

Changing engine zincs

Most skippers expect their diving service to inspect and replace the sacrificial zincs on shafts, props, tabs and other underwater gear to guard against corrosion of these valuable components. But many are unaware of the threat to the engines themselves from failure to replace engine-mounted zincs as needed. A ruined heat exchanger can easily cost several times the price of a new prop, for example. And the diver isn't likely to change engine zincs as part of his routine.

Fortunately, inspection and replacement is a straightforward job, which can be accomplished by the skipper, preferably as part of regular maintenance tasks scheduled at least 3-4 times a year.

Engine manuals do not always tell the skipper where to look for zincs; usually they will be found on the underside of exhaust elbows or risers, and on the end caps of heat exchangers. But a call to the dealer can clear up any uncertainties.

Engine zincs, called pencils, come in several sizes, so a first-time checkup may require that you pull the zincs for match-up at the marine supply store. Get extras, so that next time the job can be done in one step. Notice that the pencil is actually an assembly of a zinc barrel which threads into a bronze hex or square head plug. They are always installed in the seawater side of components; when removed, a little water may come out, this is normal.

There is a bit of a trick in pulling the zinc; sometimes the remains of the depleted pencil will unscrew itself from the fitting and want to remain in the heat exchanger cap or riser body. Also, the pencils have a perverse habit of necking down and weakening near the threaded section. The unwary skipper may twist off the spent pencil, leaving it in the heat exchanger when he withdraws the plug. This does not usually create a big problem; there is generally lots of room in the end cap for a broken off pencil or two, but it's a better idea to get the old one out, and not worry about it disintegrating and maybe plugging some tubes.

Sometimes it helps to unscrew the plug until it is loose (but not out) and then tap on it with a hammer. The old pencil may be stuck in corrosion products, which weakly fasten it within the passage. Then gently undo the last couple of threads and try to withdraw the pencil. If in fact it has unscrewed itself from the plug, a very careful probing with needle nose pliers or forceps may enable you to get hold of the pencil and draw it out.

You can buy the pencils themselves for about half the price of the plug-pencil assembly, so removal of the stub pencils from plugs is worthwhile. A pair of pliers and a vise to hold the plug is usually all that is needed to separate the parts. Screw new pencils in snugly, in hopes they won't work loose under the engine's vibration.

Be sure to log replacement of zincs, after a few changes you will get a picture of the rate at which they are consumed, which is mostly related to calendar time, not engine hours. If a major change in the boat's electrical environment occurs, as it might when changing slips, check frequently until a new pattern is established.

Having a supply of pencils on hand makes the job a one-step process, and avoids the risk of forgetting to buy replacements.