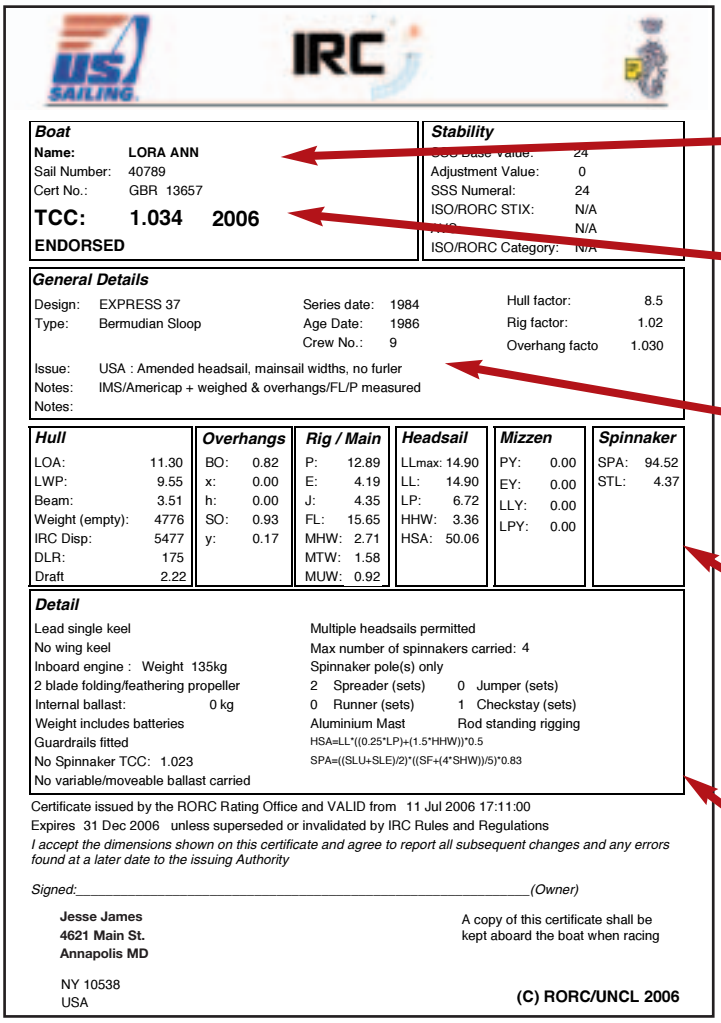


IRC

Boat
Name: LORA ANN
Sail Number: 40789
Cert No.: GBR 13657
TCC: 1.034 2006
ENDORSED

Stability
SSS Base Value: 24
Adjustment Value: 0
SSS Numeral: 24
ISO/RORC STIX: N/A
[illegible]: N/A
ISO/RORC Category: N/A

General Details
Design: EXPRESS 37
Type: Bermudian Sloop
Series date: 1984
Age Date: 1986
Crew No.: 9
Hull factor: 8.5
Rig factor: 1.02
Overhang facto 1.030
Issue: USA : Amended headsail, mainsail widths, no furler
Notes: IMS/Americap + weighed & overhangs/FL/P measured
Notes:

Hull		Overhangs		Rig / Main		Headsail		Mizzen		Spinnaker	
LOA:	11.30	BO:	0.82	P:	12.89	LLmax:	14.90	PY:	0.00	SPA:	94.52
LWP:	9.55	x:	0.00	E:	4.19	LL:	14.90	EY:	0.00	STL:	4.37
Beam:	3.51	h:	0.00	J:	4.35	LP:	6.72	LLY:	0.00		
Weight (empty):	4776	SO:	0.93	FL:	15.65	HHW:	3.36	LPY:	0.00		
IRC Disp:	5477	y:	0.17	MHW:	2.71	HSA:	50.06				
DLR:	175			MTW:	1.58						
Draft	2.22			MUW:	0.92						

Detail
Lead single keel
No wing keel
Inboard engine : Weight 135kg
2 blade folding/feathering propeller
Internal ballast: 0 kg
Weight includes batteries
Guardrails fitted
No Spinnaker TCC: 1.023
No variable/moveable ballast carried
Multiple headsails permitted
Max number of spinnakers carried: 4
Spinnaker pole(s) only
2 Spreader (sets) 0 Jumper (sets)
0 Runner (sets) 1 Checkstay (sets)
Aluminium Mast Rod standing rigging
HSA=LL*((0.25*LP)+(1.5*HHW))*0.5
SPA=((SLU+SLE)/2)*((SF+(4*SHW))/5)*0.83

