

FORUM

Clarifying the Rules of the Road

from Captain Brett Hilder

THE primary Rule of the Road at Sea is to keep to the right in practically all cases. The single exception which comes to mind in regard to fully manoeuvrable vessels under power is overtaking in a narrow channel, when the overtaking vessel should keep to port and take the risk of meeting any on-coming traffic, like the working rule on the roads ashore. The alternate use of true direction as a frame of reference at sea, suggested by Lieutenant-Commander N. L. Fendig, U.S.C.G. in this *Journal* (October 1958) would lead us from simplicity into confusion. The same confusion would apply ashore if the roads were marked with compass courses, and vehicles were to give way to eastern traffic, which would sometimes be on the right, and sometimes on the left hand.

The notes by Commander Clissold, R.N.R., under the above heading in the same *Journal*, are both sensible and workable, but hardly stimulating in nature, as they deal with tedious detail like the rules themselves, without calling for a new outlook. I find the basic Rule of the Road beautifully clear compared with the pages of exceptions and details, most of which show no correlation with each other, or to the basic rules. While I believe that the present rules are the best possible for fully manoeuvrable powered vessels, those concerning vessels of limited movement are complicated with confused detail lacking a clear cut system based on relative manoeuvrability.

The primary class of manoeuvrability should only include powered vessels able to alter course in any direction, or to stop, and having a loud whistle or siren. Any difficulty in steering, stopping or giving signals should put a vessel into a lower class, which could include vessels either sailing or towing without special difficulty. Further down the scale are other vessels for which special marks are laid down as signals that other ships should keep out of their way. These are vessels such as steamers trawling, vessels towing with difficulty, or sailing with difficulty; other vessels still less manoeuvrable include vessels cable-laying or surveying and fishing vessels hampered by nets or lines. These vessels are all under way and therefore having some control over their movements, but limited in either direction or speed.

Below this class we have vessels unable to alter course or to stop with safety, or having no control over their movements, including vessels 'not-under-command', vessels being towed, vessels with engine trouble, hove-to in bad weather, or disabled. As a final class of sitting targets for collision we have vessels made fast to immovable objects: at anchor, moored to buoys, with fishing gear fast to the ground, or ships aground.

If all vessels were classed by their degree of ability to manoeuvre we could make a general rule that the more manoeuvrable vessel gives way to the lesser. The present Rules only contain, as far as I know, two specific rules for avoidance. The first of these says 'steam gives way to sail', and the second is that 'all vessels not engaged in fishing give way to vessels fishing with nets or lines or

trawls'. Even these two Rules can be conflicting, as in the classic case of a sailing vessel colliding with a steam trawler. In this case the court found that the sailing vessel was to blame. We are also told in the Rules that vessels cable-laying, surveying, or 'not-under-command' are unable to get out of the way, but we are not told specifically to keep out of *their* way.

The present Rules cover the prevention of collisions between (a) two sailing vessels; (b) two steam vessels; (c) a steam and a sailing vessel; and (d) a fishing vessel and any other vessel.

All other special lights, flag signals and shapes, sound and fog signals, are 'notices to mariners' to use their judgment, without specific rules for action in most cases.

If the Rules could be based on degrees of manoeuvrability we might be able to distinguish them by the first five or six letters of the alphabet, with each degree or class having a day signal, night signal of lights, fog and sound signal, and a distinct radar response.

For example, we might have the following classes:

- A. power vessels under way, with full manoeuvrability;
- B. power vessels under way, with limited manoeuvrability; doing full-speed trials, or towing without difficulty;
- C. sailing vessels under good conditions, in full control;
- D. vessels able to manoeuvre with difficulty; vessels towing or sailing with difficulty, and vessels trawling;
- E. vessels under way, but virtually unable to manoeuvre; vessels being towed, cable-laying or surveying, fishing or hove-to in bad weather; vessels not under-command;
- F. fixed or stopped; disabled, with divers down, aground, anchored or moored to a buoy or the shore, fishing vessels fouled, or fast to a whale, or stopped with engine trouble.

