

Motorcycle Part or Art?

UPGRADING A Z1000 EXHAUST SYSTEM ■ BY STEVE LITA

BEAUTY IS IN THE EYE OF THE BEHOLDER. And far be it for me to call myself an art critic. But I think if you're a true connoisseur of fine motorcycle parts, you'll appreciate the quality of the LeoVince SBK full titanium and carbon fiber exhaust. Trust me, pictures don't do it justice. The workmanship is flawless, and the welds are meticulous. The carbon can is complemented by a matching carbon bracket, and the shape isn't even a standard oval; it's more like a squared-off oval.

LeoVince, an Italian company established in 1954, is one of the two oldest motorcycle exhaust manufacturers in the world (the other is Yoshimura). Its exhausts are hand-welded and assembled in the town of Alba, about 50 miles east of Turin. The titanium and carbon fiber silencers, carbon fiber brackets, springs, and straps are all machined, stamped, or produced entirely in house.

The exhausts are designed to be plug-and-play, and they generally perform very well. As a precaution, LeoVince suggests disconnecting the bike battery after installing the exhaust, and then, after a few minutes, reconnecting the battery and starting the bike. This allows the ECU to reset its air/fuel mix based on sensor readings. However, after installing a full system on my '04 Kawasaki Z1000, I decided to fine-tune it with a Dynojet Power Commander instead. In stock form, my



Here are the LeoVince parts, laid out for inspection.

Z's fuel-injected 953cc four-cylinder produces 114 hp and 62 ft-lbs. of torque. I couldn't wait to see what the motor could do uncorked.

Right off the bat, I noticed the weight savings with the new system — it weighs just 16 pounds, compared with the 35-pound stainless steel factory pipes (as measured on our trusty scientific *RoadBike* bathroom scale). My compliments to the folks at Kawasaki for engineering a simple factory exhaust. You just remove four bolts and eight flange nuts, and

Preassembling the 4-into-2 and 2-into-1 mid-pipe before mounting it on the bike made the installation go much more smoothly. These are precision bent and welded pieces, and proper alignment is crucial.

the original system comes off.

Installing the LeoVince system using the illustrations in the instructions can be a bit of a puzzle, as the instructions were probably written in Italian first and then translated into English. In addition, the entire header is held together with race-style springs. I found the best way to do the work was to carefully compare the parts to the detailed drawings.

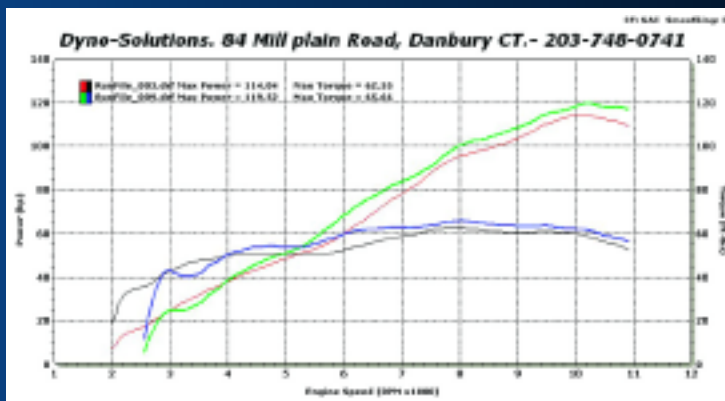
SOURCES

SBK Full System High-Mount
Factory Carbon
Part #7161 \$1,302
LEOVINCE USA
1360 S. 49th St., Dept. RB
Richmond, CA 94804
888/610-4242
leovinceusa.com

Rechargeable Air Filter
Part #KA1003 \$55
K&N ENGINEERING
PO Box 1329
1455 Citrus St., Dept. RB
Riverside, CA 92502
800/858-3333
knfilters.com

Power Commander III
Part #210-411 \$339.95
DYNOJET RESEARCH
2191 Mendenhall Dr.
Dept. RB
North Las Vegas, NV 89091
800/992-4993
powercommander.com

DYNO SOLUTIONS
84 Mill Plain Rd., Dept. RB
Danbury, CT 06811
203/748-0741
dyno-solutions.com



We saw a peak output of 119.5 hp and 65.6 ft-lbs. of torque, with no stumbling. The percentage gain over stock was even better at 6000 rpm and up, which is where this bike spends most of its time on the road. The air/fuel mixture hovers around 13:1, where we determined that this power plant works best.