Certificate issued by the RORC Rating Office and VALID from 11 Jul 2006 17:11:00
Expires 31 Dec 2006 unless superseded or invalidated by IRC Rules and Regulations
I accept the dimensions shown on this certificate and agree to report all subsequent changes and any errors found at a later date to the issuing Authority

*Signed:*_____*(Owner)*

Jesse James
4621 Main St.
Annapolis MD

NY 10538
USA

A copy of this certificate shall be kept aboard the boat when racing

(C) RORC/UNCL 2006

Getting Your IRC Certificate

The IRC rule has been in place in North America for almost three years. There are more than 100 trained measurers, and last year, more than 600 boats were either measured, or had their certificates revalidated from the year before. The system is running smoothly, but you shouldn't waste a minute if you plan on doing any IRC racing this year. By following some of the steps below, you'll be able to get the ball rolling in time to make your first start.

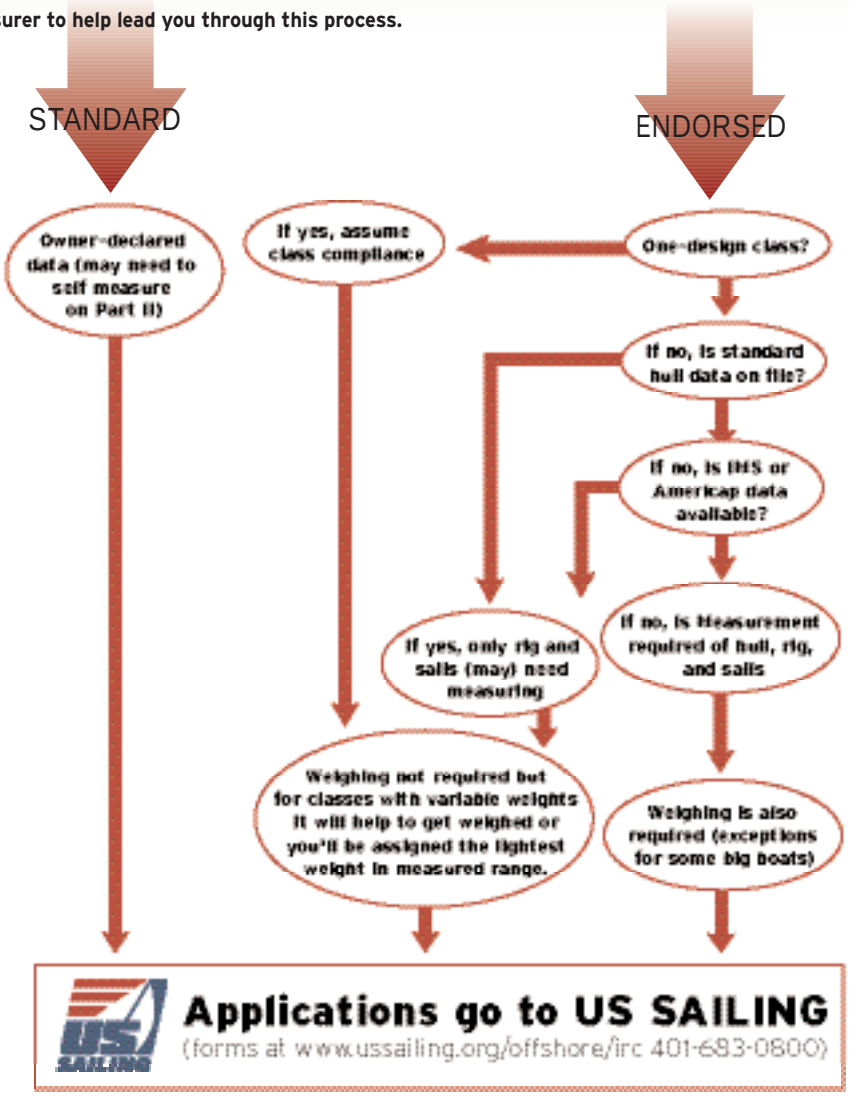
1. If you had a 2006 certificate, you've probably already gotten your revalidation notice from US SAILING. If you haven't made modifications to your boat that need reporting, what are you waiting for? File your renewal form now.

