

Riviera seeks expert advice



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It is a fact of life that ever since the advent of petrol engines, carbon monoxide (CO) has been a problem.

Carbon Monoxide is always present in exhaust fumes and is caused by incomplete combustion in petrol engines. It is not only petrol engines that produce carbon monoxide.

Cigarette smokers are exposed to it every time they light up.

The problem of CO emissions has been a marine industry issue for many years.

However, it has not been until recently that CO has emerged as a real concern in petrol-powered sports boats.

Riviera discovered that they had a problem with their sports boats and CO last year.

The boats were producing a 'station wagon' effect by dragging the exhaust fumes back into the cockpit of the boat with a subsequent build up of CO, especially when clears were in place.

This is why car manufacturers don't build station wagons with wind-down windows in the tailgate any more.

In boats, the build up of CO can be caused by the shape of the bimini or hardtop structure and with clears in place.

This can create an area of low pressure directly behind the boat and in the cockpit. The low pressure draws in air from areas of high pressure and the airflow in turn draws in exhaust gasses.

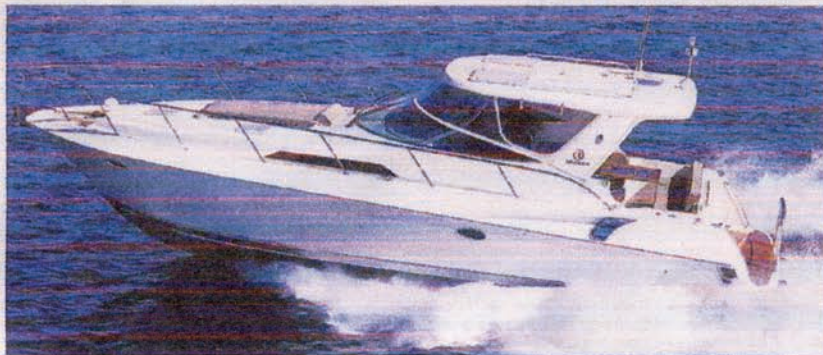
Over the past few months Riviera has conducted extensive research, spending in excess of half-a-million dollars on the project to better understand and manage CO.

This research has also included advice from aerodynamics experts in the motor racing field.

As a result, some of Riviera's vessels have been modified with vents that create a high pressure in the cockpit to keep out any exhaust fumes containing CO. The factory has also contacted owners with boats affected by the problem and has started a recall program to modify the boats to get rid of the problem.

In addition, Riviera is developing its own CO detection device, which will be installed in the cabins and cockpits of all Riviera petrol-powered cruisers.

Riviera, in conjunction with Mercury, has also managed to significantly reduce the incidence of CO in its petrol-powered M430 and M370 sports cruisers by fitting bellows between the ransom shield and the drive unit - a



The M400 cruiser that first alerted Riviera to the problem of CO build-up

known area for the escape of CO.

The bellows allow the exhaust gasses to travel down the drive unit and exit below the waterline via the propeller. Riviera's CEO, Wes Moxey, says that current and future Riviera models will not have the problem of CO build-up. However, this

is not just an issue peculiar to Riviera, it is an issue that involves the whole marine manufacturing industry worldwide.

Riviera has taken the first steps and is leading the industry in lifting design and manufacturing standards to counter possible CO build-up and Mr

Moxey has called on all manufacturers building petrol-powered vessels to review their CO management systems and to implement education programs.

"We believe it is our responsibility to raise awareness of the issue and to take steps to minimise the potential impacts," he said.

Fumes carry danger

WHAT is carbon monoxide?

Carbon monoxide is a colourless, odourless and tasteless gas that is a by-product of the combustion process in petrol engines - and cigarette smoke.

The gas weighs about the same as air, so it does not rise or fall like some other gasses. It is absorbed in the blood through the lungs and attaches itself to the red blood cells, reducing the oxygen carrying capacity of the blood - excessive levels of CO can cause death.

Symptoms: The first symptoms of CO are itchy and watering eyes. Then the temples start to throb and the sufferer becomes inattentive and loses the ability to think clearly.

Advanced symptoms are the loss of physical co-ordination, ringing in the ears and tightness across the chest. Eventually the victim will suffer from dizziness, fatigue and nausea. However, these symptoms may be mistaken for the side effects of too much alcohol or excessive exposure to the sun.

If the symptoms persist, seek immediate medical attention.

What to do: CO is difficult to detect. If you can smell exhaust fumes assume that CO may be present. Ventilate the area and keep the cockpit open even after the smell of fumes has gone.