

New Age Okrasa

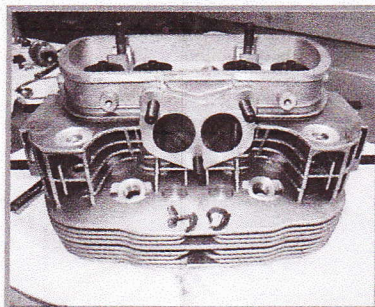
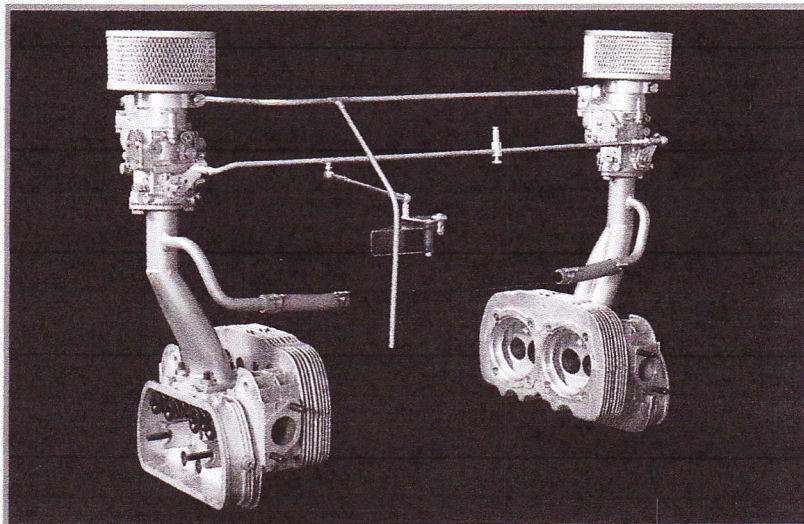
Making power the old fashion way, thanks to Wolfsburg West

BY DEAN KIRSTEN

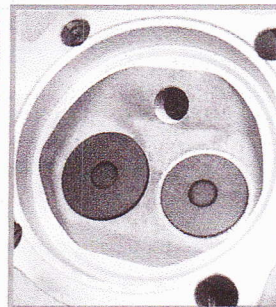
Photos by Shin Wantanabe, Rich Kimball and Deano

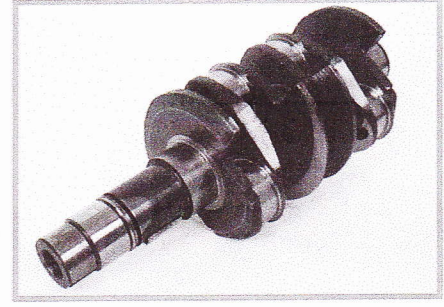
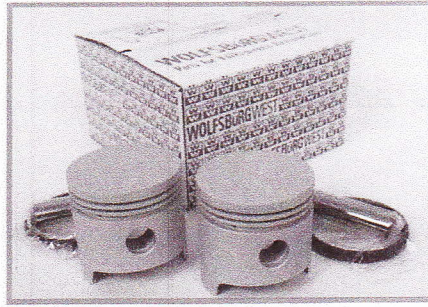
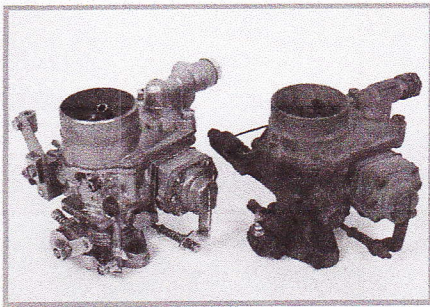
Any time you place an engine on a dynamometer, what usually gets the most attention is the highest number reached, right? To an unlimited turbo VW, seeing high numbers in the 500-800hp range are not uncommon. Likewise, in a carbureted street engine good numbers are probably more like 120-200hp. Now if you move the hands of time back a few decades, when VW was only using the 1200cc/36hp engine, power numbers would only be in the twenties, maybe low thirties. While it may seem impossible for a VW sedan to be powered by only 28hp, in reality with the proper gearing, that is more than enough to reach freeway speeds — not fast mind you, but reasonable.