Before I began, I secured the bike on a stand with a wheel chock and rear lift. I can't imagine someone trying to install this system with the bike at ground level and propped up on its sidestand. You have to be extra careful when tugging on the mounting springs, or you'll pull the bike right off its stand.

Overall, the exhaust installation took about an hour. Then it was time to remove the tank to install the K&N rechargeable air filter and the Dynojet Power Commander. The air filter slips right in to replace the factory paper element, and the Power Commander hooks up with just two electrical connections. The Power Commander controller is then tucked out of the way and secured in place. The instruction sheet says to mount the controller in the small tool tray under the Z1000's pillion seat. But I found a better spot inside the right-hand side cover, where it has a permanent home and won't get in the way. The only complication was that I had to fabricate a mounting bracket.

Installation done, I headed back to the dyno for the final tuning. First, I wanted to see whether the LeoVince tuning method was adequate. So we disconnected the battery terminal and zeroed the values in the Power Commander, to make sure that the Kawasaki ECU would be calling the shots. After a few minutes, I reconnected the battery, and we did a dyno pull. The bike produced about 2 hp more, but had a noticeable stumble just off idle.

Next, we downloaded the Dynojet standard Z1000 fuel map for use with a stock bike, and got about the same power output with no stumble. We're making progress. Finally, it was time for the full-tilt Dynojet calibration procedure using the Tuning Link system. The Tuning Link software monitors the air/fuel ratio over 140 running points, using various throttle positions and loads, and automatically calculates the correct adjustment to achieve the desired air/fuel mix. Then it uploads the new fuel values to the Power Commander. The whole process took about 45 minutes, and would ordinarily cost around \$250, but it's the best way to get maximum power and torque.

The only work left was rechecking the fastener torque after a few weeks of riding, and buying some velvet ropes to hang on stanchions around this work of art.



1

Note the beautiful weld details. This system doubles as a poor man's work of art.



2

Even the interior of the pipes is detailed and deburred.



3

Removing the stock exhaust is straightforward. The bolts are easily accessible, and all you need are 12mm and 14mm sockets.



4

First, I bolted the spigots to the exhaust flanges on the head, and hung the front half of the exhaust. Mounting bolts were left loose for now.



5

The exhaust system is held together, race style, with high-tension springs. The rubber covers are for damping vibrations.



6

I installed the mid-pipe and the carbon fiber silencer (with some help from my friend Dennis), and then tightened all the fasteners. This exhaust is much more upscale than the stock one.



7

You can gain access to the air box by just lifting up the fuel tank, but I removed the tank for more room to work. The air box lid is in tight quarters, but it can be wiggled out. The K&N air filter is an exact replacement.



8

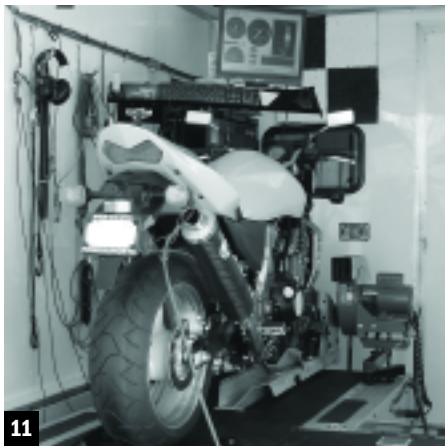
The Power Commander wires in at the main fuel injector junction under the tank. A small ground wire also gets attached to the negative battery terminal.



9
I fabricated a mounting plate for the Power Commander controller from 16-gauge metal, after tracing it from a cardboard template.



10
Dynojet suggests putting the controller in the tool tray, but I mounted it inside the right side panel with the provided Velcro.



11
The install is done – it's off to the dyno.



12
This exhaust is lighter, helps make more power, and has some serious eye appeal. **RB**

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