

Old and Improved

This is a term that many of us older riders have experienced. The example that comes to mind is the Shovel Head unleaded fuel conversion. This process requires removal of all four valves, guides, seats, and spring collars and machining. This was costly and today metal fatigue will become a deciding factor for total replacement. A brand new set of S&S heads, which will move more air and can be specified for dual spark plugs enabling higher compression. Only about one third more money than you are about to drop on the old tired set. I used the old Shovel Head as an example because they survived a technology surge in engine control and management, fuel delivery and metallurgy advances in many applications.

A little history on the Shovel Head; in 1966 the Shovel Head was introduced. This engine's ignition was mechanically advanced points and condenser that fed a twelve thousand volt coil. The charging system was a mechanical voltage regulator and generator. The charging system switched to an alternator with electronic two stage voltage control regulator. This was changed two more times for higher output models. The ignition changed to the Hall Effect magnetic pick up using mechanical advances. Later, it was changed to a Magnavox digital advance electronic ignition with a three ohm twenty thousand volt coil. This brought the engine compliant with 1980 emission standards. The fuel system was a Tillotson carburetor with no float bowl, needing a vacuum pulse to drive fuel delivery. This was replaced by a Zenith Bendix carburetor. Keihin then began supplying the next four versions of carburetors for Shovel engines. The metal changes were from one piece oil control piston rings to three piece oil control rings. The valves, guides, and springs were upgraded three times to arrive at present day materials which are still in use in today's engines.

The old 1969 Shovel was rated about 46 to 55 horsepower at the rear wheel. The 1970's Shovel would make 48 to 52 HP. The 1980's Shovel would be 80 cubic inch displacement (CID) rated 55 to 58 at the rear wheel in factory trim. These are generous figures, meaning your results could be less.

Now let's look at some 21st century technology. S&S has an 80 CID engine making 67 HP at the rear wheel. S&S also has a 93 CID at 82 HP, and a 93 high output at 87 to 88 HP at the rear wheel. For those of you who want more, there is a 103 CID making 98 to 99 HP at the rear wheel also measured on the chassis Dyno.

These examples are only applied to the old machines because there is a lot of misinformation out on the street. The old Shovel design is a good one. That chamber design has shown up in some of the strangest places. Back in the 1950's the old Desoto Fire Dome looked pretty familiar. The next place it appeared was Chrysler. A man named Keith Black liked what was being achieved with this chamber shape and built an engine, which blossomed into a company. Today, Chrysler applied some modern technology to this good idea, the Hemi. The old Shovel chamber is a Hemi. This design has been adapted to a lot of engines being offered today.

There are numerous things that can yet be achieved with a good design. There are good products to support old applications, making long, hard rides in the future a reality. Re-power what you have, making your machine efficient in what you like, and run with it.

Good Riding and God Bless,
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