

Date: October 29, 2011

Service Bulletin # # GSBS-02

To: All Owners of Gilson 4 Stroke Engine Powered units

Subject: Diminished valve clearance

Machine Style: All models except Snow Cannons

Generally around age 35 your B&S engine may begin to act peculiar. It may start well but refuse to stay in tune. If it stalls the warm engine may refuse to start. Oddly enough it restarts when cold. What is going on here?

In all likelihood the valves have hobbled into the block and have lost their required camshaft clearance. After decades of closing the steel valves will eventually mash the aluminum seats. When set-up correctly the valves will have clearance to the camshaft. This ensures that regardless of engine temperature the valve will be off of the cam and able to close. As this hobbing occurs it diminishes this clearance. When you run the engine and the exhaust valve in particular gets hot it will expand and can remain slightly open. This results in low compression, which makes the engine weak and unstable as well as unable to start while still hot. Another test is to start the engine and leave it running with no load at full throttle. If it starts easy and sounds good but begins to hunt stumble and die after about 5 minutes valve clearance probably needs attention. An engine in this condition will feel obviously too easy to start when you pull on the recoil rope.

Correcting this condition requires a little bit of small engine repair. The objective is to expose the valves, clean things up and regrind the valve clearance to factory specifications and lap the valves to the block for a perfect fit. How you do this is beyond the scope of this page. My intent is to help you recognize the problem.

If you choose to do the job yourself you will want the [Manual for your engine](#), a valve spring compressor, a valve seating tool and some lapping compound which can all be found [here](#). The job will require removing the carburetor and the valve spring cover and that may lead to needing a few new gaskets.

As a first timer expect to spend about 4 hours working through the job. I would expect a small engine shop mechanic to require 60-90 minutes.