

A Large Container Ship in Fog  
(Range 3nm; Speed 20kts; 9 mins to impact)

# WHERE'S THE F IN FOG?

You'll know when you're in it, says

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Are you absolutely sure you know what the International Regulations for Preventing Collisions at Sea – the Rules – say about collision avoidance in fog? Articles in the yachting press prove beyond reasonable doubt that even the most experienced sailors get it wrong.

It takes a particular brand of lunacy to set off in fog, but you are quite likely to run into a bank of the stuff at some time and, if you have not thought about it beforehand, you could be caught wanting. Consider Sir John Harvey-Jones' splendid quotation: "Planning is an unnatural process; the nicest thing about not planning is that failure will come as a complete surprise rather than being preceded by a period of worry and doubt". Visibility reducing to a few metres tends to concentrate the mind, and it is certainly not the time to start the planning process.

There are three questions to ponder: What can I do to prepare for fog? What should I do on entering fog? What do the Rules say about collision avoidance in fog? The first two are relatively straightforward and should not pose much of a problem to the well prepared sailor; the last frequently causes 'worry and doubt' or, worse, no concern at all because of an unjustified confidence in a working knowledge of the Rules.

## Preparation

In addition to the normal seaman-like checks before sailing, carefully consider how your yacht may look to the Officer of the Watch (OOW) on a large merchant vessel. In fog we must acknowledge that he will not be paying much attention to the grey outside the bridge windows, but he will almost certainly be focusing on his radar screen. How will you show up? There are some fancy radar reflectors on the market, most of which resemble a fender, but look at almost any navigational buoy or mark and you will see it is fitted with a traditional octahedral type of reflector. Cheap, light and very effective, it can either be permanently rigged or hoisted on a flag halyard when the need arises. Stowage when not in use is a bit of a problem, but you don't want to be fiddling about putting it together as the visibility comes down. Remember, too, that to be really effective, it must be hoisted in the 'rain-catching' mode, not pointed end up.

## Entering Fog

The following are some actions which need thinking about:

- Turn on navigation lights.
- Get everyone on deck, looking out and listening. If possible send someone right up into the bows to get away from the noise of the engine if it is running.
- Fog usually means not a lot of wind, so consider starting the engine (see last part of Rule 19(b)) or at least have it warmed up and ready to go. The disadvantage of the noise outweighs the advantage of being able to manoeuvre instantly.
- Furl at least some of the genoa to give you a better view ahead. The OOW in his warm enclosed bridge can't actually see much – even if he does happen to be looking out of the window - but a couple of white sails at close quarters is much more visible than a small hull.
- Put on lifejackets – partially or fully inflate orally inflated ones. This has the added bonus of bringing home to the rest of the crew that life has just become serious.
- Consider not hooking on. It wouldn't be much fun being attached to a sinking yacht. However, if someone leaves the cockpit it might be wise for them to hook on – trying to recover a MOB in fog is even less fun.
- Make sure the liferaft is ready to go. It should be, but if it is stowed in a locker it is probably well covered with

miscellaneous junk which must be cleared away. Perhaps get it on deck and secure the painter to a strong point. If a liferaft is not carried, consider inflating the dinghy and, possibly towing it astern if conditions allow.

- If you have radar make sure it is on and tuned to optimum performance (Rule 7.b). It may be best for a dedicated and competent radar operator (you?) to be monitoring the set, plotting contacts and fusing all the other information available – the really clever stuff – while leaving a well-briefed mate and crew on deck. Radar, GPS, VHF, visual and aural reports, and a chart all make up the 'plot'.
- Listen on VHF (Ch 16/13 or the local VTS/harbour channel if appropriate). This can provide useful information on shipping movements, but think very carefully before transmitting to other ships as this will almost certainly lead to confusion unless you are absolutely sure of the position and identity of the vessel being called – perhaps you saw her before the fog came down. Even so, the OOW may not have identified you. Best to keep quiet.
- Have the fog horn available. Yes, there is no way the OOW is going to hear it inside his bridge, and it will only be of any real use where other yachts abound, but Rule 35 says it "shall be used". Its up to you.