Under such a system, vessels could indicate their degree of ability to obey the Rule of the Road, instead of being classed solely by their occupation. A vessel under both sail and power could class herself under 'B', while a fishing vessel could be anything from 'B' to 'F' depending on circumstances. Sailing vessels could have a distinctive masthead light instead of only the sidelights as shown by vessels being towed or pushed.

The present series of navigation lights are very poor in power and variety, compared with other lights aboard ships, and with the more modern forms of brilliant lighting available. The coloured side-lights and white stern-light carried by most ships have only to be visible for a distance of 2 miles, requiring a light of 40 watts. By modern standards ashore this light power is barely sufficient for the interior of a public lavatory.

The flashing lights used by aircraft under way are an example of improved means of avoiding collisions in congested areas, and would greatly improve any ships seen against shore lights. When one sees the floodlights presently used for cargo-work and for fishing, we can reasonably expect vessels coming under 'F' to be illuminated by a floodlight or two, especially near a fairway.

The possibility of using more varied lights could be studied with signals using radar responders, and visible signals for alterations of course. We might thus achieve some correlation between the different sets of signals, and between the signals and the Rules of the Road at Sea.

Commander P. C. H. Clissold comments :

My queries admittedly dealt with details and one of my reasons for putting them was to stimulate discussion of the whole subject of Rule of the Road at this time—within a year of the International Convention on Safety of Life at Sea.

The Rules are certainly based on the principle (even if they do not say so) that the more manoeuvrable vessel must give way to the less manoeuvrable, and that power-driven vessels of equal manoeuvrability, as Captain Hilder says, keep generally to the right. Since 1948 all (sail or steam) vessels not fishing give way to all (sail or steam) vessels fishing. Steam gives way to sail. Vessels not manoeuvrable carry special signals to show that they cannot get out of the way of an approaching vessel, which surely implies the duty of approaching vessels to avoid them. The only doubtful case is that of a vessel towing, which I suggested could be clarified if the vessel towed carried two black balls or two red lights. The only exception has come to be when a sailing vessel running free meets a vessel close-hauled. The Rules were formulated chiefly for square-rigged vessels, and with square-rig the one running free could more easily alter course: with fore-and-afters the opposite is the case. Today, logically, the Rule should be reversed, but it might be better to have *no* special rules for sailing vessels and that they should follow the same rules as steam vessels do when meeting each other or to adopt R.Y.A.'s proposal that a sailing vessel with the wind on the port side should give way to a sailing vessel with the wind on the starboard side, irrespective of whether either of them is close-hauled or running free.

It is to be hoped that when the delegates meet next year they will have had the time and opportunity to study the views of many seamen experienced in navigating different types of vessels: fully-maneuvrable power-driven vessels, tugs, cable ships, fishing craft, yachts, &c., as to the sufficiency of the present Rules both in content and clarity.

Aircraft Navigational Errors

from Captain J. D. Proctor

C. S. DURST¹ has tried to discover the frequency distribution of aircraft navigational errors from D. C. Willis's data.² But how reliable are Willis's data for this purpose?

D.R. errors and track-keeping errors are differences between assumed and true positions. Evidence of assumed position is available, but how can true position over the Atlantic ever be discovered accurately? Willis estimated true position by post flight analysis of navigational and meteorological data, but any such analysis must be based on some doubtful assumptions, for instance that compass error or wind was constant between fixes or that the true position was at the 'middle' of a 'reliable' fix. The analysis must also comprise many delicate judgments, for instance that the true position was at A, not B, because if it were at B an abnormal wind change must have occurred for which there is only slight evidence.

In these circumstances may not bias easily occur in the post-flight analysis in two ways? May not the analyst (like the navigator) tend to disbelieve and reject