

SHOOTOUT OF THE YEAR:

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\$3.99 \$5.99 IN CANADA

FIERCE 4-STROKES

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PERSONAL WATERCRAFT ILLUSTRATED



AIR TIME

RAMPS GIVE BOOST TO FLAT-WATER FREESTYLE

Honda's R-12
We test the new 2-passenger 4-stroke

PLUS
Tweaked: PPG's kit for the Sea-Doo XP DI
Rally: Friends and family get together in Florida



TWEAKED

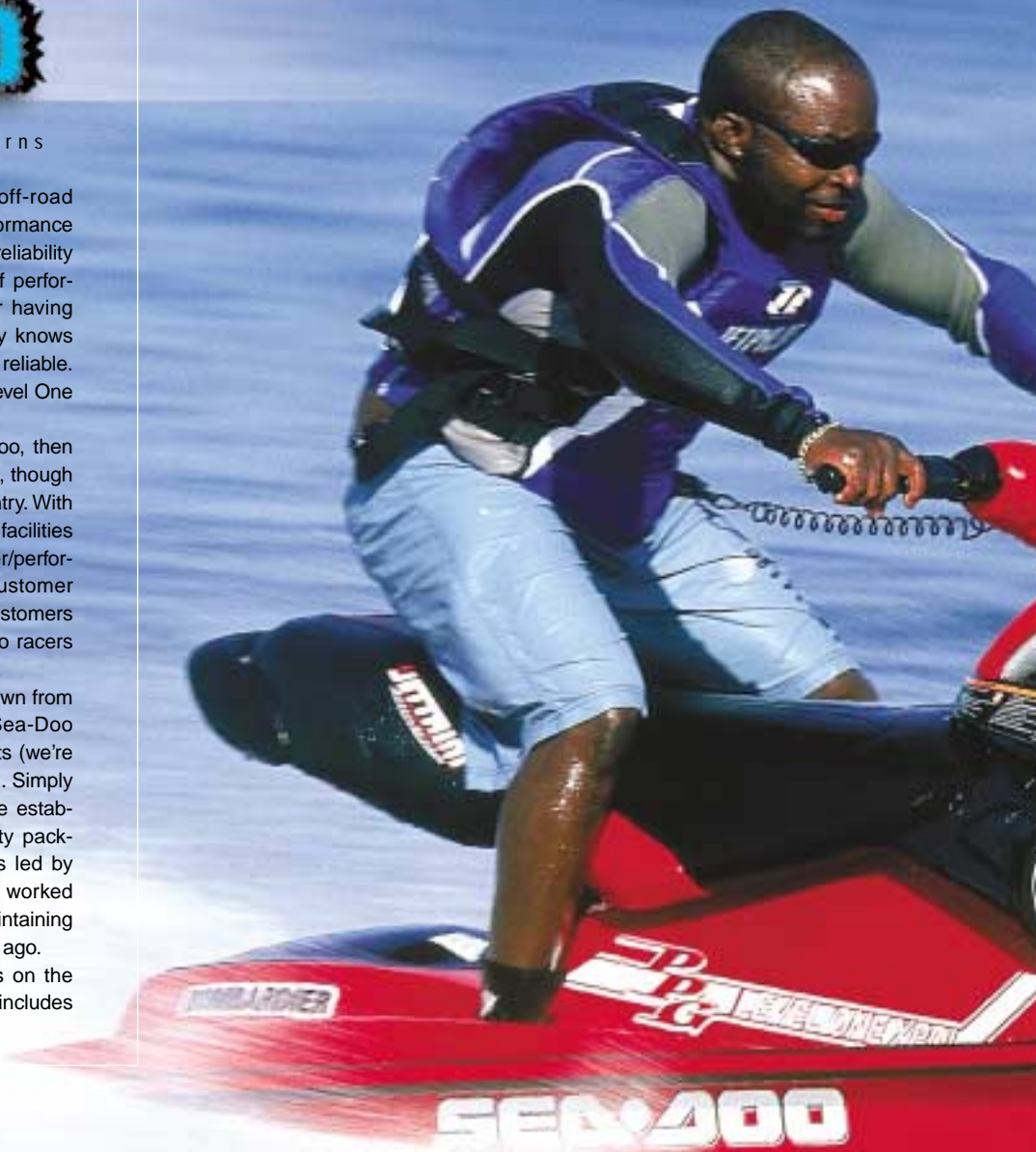
Story and Photos by Josh Burns

From his father's days of racing in off-road events like the Baja 1000, Perry Performance Group owner Glen Perry knows that reliability is key when dealing with any type of performance enhancement. With his dad never having had a DNF in any of his races, Perry only knows one way to make things work - keep them reliable. That same idea is behind the company's Level One kits for the Sea-Doo 951 DI motor.

If you live in Florida and ride a Sea-Doo, then PPG's shop is probably nothing new to you, though its customer base spreads all over the country. With one of Sea-Doo's main offices and testing facilities just up the coast, the Sea-Doo-only dealer/performance shop has established a strong customer base in its short tenure of seven years. Customers are everyone from high-profile celebrities to racers to everyday riders.

The shop's loyal followers have only grown from a website PPG built, Sea-Doo.net, for Sea-Doo owners that gets a ridiculous number of hits (we're told is about 1.5 to 2.2 million hits a week!). Simply put: PPG and its knowledgeable staff have established the PPG name by producing quality packages for Sea-Doo watercraft. The shop is led by head mechanic Frazier Grandison, who's worked with Perry since they worked together maintaining one of Jack Nicklaus' golf courses 17 years ago.

The Level One DI kit we tested works on the 951cc DI (direct injection) engines, which includes



**PERRY PERFORMANCE GROUP'S
LEVEL ONE PACKAGE FOR THE XP DI
PROVES THAT GOOD THINGS COME
IN SMALL PACKAGES**

POTENT PUNCH