In the world of tuned 1200cc VW engines, it is important to realize that most of these engines actually had less than 36hp — the factory rating. And depending on which dyno you use, on any given day, those numbers will vary greatly, and often do not compare with the factory figures. With that said, today we are going to look closely at the new Okrasa-style perfor-



Wolfsburg West dynoed a 1300cc stroker version, using their new kit, and made over 52hp. RIGHT & LEFT, new WW 36hp dual-port heads use 33mm intakes and 28mm exhaust valves, using a 45cc chamber for 7.5:1.





mance kit for the vintage 36hp/1200cc engine recently released from Wolfsburg West. Since the late fifties, the most popular tuning kit for this engine was the Okrasa, and other than the Judson supercharger, it gave you the most bang for the buck. Over time, these original kits have been in great demand, but the limited supply has made them hard to locate, and even more difficult to afford. Wolfsburg West saw this need, and realized it would take years to develop all the individual components needed to reproduce the kit. In fact, to duplicate those unique two-port 36hp cylinder heads correctly, WW had to go to four different foundries before they finally found one that could duplicate the Okrasa cooling fin design properly — Auto Linea in Brazil. The basic carburetors were eventually found, which were then modified to work properly for this application. Stamped and welded intake manifolds duplicated what Okrasa did, contoured copper fuel lines were made to look the same, and two difference linkage setups were created.

Specifically, the Wolfsburg West kit contains two 32mm PBIC carburetors fitted with 26mm venturis. These are mounted on a pair of steel fabricated manifolds with a cross-over tube that runs behind the fan

housing, just like Okrasa. Each carburetor comes with its own air cleaner, which can be fitted with either a foam element or option K&N filter insert. For linkage, you have a choice of an updated, bolt-on push-pull linkage made by CSP, or the more traditional fan housing-mounted OEM-style (which requires welding a small bracket to the housing).

The heart of the kit is, of course, the cylinder heads, which are dead-ringers for the Okrasa units. Each head comes with 33mm intake valves (stock is 30mm), 28mm exhaust valves, and 45cc combustion chambers, which comes out to be a final compression ratio of about 7.5:1 (compared to a stock 6.6:1). You still use your stock valve covers and rocker arms as before, which are not provided with the kit. Other parts that may be added to complete the package would include a restored 019/010 Bosch distributor and the aftermarket Abarth-style 4-tip muffler, just to name two.

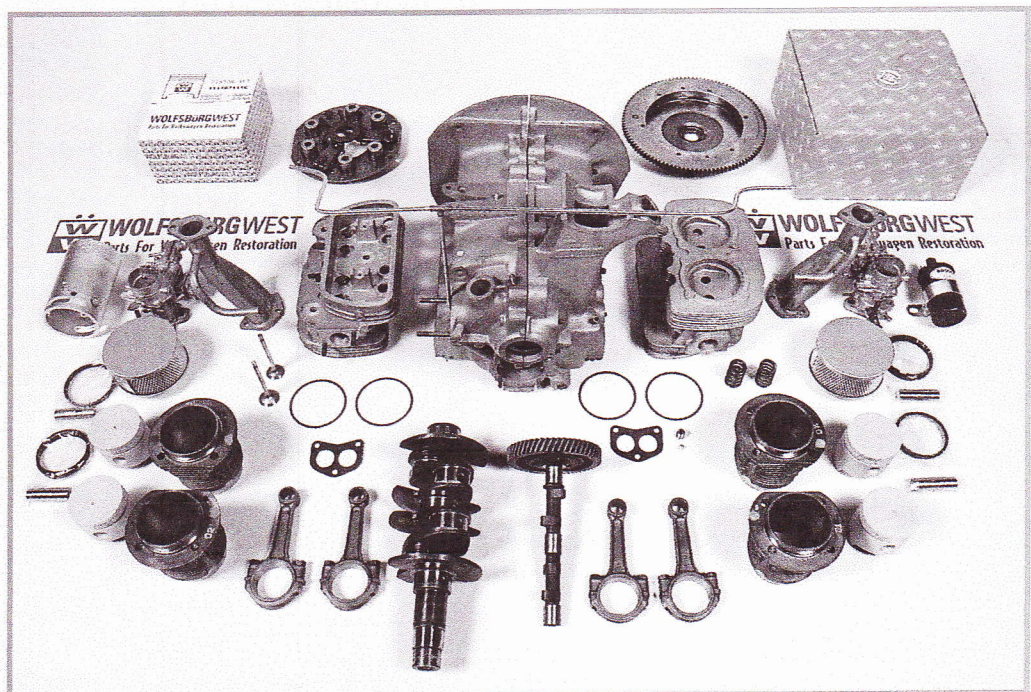
Now, any time you add performance items to a stock engine, it is important that the engine you start with is reasonably fresh and in good running condition. No sense adding all these new Okrasa items to an engine that needs to be rebuilt inside. Wolfsburg West offers new pistons and