2. If you have a 2006 certificate and you've made modifications or changed your sailplan and you have any question how to report either change, contact one of your local measurers. Whether you'll need to hire a measurer or not, they'll provide you with direction. Because they're active in your sailing area, they may already know your boat and can expedite the process.

3. If you're applying for a certificate for the first time, check with the organizers of the events you plan on racing in to determine whether you'll need a Standard or Endorsed certificate. The Standard IRC certificate only requires owner-declared data and sail measurements; the Endorsed (for higher-level events) is based on

Which Kind of Certificate?

The pathway to a Standard IRC Certificate, generally used by smaller boats and in lower-key races, is straightforward, because measurements can be taken by an owner. Obtaining an Endorsed Certificate may require the services of a US SAILING-certified measurer, but if your boat is a one-design, has a recent and accurate IMS or Americap certificate, or has standard hull data on file at the rating office, you may be able to bypass some measurements. Contact a local measurer to help lead you through this process.



data supplied by an IRC measurer in the United States or Canada.

4. To read more about the required measurements, and to download an application, you can go to www.ussailing.org/offshore/irc. But we recommend you consult the measurers' list (www.us-irc.org), call a local measurer, and ask them for assistance before you fill out your application. They may already know your boat well, and will probably know what kind of certificate is required for each IRC race in your area. Some measurers will even fill out your form for you and send it in (after you sign it). Getting a little (or a lot of) help from your local measurer will save you a lot of time.

5. Check on the availability of standard hull data for your boat. If it's available (US SAILING has hundreds of data sets for production models at ussailing.org/offshore/irc), it will simplify your application process. Even better, if your boat complies with a strict one-design class accepted by IRC, you can file a short-form application and not measure at all.

6. Check with your sailmaker. Unless you are revalidating or sailing a one-design, it's good to have your sailmaker confirm your rig and sail measurements. Only three sails will be measured: the largest headsail, the largest spinnaker, and the main.

7. Take your own measurements, or get measured and weighed by a measurer.

8. If you're doing your own measurements for a Standard Certificate, you can file your form electronically (download it at www.us-irc.org). Otherwise, your measurer will file your application for you.

9. If you're thinking about making changes to your boat or sail inventory, you can assess whether they'll help or hurt your cause by filing a trial certificate. You're limited to six of these a year, so use them wisely. Again, discuss this with your measurer and file well in advance. Like most measurement rules, it takes time to process certificates accurately. If you've made a mistake, and need a certificate yesterday, the US-IRC office will do their best to expedite it, but you'll pay twice the normal fee.

Empty Means Empty

Measuring a boat for an IRC rating is a relatively quick, simple process compared to an IMS or Americap measurement. As Mike Urwin, the chief administrator for the RORC IRC office, says, "The fundamentals are straight-

The best method to weigh a boat is with a single-point hoist, as shown above, using two load cells.

HOWARD MCMICHAEL

forward. How long is it? How heavy is it? How much sail does it have? It's not rocket science."

But measurement does entail measuring an empty boat, which can be a big task. What stays aboard? Nothing at all, except for cushions, spinnaker poles, and companionway boards. Whether or not the boat is getting weighed, an accurate measurement of the waterline and overhangs must be taken, which means an empty boat.

Realistically, most boats, especially if they spend part of their life cruising, have a ton of heavy, unnecessary equipment onboard, and that's what should be removed. "I find the owner's stories interesting as, once they understand what 'empty' means, they seem to enjoy telling me of the lost items they found when getting into lockers not usually looked in," says IRC Measurer Rod Spearin, who measures boats in Michigan. "Things like old, rusty wrenches, fenders, lifejackets they didn't know they had, or a leftover food stash from last year's Mackinac race."

There's another good reason for emptying the boat; ridding your boat's interior of unnecessary weight will probably improve performance (and cleanliness).

Water tanks need to be empty, as should the fuel tank. As fuel is difficult to remove without spillage, and it's even more difficult to motor a boat to and from the Travelift pit without fuel to run the engine, measurers are instructed to estimate the amount of fuel in the tank and record an estimated weight. Do yourself a favor and make sure you have only enough fuel to get to the fuel dock once you've launched.

