



CONTESSA 32 CLASS ASSOCIATION TECHNICAL PAPER

REPLACEMENT EXHAUST FOR PERKINS PERAMA



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DOCUMENT INFORMATION

Technical Paper Name	Replacement Exhaust for Perkins Perama
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INTRODUCTION

Following problems I had with water getting from the exhaust to the back of the engine the engine damage was such that it required a rebuild. On investigation the root cause was clear, the exhaust layout also needed to be fixed.

I wanted to lift the exhaust about 6 inches before mixing the cooling water. To do this I got a local engineering firm to make up a new pipe and mixer from stainless to fit the same flange as the old exhaust elbow. I also bought a larger waterlock with 10 liters capacity as the old 4.5 liter waterlock was almost full.

What follows are pictures and a description of how I installed a much better exhaust system, with the addition of the remote drain pipe to the bilge, I'm confident now that it will be much harder for any water to get to the cylinders.

What I wasn't expecting was that it also makes starting the engine much easier. I think that the initial back pressure of only a short pipe and then a full water lock was quite difficult to overcome. Now it starts very quickly. Easier on the battery and the skippers peace of mind!

HOW THE EXHAUST WAS DESIGNED AND INSTALLED



This is the old configuration. Not much fall from the mixing elbow to the water lock. I think the waterlock used to be slightly lower but only loosely affixed with cable ties, before being bolted to the cockpit locker side



Another view of the old configuration. The waterlock capacity was 4.5 litres. When I went to remove it it was full almost to the top - probably about 4 litres. I think that this contributed to high back pressure and made it difficult to start



The prototype for the replacement exhaust riser. I want to raise it at least 6 inches - managed to get about 8 to close under the cockpit floor.



The new riser in place. The engineers tack welded it first but it was right first time. The new piece is lighter than the old cast elbow, but is a longer lever arm. To support it I used a short bar across to the engine lifting lug



Behind the engine the gray cylinder is the new Vetus NLP water lock. It has 10 litre capacity in two chambers - 1 above the other



The waterlock is secured to a piece of wood bolted to the side of the cockpit locker. It also sits on a small plywood shelf expoxied onto the hull. The base is about 2 inches lower than the old waterlock



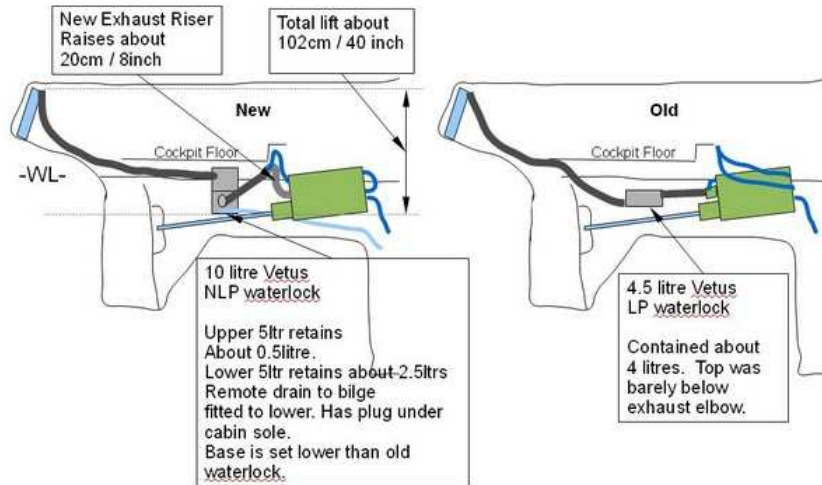
The waterlock. After use the lower part is left with about 2.5 litres of water and there is about 0.5 in the upper part. Each part has a drain plug. Since this picture I've fitted a hose to the lower drain which runs to the bilge. It can be accessed under the cabin floor to remove the plug and drain the waterlock



The new exhaust riser with lagging. Still some jobs to do - need a slightly longer water hose and a 2nd hose clip on the riser/pipe join. The engine now starts much more quickly and hopefully won't get any water into it again!

Note – Before launching a slightly longer and more flexible exhaust hose was fitted from the engine to the bottom of the Vetus waterlock, this allowed the input to be further around to the port side such that when heeled to starboard less water is able to run back up the hose.

ADDITIONAL DIAGRAM



SUPPLIERS AND ADDITIONAL INFORMATION

If you would like any additional information about how to proceed with upgrades or repairs to your Contessa 32 an excellent forum is available on the Association website where you can post questions and draw on the collective knowledge of many owners.

Contessa 32 owners are in the very lucky position to be able to contact the original and current manufacturer of Contessa yachts, the team at Jeremy Rogers Yachts are extremely helpful and will offer free advice to owners as well as historical information about your particular Contessa. Jeremy Rogers Yachts can provide a range of spare parts and will carry out repairs both small and large, their contact details can be found on the Jeremy Rogers website