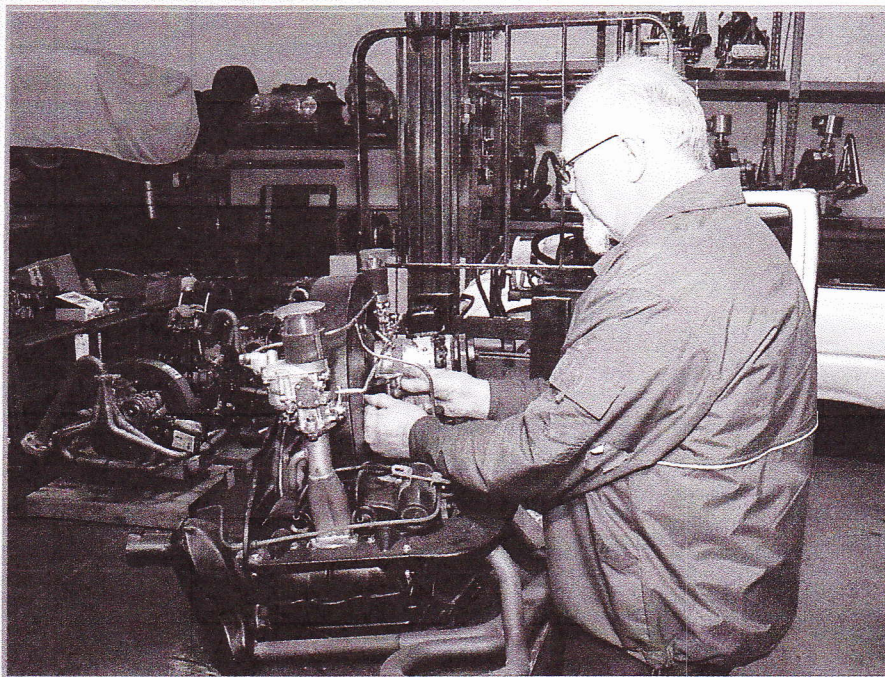
cylinders, as well as lower end bearings, gaskets and lifters/pushrods for the 36hp engine. Hell, you've only got about 36hp to work with, so make sure they are all there in the first place!

When it comes time to install the kit to your existing engine, Wolfsburg West includes a very detailed instruction booklet that guides you through the installation, modifications to the sheet metal, swapping out the two upper center head studs and so on. There is nothing too tricky about the installation, in fact it's kinda fun! A fully equipped engine will fit into your basic Oval window sedan or early bus, but the standard air cleaners will interfere with the rain catcher on a convertible, decklid hinges on a Ghia, or an upper engine compartment rib on a Type 2 truck (which can be tweaked if you don't mind bending the flange slightly). Wolfsburg West, along with CSP Parts, have just come up with an "elbow" adapter which, like in the old days, moves the air cleaner forward and away from these obstructions.

