

# The Need for Speed

By Richard H. Wagner

For many years, the speed a passenger ship could travel was very important. It indicated how fast you could get from here to there and how advanced was the ship's technology. The major lines competed to build the fastest ship and it was a great source of pride to have the world's fastest ship. In fact, to have your country's flag flying on the ship that held the Blue Ribband (awarded to the ship that had done the fastest crossing of the Atlantic) was a matter of national honor. With the coming of the commercial jet airliner, speed became less important. There was no way a ship could compete with the speed of a jet aircraft. Furthermore, since the first purpose-built cruise ships were designed to do lazy circuits of the Caribbean, there was no need for speed. Indeed, officers on Queen Elizabeth 2 sometimes joked that their ship could go faster in reverse than some of the new cruise ships could go forward.

Today, a ship's speed is rarely emphasized. When I do interviews, the ship's officers will usually point out that fuel consumption increases almost geometrically as you increase speed. With the high cost of fuel (\$500 a ton on a recent cruise on Explorer of the Seas), you do not want to increase consumption any more than is necessary. Therefore, the ships are designed to travel at a speed that allows them to do their desired itineraries in a reasonable time. Still, the passenger ships of today are significantly faster than the cruise ships built in the 1970s and 1980s. Whereas those ships generally had top speeds of 15 to 20 knots, today, there are very few ships in the fleets of the major lines that have a top speed of less than 20 knots. Moreover, as seen below, there are several ships that can go significantly faster.

The fastest ship in service today is Cunard's Queen Mary 2. Designed as an ocean liner, she needs speed in order to handle the variable conditions of the North Atlantic. Her official top speed is 28 knots but the ship has done close to 30 knots. The fastest cruise ship - - as opposed to ocean liner - - that I have encountered is Norwegian Gem. Captain Roger Gustavsen reports: "She can do 26, maybe 27 knots." Furthermore, she makes use of her speed. Based year round in New York, the ship runs at high speed in the winter down the East Coast so as to get the passengers out of the cold and into the warmer weather as quickly as possible. Thus, the speed is used to enhance the passenger's cruise experience, which in turn makes cruises on the Gem more attractive.

Another time the ship's speed is used is for medical emergencies. I was on the Gem during one cruise to the Bahamas when such an emergency arose. The ship had spent the day at NCL's private island Great Stirrup Cay and was due to arrive in Nassau the next morning. This is only a short distance of about 100 miles and ship was virtually drifting along. Then the captain announced that a passenger was ill and required hospitalization. Accordingly, Gem was brought up to full speed. Standing on the outdoor promenade, one could see that the ship was racing through the calm waters and feel the increase in the wind. Soon, the lights of Nassau appeared. When we arrived, one of the cruise ships that had called at Nassau that day was still in port. It was an exhilarating ride. And, yes, the ailing passenger was disembarked into a waiting ambulance.

Able to give Gem a run for her money are Royal Caribbean's four Radiance class ships. "I call them the Maseratis of the fleet" says Captain Herman Zini who has commanded Radiance of the Seas and Brilliance of the Seas. "They are extremely maneuverable, slim and extremely fast. Great ships and they are really elegant." Royal Caribbean lists the Radiance class as having a "maximum cruising speed" of 25 knots. However, as Royal Caribbean's Chairman and CEO Richard Fain has written: "We always expect that the unexpected can be expected to occur. For cruising speed, we measure the speed of the ship using only 78% of [full power]." Thus, the Radiance class ships are capable of going significantly faster than 25 knots. In fact, as Captain James MacDonald of Jewel of the Seas notes: "We can go quite fast backwards - - 18 knots. It would be kind of bumpy because it is not pointed at the other end. "The Radiance class ships have been used as pathfinders for RCI to open new markets. For example, Brilliance of the Seas has been sailing part of the year out of Dubai recently. In addition, their speed enables the Radiances to do itineraries with more ports than slower ships. While Norwegian Gem has a diesel-electric propulsion system, the Radiance class is powered by four gas turbines. "These are big turbines - - the same ones you find under the wings of a DC 10 jet," says MacDonald. "You can accomplish on this ship 20 knots and run the whole hotel with one turbine."

A class of ships that attributes its speed to innovations in hull design rather than the power plant is Celebrity Cruises' Solstice class. Celebrity officially lists their speed as 24 knots. However, Celebrity Solstice reportedly has achieved 25.6 knots. Captain Panagiotis Skylogiannis, who brought out both Solstice and her sister Celebrity Eclipse, explains: "It is one of the few ships that was designed for hull efficiency. They first designed the hull to have fuel efficiency, speed and, of course, seaworthiness in bad weather conditions and then they built the interior. With many cruise ships, they decide what they want to do with the interior and then they try to shape the hull. That is why [the Solstice class] is so hydrodynamic. We have the spoiler in the back [so the aft section does not sink down like a speedboat] into the water as we speed up. It floats better. [The front of the ship is flared] and her bulbous bow is long - - all these things help to break the waves and give you speed. We can do 24 knots with much less power than other ships this size. It is all because of the hull."

All of the aforementioned ships except Queen Mary 2 were built by the Meyer Werft shipyard. However, other yards are also building faster ships. Built by Fincantieri, Holland America's Rotterdam lists her maximum speed as 25 knots. Perhaps more surprisingly, the giant 220,000-gross-ton Allure of the Seas built by STX Europe did 24.36 knots during her sea trials. "It always amazes me that such a large ship can be so fast and nimble," confides Richard Fain. The new Disney Dream reportedly has a maximum speed of 24.7 knots.

Once you get to ships that list 24 knots as their maximum speed, the field widens considerably. There you will find ships such as Norwegian Dawn and Norwegian Spirit, P&O Cruises Aurora and Oriana, Carnival Miracle and Carnival Legend, Celebrity Constellation and Celebrity Summit, Disney Magic and Disney Wonder, Queen Victoria and Queen Elizabeth and the Holland America Vista and Signature classes. Interestingly, not all sister ships claim the same maximum speed. For example, Noordam lists her top speed as 24 knots while Westerdam claims only 23. Whether this is because of rounding or because of the individual characteristics of the ships, I do not know.

To provide a frame of reference, the record-breaking Atlantic crossing of the United States, the fastest major passenger ship, was at an average speed of 35.59 knots -- considerably faster than any ship in service today. However, the fastest of today's cruise ships would be able to match Mauretania's fastest Blue Ribband speed (26.25 knots) and QM2 could in theory surpass the speeds of such notables as Bremen, Europa and the Rex.

So the ships of today are not as fast as the top greyhounds of yesteryear. However, today's ships are faster than the cruise ships of just a short time ago and some are achieving quite respectable speeds. While the cruise lines struggle to reduce fuel consumption, there are reasons to build speed into ships -- avoidance of bad weather, emergency situations, and to enable the ship to do more attractive itineraries. As hulls and power plants are made more efficient, we can look forward to seeing more fast ships in the future.



The advanced hull design of the Celebrity's SOLSTICE-class ships facilitates higher speeds while consuming less fuel.

(Bob Allen)



Cunard's QUEEN MARY 2 is the world's fastest liner.

(Bob Allen)