Most of the tricks people think will improve their rating, such as making the waterline appear shorter than it actually is, have been tried already and noted by measurers during the 26 years that the IRC rule (and its predecessor, the Channel Handicap System) has been used in Europe. Measurers take note of items such as tables and count the number of batteries; if you're inspected after a race, they'd all better be there. That includes dodgers and biminis.

Also, don't expect to be weighed if it's raining or your boat and halyards are wet from a wash down. If there's no choice in the matter, measurers will report that a boat was weighed wet and the rating will be adjusted accordingly.

Measurers Answer Your IRC Questions

We asked IRC-measurer Tripp Estabrook, who works out of the US-IRC office at US SAILING, and a handful of other certified IRC measurers to tell us the most commonly asked questions from boat owners about IRC. Between

this series of questions and answers, and the IRC FAQ pages at www.us-irc.org, most, if not all, of your questions will be answered.

Q: ***Do I need an endorsed or standard certificate?***
A: "What I urge a lot of fleets to do is start with standard certificates," says Estabrook. "In which case they don't need a measurer, and they're more than welcome to call us here at the office for any kind of help they need, and typically, they need quite a bit."

"Think of endorsement as a certification process. The measurer is certifying that the boat was properly prepared and the measurements are accurate," says Bob Kendrick, who measures boats in the Long Island, N.Y., area, and who adds that an endorsed certificate can be important even for one-design classes. "IRC has a fairly strict definition for one-design boats, and many boats we consider one designs don't meet their standards. The J/105 is one of those, as there are many options, such as wheel versus tiller steering, which can affect a boat's rating."

There are several classes, such as the Farr 40 class, that IRC sees as a very strict one-design class, and don't need endorsed certificates, as long as the boats are in class trim.

Q: ***How much will it cost, and why is it more expensive than PHRF?***
A: US-IRC charges $5.00 per foot for each new certificate, $1.89 per foot for an amended certificate, $4.33 for a revalidation, $50.00 for an endorsed certificate, $2.20 per foot for a trial certificate, $2.35 per foot for a re-registration or new owner certificate, and $20 per certified certificate of boats other than yours.

Due to different pricing structures at different boat yards, nailing down the exact cost of measuring a boat for an endorsed certificate isn't easy. You can reduce costs for crane and scale by gathering a group of owners and having all the boats weighed in one time period.

You can also save cash by making sure the boat is 100-percent ready to go when the measurer arrives, as he or she will most likely be charging for their services by the hour. "Owners from the PHRF world are used to paying $25," says Estabrook. "They occasionally don't realize the greater complexity in a measurement rule, so that takes some explaining."

Q: ***What does having my production or one-design boat weighed do for an endorsed rating?***
A: If you don't have your boat weighed, the RORC IRC office will use the lightest weight they have on file for any sisterships they've already certified. Unless you're even lighter, the result will be a very slightly higher TCC, which should encourage owners to get weighed. Boats race off their individual TCCs, so detail variations for each boat get included.

"You can either weigh the boat or take the calculated IMS/Americap/ORR weight," says David LaMere, of Okemo, Mich.

Q: ***How do I weigh my boat?***
A: "The easiest method I've found to weigh the boat is to rent four pad scales and drive the Travelift right up on them," says LaMere. However, to ensure accuracy with that type of measurement, the Travelift's weight, with strops, must be known. Although the IRC office doesn't accept weights measured by a Travelift or crane's built-in scales, they will take data from pad scales. By far the preferred and most accurate measurement is by a certified load cell on a single point (as shown on p. 46).

"Load cells need to be calibrated within .02 percent of their working range, and we need a certificate of calibration," says Estabrook. "Nationwide there are many scales to rent that come with these certifications. Each time they rent, they need to include a copy of the certificate. In areas such as New England, where we don't haul things with cranes anymore, it's usually done with Travelifts. That puts a little more work into the equation.

There are some yards, such as New England Boatworks, in Portsmouth, R.I., that have their own set of scales. In Annapolis, people rent, and each time they do, they need to include a copy of the scale's certificate."

