun". And the Fortescues on *Summer Song* reckon "flexi panels are very effective, fixed less so". The skipper of a 37ft Jeanneau claimed a 55W **Solara** panel covered all energy needs, yet a 38ft Steelmaid with 560W of solar panels on found their "usefulness limited as the output is low" – giving substance to the theory that getting the right alignment is key.

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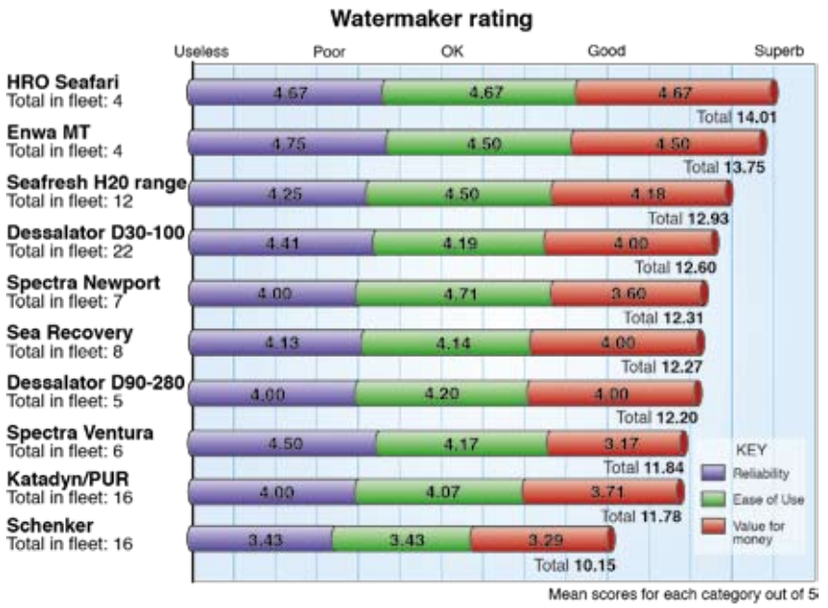
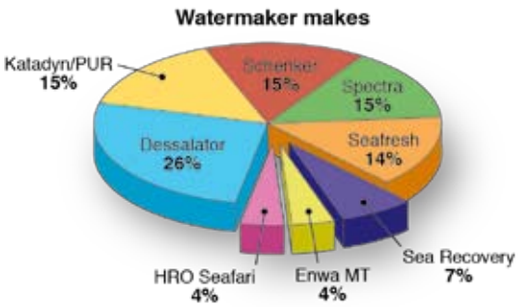
Watermakers





46 Percentage (106 yachts) that carried watermakers, from 29 different brands. They rank alongside autopilots as the most useful items of gear

Consistently voted one of the most useful pieces of gear for the transatlantic, watermakers generally score highly in the ARC survey. There are many different makes and models, however, (33 on this crossing) so having enough users of each to make practical use of the results can be difficult.

HRO Seafari, for example, should have won outright on scores, pipping the Enwa MT (four for each), however as one of these was not in use during the crossing, it's hard to give HRO the winner's crown.

Equally, there was no feedback by the four users of the Enwa MT. So the spoils are shared three ways, also going to the more widely used Seafresh H20. Anthony Auger described his as "very good and fast at 2lt/min" and fellow Oyster owner Alan Brook agreed his "functioned perfectly and did all we required'. A third Oyster (a 575) found the diverter valve temperamental.

The Dessalator D30-100 was the most popular, and its 22 users rated it highly. Andre De Smet gave it top marks after installing it himself on his Jeanneau SO54, while Bénéteau owner Bernard Sumner recommended Advance Yacht Systems following his installation, advising others "to bring it up to pressure very slowly to purge air from the system – after that it's totally reliable and mechanically simple".

The Edwards on Oyster *NaughtyNes* cautioned that it "took a few hours to settle (new installation), before producing 60lt/hr as specified".

In fact, Dessalator's only weak scores were from a Moody owner, who said they had "poor quality water, inefficient start-up and a leaking pressure valve."

HRO Seafari / Enwa MT / Seafresh H20

Spectra had four different models on the ARC, including the popular Newport range which was praised by *Friheten*, a HR 54, and the Swan 57 *Nakesa*, which used it "for all water from the start". A Swan 60 had installation issues with their PCB board and membrane, which were replaced under warranty with "A1 service". And a fellow Swan owner saw his break down on the last day of the ARC with "a broken composite end cap".

"I installed it myself and it's very straightforward," said Alan Phypers of his Spectra Ventura. The result was that they had 25lt/hr at 9amps (12V) on their Bowman and were "very pleased with our watermaker, which worked faultlessly". The value for money category let the Ventura models down slightly, however.

Among the Schenkers a familiar name cropped up: "Mactra and owner Jim MacDonald give the best after sales service I have ever witnessed," said the Schofields on their Broadblue 385, explaining how "for free, they invite you to the factory to rebuild the same watermaker as your purchase. We had a faulty filter and they sent a new one FOC to Gibraltar in three days!"

A Swan 45 owner felt his through-hull fitting wasn't low enough, but the Schenker still produced 50lt/hr when only rated for 35lt/hr. Otherwise, as the graphs reveal, Schenker ratings were comparatively poor, including a Hallberg-Rassy owner who rated his as useless after "appalling service", but neglected to name the agent.

Katadyn PUR may not have lived up to their top billing of last year, but Moody *Otra Vida* called theirs "essential equipment for quality of life", yet suggested a higher capacity would be better after "eight hours' use equated to 45lt/day". And a fellow Moody owner warned that although theirs performed very well, "it broke apart when run dry and had to be stripped".

Both Challenge 72s rated the Aquafresh types highly after they kept 17 crew happy on each boat for the entire crossing, producing 180lt/hr and "approximately 5,000lt for the crossing".

NEXT MONTH
Part 2: Electronics and Sails plus Most Useful Items

For full results see yachtingworld.com