the RX DI, the XP DI and the three-seater GTX DI. PPG has been working on this package for some time now. While it has been about two years in the making to get it right, the shop is very happy with the upgrade this relatively simple kit provides. Don't own a craft with the DI motor? That's OK, because the carbureted kit has been a popular seller for PPG for some time, and it's the reason that the company wanted to provide the same thing for the DI motors.

The biggest component to the Level One Kit, and the biggest stumbling block for PPG to complete the package, is the reprogramming of the MPEM - the brain of the craft. The MPEM is reconfigured to advance the engine's timing curves to provide added fuel/air mixture at key points in the rpm range. PPG says the setting should provide better low-end punch, a stronger midrange and little more top speed. The good thing about this kit is that compared to carbureted craft, these units are powered by much more fuel-efficient engines. While it can outlast the carbureted units, the kit also can stay on a pump-gas diet of 91-octane gasoline. It's interesting to note that while each DI comes stock with a knock sensor that will retard the performance of the engine if too low an octane of fuel is used, PPG adds an audible alarm that will notify the rider before this knock sensor retards the craft's performance to prevent engine damage.

PPG also mills the engine's head to increase compression, and while that's being done, the domes are polished and cleaned, making them a little less likely to collect carbon buildup.

The stock airbox is also replaced with flame arrestors from Fly Racing to help improve airflow. When the stock flame arrestor is taken off, the DI air compressor needs to be removed, so PPG replaces its filter with a new unit to help improve airflow but, more importantly, to prevent water intrusion to the air injectors.

PPG head mechanic and Sea-Doo guru Frazier Grandison riding the Level One-equipped XP DI that he set up for our test. The kit is designed to provide an increase of about 18 horsepower over stock while maintaining the reliability of the DI motor.



(Above) The XP DI we tested was equipped with PPG's handlebar extension kit for Sea-Doo watercraft, which is not included in the kit but is a great upgrade to provide more leverage for aggressive riding - and especially for taller riders. It also includes a finger-throttle conversion and grips.

