Moyer Marine inc.

Installing your MMI
Exhaust back pressure kit

PARTS

This kit is designed to periodically measure the total exhaust back pressure downstream of the exhaust manifold flange (every couple years unless symptoms of excessive back pressure develop sooner). The kit is normally removed between tests.

If you have an MMI exhaust flange with a built in 1/8" pipe tap (product number EXHT_04_127), you need only remove the 1/8" pipe plug in the flange and install the kit. If you do not have a modified MMI exhaust flange, please consider our Exhaust back pressure drill and tap kit (product number EXHT_04.1_491) to drill and tap your existing flange. You will, of course, need sufficient access to position a drill over the flange, unless your plans include removing the manifold for any reason.

After installing the kit, the snubbing valve (a small needle valve supplied with the kit) is normally kept closed. When you are at the power setting at which you wish to take a back pressure reading, you slowly open the snubbing valve until the pressure gauge rises to a stable indication. Be careful to not open the snubbing valve more than is necessary to obtain a stable reading or excessive oscillations might damage the low-pressure gauge. After the back pressure reading is taken, the snubbing valve should be closed to avoid damage to the gauge.

Normal back pressure for the Atomic 4 is only 1 to 1 1/2 psi. Even subtle increases over 2 psi tend to result in symptoms starting with sooty spark plugs, and as back pressure builds through 5 psi, symptoms incrementally worsen until intake valve stems coat over with a very think caramelized goo (which will eventually cause them to stick). Rather abrupt increases in exhaust back pressure over 5 psi will usually result in one cylinder dropping out, since the reduced flow of exhaust gas is only able to support a "three-cylinder Atomic 4". You can easily test for this condition by removing any one spark plug lead. If the engine seems to run smoother with one plug wire removed, you definitely have seriously elevated exhaust back pressure.