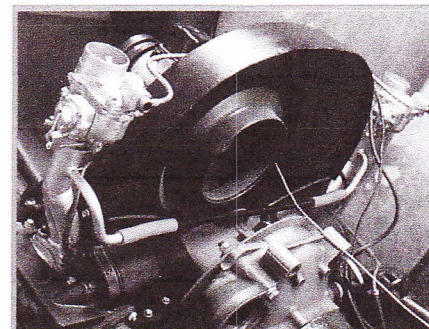
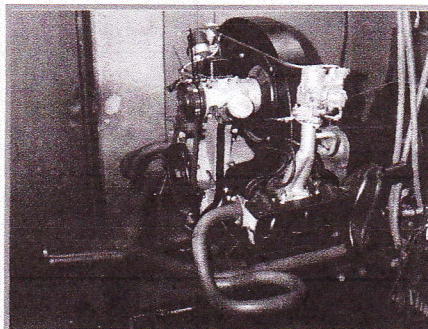
So what does all this mean in terms of making power? Recently, we followed along as two different dyno sessions took place testing the various engine combinations based on this kit. The first one, was

TOP LEFT, comparison between an original 32 PBIC carburetor and Wolfsburg West' replacement. Venturi size remains 26mm. **ABOVE CENTER,** replacement pistons and cylinders are available for the 1200cc/36hp engines. If you plan to use a stroker crank with these pistons, you need to use spacers under the cylinders to re-adjust the deck height and compression ratio. Wolfsburg West offers these special cylinder shims. **ABOVE RIGHT,** DeMello can modify a stock 36hp crank to a 69.5mm stroker with counterweights. **RIGHT,** this is what goes into building a hot 1300cc/36hp stroker engine (long block) using both new parts, and rebuilt (case, fly-wheel, rods, cam, etc). Photo by Shin Watanabe.





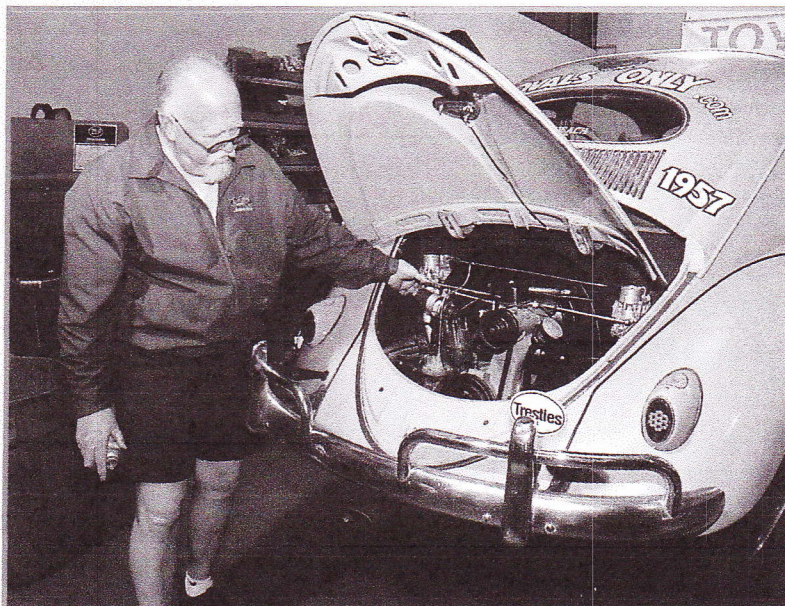
TOP LEFT, Wolfsburg West's Tony Moore installs one of his new dual-port heads for the 1200cc/36hp engine. These are all new castings to mirror that of the original Okrasa heads made fifty-plus years ago. ABOVE, Ron Fleming of FAT Performance installs the linkage on Rich Kimball's Wolfsburg West/Okrasa tuned engine. LEFT, on the FAT dyno, Ron balances the 32 PBIC carbs using an Uni-Sync, prior to making a dyno pull. BELOW CENTER, Kimball's engine was fitted with a Speedwell exhaust system. BELOW RIGHT, like the original Okrasa carb kit, the WW intake manifolds use a cross-over balance tube. BOTTOM, hours later, once the engine has been fitted into Kimball's Oval sedan, Ron made some final adjustments before allowing Rich to drive his hi-po Oval on the open roads of Tustin!