## “Give-way' and 'stand-on' are terms which don't apply unless you can actually see the opposition”.

### Collision Avoidance in Fog

Rule 19 (Section 1 of the Steering and Sailing Rules) is widely misunderstood. While Rules 4 to 10 (which include the stuff about Narrow Channels and Traffic Separation Schemes) apply equally in fog as in good visibility, Rules 11 to 18 do not! 'Give-way' and 'stand-on' are terms which don't apply unless you can actually see the opposition.

It is worth noting that the term 'right of way' does not appear anywhere in the Rules. Even if you are the stand-on vessel you still have a duty to prevent collisions.

So, looking at Rule 19 in more detail:

- Rule 19.a Note that this includes the words "... in or near an area of restricted visibility". If you are outside, but close to, a fog bank, Rule 19 may still apply.
- Rule 19.b Safe speed is not really applicable to yachts unless in very crowded waters when even 4 knots may be too fast.
- Rule 19.c A reminder that Rules 4 to 10 are relevant in reduced visibility.
- Rule 19.d Now we get to the meat of it: First, this part of Rule 19 demands that you determine if a radar contact poses a problem: is a close-quarters

situation developing and/or does a risk of collision exist?

This is not easy with a 7-inch screen, an unstabilised picture and a horizontal beamwidth of typically 5°. An apparent change of bearing of 10° over, say, 15 minutes could effectively mean no change at all, especially if the yacht is not being kept on a rigidly steady course.

A more accurate picture is obtained by transferring ranges and bearings as carefully as possible onto a plotting sheet. From this a more accurate CPA can be estimated, and the relevant vectors drawn to determine the other ship's course and speed. In the Channel a reasonable guess can often be made about course – about 060° if eastbound and about 240° if westbound (but don't count on it!) – but speed is not necessarily 'safe', and only a very naive skipper will assume that ships on passage slow down at all. Even if you have determined that a close quarters situation is not developing (or you think you have taken suitable avoiding action), keep plotting! The other ship may alter course for another vessel and put you back in the frame.

- Rule 19.d (i) & (ii) These parts of the Rule tell you what you should not do to avoid a close-quarters situation or a risk of collision: "An alteration of course to port for a vessel forward of the beam other than for a vessel being

overtaken" and "an alteration of course towards a vessel abeam or abaft the beam". In effect this means you should turn to starboard for any contact unless it is between green 90° and right astern - or if you are sure you are overtaking. Much simpler than the Rule would appear. The main thing to remember is Rule 8 which requires that "Any action taken to avoid collision shall ... be positive, made in ample time and with due regard to the observance of good seamanship". 'Positive' (ie BIG) and 'ample time' (ie EARLY) are the crucial bits. Forget your ETA, it's far more important to avoid getting run down even if you have to divert several miles to keep the big ones at bay. A collision at sea can ruin your entire afternoon.

- Rule 19.e Reducing speed to a minimum does not mean much when maximum speed may be only 6 knots, and this is probably the only part of Rule 19 which does not

make complete sense in a sailing yacht. In fact, it is possibly better to keep going and rely on large alterations of course to make your point. Small alterations of speed – and a reduction from 6 knots to 2 knots is very small – are not readily noticeable on radar. Similarly, stopping in the shipping lanes is unlikely to be a sensible option. Better to concentrate on increasing the closest position of approach (CPA) - which could mean putting the contact right astern and increasing speed, which will at least give you a bit more time to think. But be aware that by doing so you will not be complying with Rule 19. However, Rule 2(b) provides the let-out: "... due regard shall be had to all dangers of navigation and collision and to any special circumstances, including the limitations of the vessels involved, which may make a departure from these Rules necessary to avoid immediate danger." So that's OK.

## Finally

Consider very carefully if there is any way you can avoid being in fog in the first place. The obvious answer is not to leave your berth when poor visibility is forecast, but if we stayed alongside whenever 'possible fog patches' are mentioned we would hardly get out at all. Like so many other aspects of sailing, some risk is what makes it fun and challenging, but do consider what you would say to the Coroner when asked why you decided to go sailing on that particular day.