

Survey Report

Sept. 15, 2013

Mr. Carlos Rivera

Ref: Mercury 225HP (2004) EFI, serial #OT922590 & OT933783, on a Wellcraft 29'.

Both engines performed well during the sea trial. Wide open throttle was reached at approximate 5700 rpm's; engine temperature maintained itself within range at all time, no signs of oil leaks and both engines shift into gear well.

At the dock, several tests were performed. The engines have operating hours recorded of 718 and 722. There are no active faults recorded or overheats in the history. The starboard engine has an oil pressure sensor recorded at 432 hours. Apparently, no harm took place, because the cylinder compression on the starboard engine is between 190 and 205 psi. This is a difference of 7.9 percent. Please note, a 15 percent difference is a load between cylinders. The cylinder compression on the port engine is between 195 and 205 psi, with the exception of cylinder number 5 that has 150 psi. Because the port engine has no history of overheat or low oil pressure recorded it is likely that cylinder number 5 is not low in compression due to scoring (scratched cylinder wall). Further diagnose needed (leak down test) to pin point problem within the cylinder and to determine course of action. Carbon build is a common cause of low cylinder compression. The use of different decarbonizing methods (one is Yamaha Internal Engine Cleaner-dealer only product) at a shop and the **continuous** use of a decarbonizing agent like Yamaha Ring Free by the owner, cylinder compression can be restored. Several spark plugs in both engines reflect inconsistency in the way they burn. The possible cause is dirty injectors. This can be corrected/ improved by installing water separator filters and the engine shock treatment will clean the fuel system.

The Mercury 225 EFI are good engines. The power-heads are Yamaha 225 HP EFI. This engine is known to last several thousands of hours depending on the use it has received and level of maintenance. I have attached a quote to bring the engine back to their scheduled service level and to correct/ improve the issues found during the survey.

Happy Boating,

Jorge Alberto

JA Outboard Service