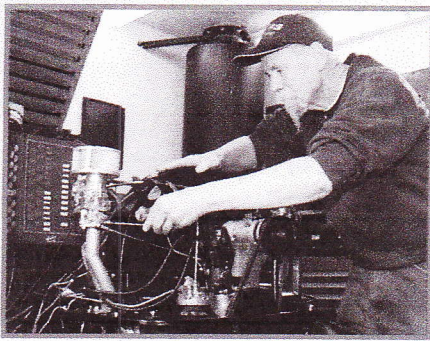


done at FAT Performance in Orange, California, where our own Rich Kimball took his bone-stock 36hp engine, checked it for baseline performance, and then added the kit (along with a Bosch 010 distributor and a Speedwell exhaust system), and re-ran the test. We covered that session in the March 2010 issue within Rich Kimball's Collector's Corner column. Power was increased by at 35% at 4500 rpm.

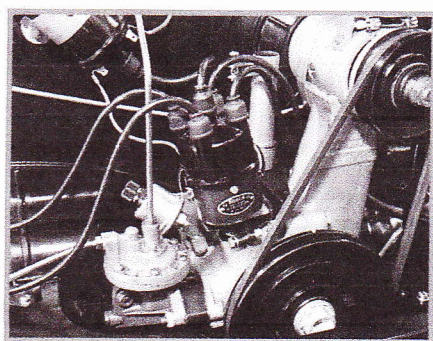
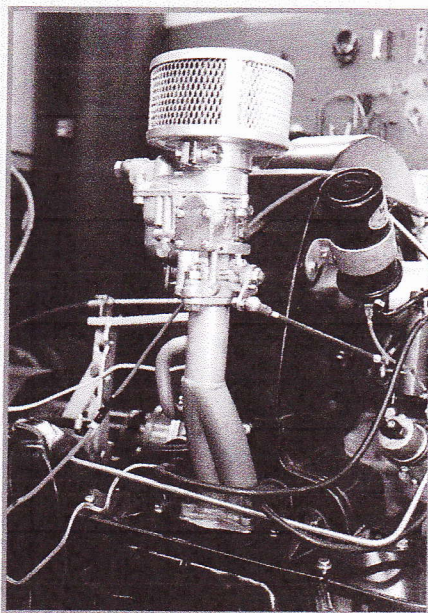
The second dyno session was done at Roger Crawford's Heads Up Performance in Fullerton, California, where Tony Moore took a 1200cc engine fitted with the kit, along with a stroker 1300cc engine, which we've detailed here. The stroker version was fitted with a DeMello 69.5mm welded stroker crank, and a reground Isky 2-J cam (.338 inch lift, 108° centers and 254° duration @ .020 checking clearance). Both engines were tested — but not compared to a stock 1200cc on the same dyno. The results from all of these tests were very interesting, to say the least.

Moving to Tony Moore's testing at Heads Up Performance, with the kit installed on a fresh 1200cc engine saw a best reading of 46.9hp at 4,500 rpm, and a



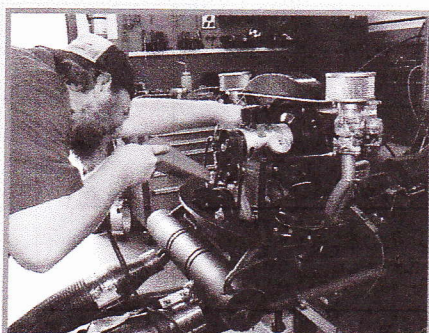
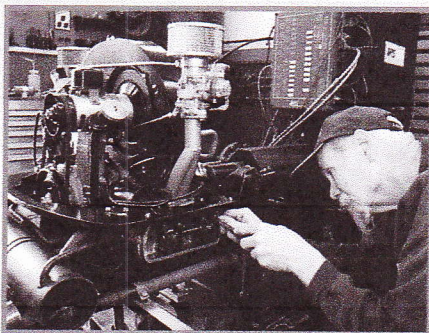


