

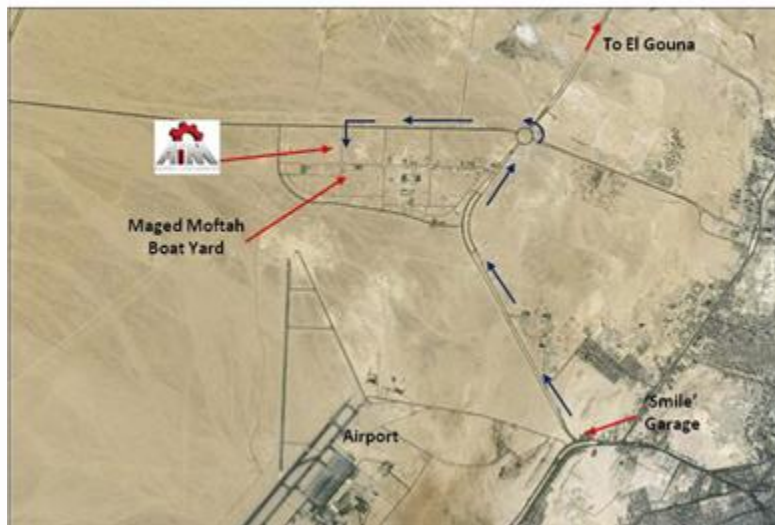


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## AIM - your engineering solution

AIM is the only company in the Hurghada and Red Sea area who can provide all of your engineering needs for marine, automotive or engine driven plant. Our 800+m<sup>2</sup> purpose built workshop provides everything required for the completion of full maintenance, repair and overhaul services on your engines, gearboxes, generators and compressors, with all of the work being carried out by fully our trained and experienced workshop technicians. We are conveniently situated on the El Herafyin Industrial Area directly behind Hurghada Airport, easily accessible from the El Gouna Road and the Hurghada Outer Ring Road.

**Where are we located?**  
Plot 462, 464 & 466, El Herafyin Area  
(Behind Hurghada Airport)



Some of the services we offer are listed below. This list is just a sample of the work we can undertake.

- grinding of the bearing seats on camshafts and crankshafts ready for the installation of new shell bearings
- regrinding of valves and valve seats to ensure gas tight fit and effective operation

- vertical and horizontal milling of components to ensure flat, true surfaces
- re-boring of engine block piston sleeves ready for the installation of new liners
- horizontal boring for camshaft and crankshaft bearing alignment
- turning and grinding on propeller shafts to ensure correct balance and straightness
- knowledge and experience in the repair or maintenance of suspension systems for boat engine/gearbox/driveshaft configurations
- general cutting, welding and fabrication
- readily available stock of up to 95% of all spares for Perkins engines (typically used for marine generators)

Why not call us on **(002) 017 591 9 591** or check out [www.aim-generalengineering.com](http://www.aim-generalengineering.com) for more information or to see how we can help you.

## **DIESEL BLUE SMOKE**

Previously we went through what black smoke from a diesel engine may mean. The second most common easily spotted sign that something may be wrong is blue smoke. Listed below are some of the more common reasons why your engine may be giving off blue smoke and how AIM for General Engineering can help resolve this problem.

The average marine diesel engine will run for an average 5,000 hours under normal operating conditions. The number of hours that a marine engine runs is very dependent on the amount and quality of maintenance over the years. However, many that operate under the most atrocious conditions of salt air, damp bilges, intermittent operation and pure neglect will certainly die early.

Diesel engines are built to finer tolerances than are gasoline engines. They will accept much more abuse and often deliver, if well maintained, anything up to 8,000 hours of hard work before need a major overhaul. Theoretically, a well-maintained diesel may last the life of your boat.

Engines like to run long and steady. The shorter the running time between stops, and the longer the idle time between runs, the fewer the hours they will deliver before needing major repairs.

One of the first signs that all is not right is smoke whilst the engine is running. If you see blue smoke constantly when running it is most likely that you have a problem with your piston rings, or maybe the cylinders – or maybe both! Either way, it will require a major overhaul, involving taking the engine apart.

Blue smoke is caused by the engine burning the lubricating oil. The oil can enter the combustion chamber from several sources including. Poor servicing can lead to

- Incorrect grade of oil – too thin and getting past rings, or valves guides

- Fuel dilution of the oil, making it too thin.

Simple engine wear or a lack of previous maintenance can potentially result in

- Worn valve guides, or seals
- Cylinder &/or piston ring wear
- Cylinder glaze (carbon build up)
- Piston ring sticking

Blue smoke is often most evident at cold start, which can reflect reduced oil control due to carbon deposits around the piston rings and/or cylinder glaze which is actually carbon deposited in the machined cylinder liners crosshatching. These tiny grooves are meant to hold a film of oil, which in turn completes the seal between the combustion chamber and the oil wetted crankcase.

An engine may also burn oil without the evidence of blue smoke, because good compression burns oil quite cleanly, however, it is not acceptable for any new engine, or engine in good internal condition to burn large amounts of lubricating oil.



Fig.1



Fig.2

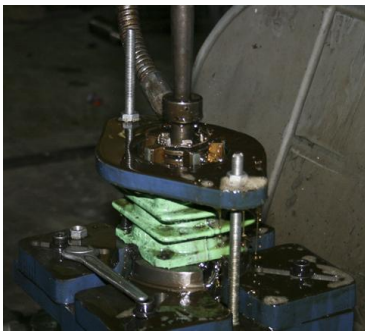


Fig.3



Fig.4

At AIM we have the experience and machinery to ensure your diesel engine is back to full working order quickly. Our technicians can renew the seats for the inlet and exhaust valves in your cylinder head (see *Fig.1 above*) and clean or renew the valve guides where required. The cylinder liners can also be bored (see *Fig.2 above*) and honed (see *Fig.3 above*) or simply replaced to ensure the required minute crosshatching is restored allowing the lubricating oil to form the proper seal.

If any of the components are not readily available from suppliers (i.e. cylinder liners) then our skilled machinists will manufacture the pieces from stock materials (*see Fig.4 above*).

If you would like more information, prices or quotations for any of the above processes please contact us on **(002) 017 591 9 591** or come and visit us, directions at the beginning of this mail.

*(All of the photographs used in this newsletter are courtesy of AIM for General Engineering and are of actual workpieces on our machinery)*