Q: ***Is it a good idea for a group of owners to get measured on the same day?***
A: "That doesn't work well for busy yards, because measuring is pretty far down on a yard's priority list," says Estabrook. "They're offering it as a public service rather than a moneymaking thing, because there's no money to be made measuring or weighing boats. We're all doing it because we want to see the sport grow. The first thing you need to do is contact a measurer, and have them contact the yard and try to get a schedule together. The most boats I've ever done in one day is five."

Q: ***What exactly is empty?***
A: Empty means just that, or as one measurer says, "It should be as empty as the day it was delivered." Urwin says, "Take the boat,

turn it upside down, and shake it."

The only items that are loose and need to stay aboard are cushions, spinnaker pole, and batteries. You can omit the cushions, but they'll have to be off the boat anytime you race. The fuel tank should be empty, or as near to empty as you can make it. If there is any fuel, the measurer will estimate the amount and figure each gallon at 8 pounds.

Don't think you can pull any fast ones, these guys have been trained by measurers from Europe who have seen it all and that includes wet halyards and a freshly washed boat.

Q: ***Do you need calm conditions, as was necessary when getting a boat measured for IMS, to measure overhangs?***
A: "Yes," says Estabrook. "We're looking for very precise measurements, but if we get a day where there's a little chop, and I'm off by a couple percent on the overhangs, it's not going to affect the rating all that drastically. In a perfect world, we want it dead calm, but rarely does it happen."

Q: ***Do I need to be present when my boat is being measured?***
A: You, or your representative, should be on hand for a couple of reasons. The measurer will need help for some of the measurements, especially headstay length, as someone will have to go up the rig if the mast is stepped.

Terry Stuck, who measures boats in the Detroit area, recommends the owner perform their own measurements to enable comparisons and validation of any disputable data before a formal measurement. Stuck also makes clear who is responsible for the data that will be submitted to IRC. "As the owner, you are the final approving authority of submitted data. Further, as the owner you're responsible for full and complete conformance to these data at all times during competition."

Q: ***How soon after measurement will I get a certificate?***
A: "It varies depending on the volume of IRC applications that US SAILING is processing," says Kendrick, "but from the time the information is sent to US SAILING, it usually takes about three weeks."

The US-IRC office says to expect three to five weeks, depending on the time of year if the application is complete. Certificates are valid from Jan. 1 to Dec. 31 in the United States.

Note the fully completed application. If a form is not completed, US-IRC will ask you to supply the missing data, which will delay your application, or will use "worst case" sistership measurements. The exceptions are recognized one-design boats for which IRC has full standard data.

If you have a recognized one-design, there is a simplified application form. Most importantly, if there's a big IRC event coming up, the sooner you get your data to the IRC office, the sooner you get your certificate.

"Most of the timeliness of getting your certificate is up to you," says Estabrook. "In the IRC book it says please allow a month. Typically, we get a certificate back from the RORC office in less than 10 days after I send them the data. Normally, it's even half of that."

Q: ***Why does my sistership has a different rating?***
A: Tom Barnes, who measures boats out of Oak Park, Ill., answers the question, and adds a suggestion for the powers that be. "I'm aware of some issues where sisterships have received different ratings partially because of how they were described on the applications," he says. "Perhaps we need to discuss a method where measurers can compare sistership applications to ensure that the resulting rating differences are due to actual differences in the boats."

Of course, for a nominal fee, you can order any boat's certificate from US-IRC, as Joe Periard, of Attica, Mich., suggests, and compare yourself.

Q: ***What is a trial certificate?***
A: A trial certificate allows you, your designer, or your sailmaker, to see how changes will affect your rating. Because the IRC formula is secret, it's the only way, besides guessing, to determine whether a change is worthwhile.

To reduce congestion at the IRC office, and to prevent designers from submitting an endless stream of trial certificates to help them figure out the rule, boats are only allowed to submit six trial certificates per year.

Q: ***How can I avoid problems and delays in getting a certificate?***
A: Don't wait until the last minute. Contact your measurer; that's your first call. If there isn't one in your area, give US SAILING a call and they'll help you find one.

Q: ***How long does it take to train a measurer?***
A: "It's a one-day seminar, and it's usually not even a full day," says Estabrook. "We charge $100, and that will certify you forever, but we'd like to see you attend a re-certification seminar, which we held four times in 2006."