ABOVE, Roger Crawford adjusts the mixture screws during a dyno test at Heads Up Performance. RIGHT, Wolfsburg West's kit mirrors the original Okrasa kit remarkably well. FAR RIGHT, the performance distributor of choice would be either a redone Bosch 019 or 010. BELOW, Roger adjusts the valves on this Isky cammed 1300cc stroker engine. BELOW RIGHT, Mark Rollings sets the timing at 37° advance.



can make a dramatic increase in performance across the board. And if you add a stroker crank, performance cam and exhaust, you'll see your vintage Oval or Barndoor bus fly along at today's freeway speeds! So even though we are only talking about 52 horsepower on a modern digital DTS dyno, looking at what a stone-stocker produces, that is most impressive. We want to thank Roger Crawford of Heads Up Performance for use of his dyno facility.

RVIEWS



SOURCE

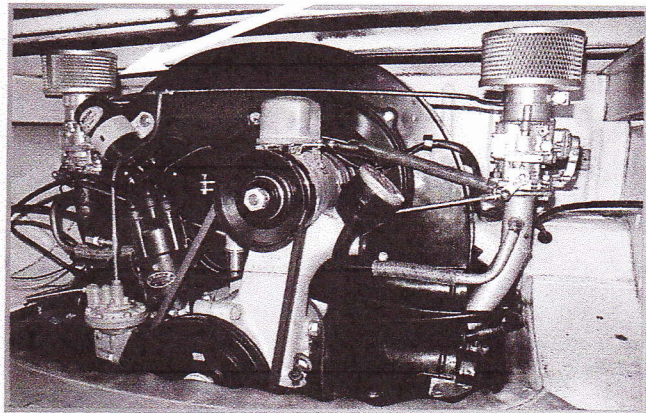
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best torque number of 62.4-ft.-lbs. This engine was fitted with a stock cam, 019 distributor set at 35° total advance, four tip Abarth exhaust, and jetting used #125 main jets with optional K&N air filters.

Next came the 1300cc stroker engine for Tony Moore, which used a mild Isky 2-J reground cam, Abarth exhaust, 019 distributor at 37°, and #125 main jets. Power for this larger engine jumped up to a best reading of 52.4hp, with 69.9 lbs ft of torque. That's a 5hp increase and 7-ft.-lbs. of torque improvement with larger stroke and cam.

There is little doubt that, like the original Okrasa kit, Wolfsburg West's bolt-on kit

RIGHT, this is what the kit looks like when installed into a 1957 Single Cab pickup. As you can see, the left air cleaner (arrow) touches the lower frame brace. A slight clearancing is necessary. BELOW LEFT, a new adapter elbow is now available for Karmann Ghias, Bug convertibles, and Type 2 trucks.



Heads Up Performance Dyno Test

RPM	1200cc Wolfsburg Kit		1300cc Wolfsburg Kit	
	Horsepower	Torque	Horsepower	Torque
2000	-	-	-	-
2500	27.57 _{HP}	57.90 _{ft.-lbs.}	29.22 _{HP}	61.40 _{ft.-lbs.}
3000	36.10 _{HP}	63.30 _{ft.-lbs.}	39.90 _{HP}	69.90 _{ft.-lbs.}
3500	41.60 _{HP}	62.40 _{ft.-lbs.}	46.00 _{HP}	69.00 _{ft.-lbs.}
4000	45.20 _{HP}	59.40 _{ft.-lbs.}	49.50 _{HP}	65.00 _{ft.-lbs.}
4500	46.90 _{HP}	54.70 _{ft.-lbs.}	52.00 _{HP}	60.70 _{ft.-lbs.}
5000	46.70 _{HP}	51.10 _{ft.-lbs.}	52.40 _{HP}	57.30 _{ft.-lbs.}

