

# Scanning for Lead and Metals

This is a guide for how to scan J/24s for illegally placed lead and metals with a Black & Decker BDS200-XJ detector. Much of this will apply to other types of scanners as well. The Black & Decker scanner is switchable between scanning for electrical signals and scanning for metals. Make sure the switch is set for metals. The sensitivity control wheel is also the on/off switch. Make sure the battery is good. Rotate the control wheel clockwise to turn the unit on and to set the sensitivity. You will have to experiment with the sensitivity, in that you can reach a point where sensitivity is so great, you pick up large things that are too far away to be useful and might shadow things of interest.

You will need to ask the owner's permission to scan his boat. If permission is denied you may want to ask for an explanation, but you should not proceed without permission. If permission to scan is denied, the Class will consider revoking the Measurement Certificate. When a boat is presented for measurement either at an event or just to receive a new MC, it can be assumed that you have the owner's permission to do the scan along with any other measurements required.

Start on the outside of the boat running the sensor end of the scanner against the keel in the vicinity of the joint with the sump. You should be able to find the line between the two easily. The sensor will light up and the alarm will sound when it detects metal. You should be able to detect metal right through the hull, so all metal objects like the motor and anchor must be removed before beginning to scan. From the outside of the boat and with the sensor against the hull, sweep the area of the hull between the corrector weights and up to the waterline. The sump is the most likely place to find lead, but we have found it under the cabin sole close to the quarter berth where it is hard to get a detector. On some boats you may get a reading from the keel bolts from the outside of the boat. Any alarms other than the keel or the corrector weights should be investigated. There could be something inadvertently left inside the boat that creates the signal. Try to find any plausible reason for the alarm and correct it.

Next move to the inside of the boat and repeat the scanning procedure in the same areas. When you scan the sump, you may have to reduce the sensitivity of the scanner so that it only goes off when it is right next to the keel bolts. Once you move away from the keel bolts, return the scanner to the midlevel sensitivity setting. If you got any alarms on the outside of the hull, pay particular attention to that area on the inside. If there is not an obvious explanation (a small screw mounting some piece of equipment perhaps) and you believe there might be illegal metals in the hull, ask the owner's permission to drill into the area from the inside of the boat. Show the owner the alarm, and ask if he has any explanation for it. If the owner denies permission to drill, he will not pass inspection.

These scanners will find lead, iron, stainless steel, aluminum, copper and most other metals. When you drill, take care to not go through the hull and look for metal fragments coming off the drill bit. Once you have determined that there is illegally located metal in the hull, it is the owner's burden to remove it and to repair the hull. All of the illegal metal removed from the hull should be saved in a plastic bag. Once it is determined that the area is clear of metals, examine the debris and weigh the metal that has been removed. The weight of the metal removed could be of interest in any disciplinary action or in bringing the boat back to 1270 kg. dry weight.

As in all measurement and inspection, remain polite at all times and try to answer any questions as best you can. Forward any findings of illegally located metals to the National Technical Committee or the International Technical Committee for any required action.