(Right) All that's included in the Level One package for the Sea-Doo: the reprogramming of your craft's MPEM, Fly Racing Flame Arrestors, air filter and a NuJet impeller. It's simple but effective.



To complement the changes to the engine, a NuJet impeller replaces the stock unit to handle the added power and help provide some aid on the top end. PPG does suggest maintaining the stock impeller for surf-riding applications or situations where low-end punch off the line is of more importance. In these instances, PPG actually takes the stock impeller and tweaks it to its specifications (it does cost \$75 to do so, but one additional re-pitch is allowed if the first doesn't match your craft's performance to your liking).

As you can see, the kit isn't the most complicated. While we tested the complete Level One package, PPG also offers a "Lite" version, which does not feature the head work or the NuJet impeller.

On the craft that we tested, Worx sponsons (not included with the Level One Kit) were equipped to the craft. Also not included in the kit but equipped on our craft are PPG's handlebars extensions for the Sea-Doo bars, providing riders with added leverage in turns, especially taller riders. The extensions lengthen the bars by about an inch and a half on each side, and the complete kit comes with grips, bar extensions to give it a clean look, a finger throttle to convert the standard Sea-Doo thumb throttle, and an actual throttle housing.

For our testing, we met up at a canal just down the street from PPG's facilities. The temperature was roughly 80 degrees with a bit of humidity, and there was a slight headwind for our radar runs. Conditions weren't ideal, but they weren't terrible, and the water was mostly calm.

With the first tug of the throttle, it was apparent that this craft had more pull on bottom than stock. It seemed to have good power through the midrange as well, but as it got toward the top end, you could feel that there was still a little more juice left in it.

For comparison's sake, we looked at the figures of a stock XP DI we obtained during our Musclecraft Shootout a few months prior, the last shootout the craft will be in, since this is its last year as a new model in its current state. Although the craft were tested in different conditions

THE LOWDOWN

PPG Level One Kit\$895

- Reprogram of MPEM
- Head Modification
- Fly Racing Flame Arrestors
- Air Filter
- NuJet Impeller

PPG Level One "Lite" Kit\$695

- Reprogram of MPEM
- Fly Racing Flame Arrestors
- Air Filter

Other Items equipped on craft tested

- Worx Sponsons.....\$195
- Jettrim Spray Deflector.....\$34.95
- Jettrim Seat.....\$130
- PPG Handlebars Extension Kit.....\$250

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(and on different coasts), they should suffice as a reference point.

The kit is designed to run ideally in the 6950-7050 rpm (depending upon the particular setup the customer wants) range, which is just above where the stock setup produces peak horsepower at 6750 rpm. Reliability is an important factor to PPG.

During our shootout, our stock XP DI ran at a peak speed of 59.33 mph, and the XP DI Level One craft we tested ran a peak of 64.19 mph - so right off we noticed about a 5-mph gain on top. As for acceleration, PPG's craft definitely had more power, running faster from 0 to 20 mph at 1.69 seconds (our stock unit took 1.87 seconds). With the change of the NuJet impeller (which is designed for a better top speed and not low-end power), the craft would've most likely been even stronger on bottom (though consequently, a little slower on top). The Level One XP DI was also quicker in the midrange, as it took 0.98 seconds to get from 20 to 35 mph, which took the stock craft 1.29 seconds. All in all, the gains we saw are in line with what PPG claimed.

As for the ride, it was just a blast. The XP was constantly described as "fun" by testers during shootouts, and this kit only pushed the fun factor higher. Although the sponsons aren't included in the kit, they are a good addition with the added power, because they help give the XP an even more aggressive turning ability. The handlebar extensions are a great addition as well, since they really help make aggressive turns much more comfortable and natural to do, with the bars more like that of a motorcycle. Don't forget that the extension comes with the finger throttle conversion - we sure didn't.

All in all, PPG's Level One package for the Sea-Doo's 951 DI motor is a nice upgrade. It's affordable, relatively simple, and is designed to retain a high level of reliability - something that even the grudge racer can appreciate. If you're looking for an added boost in performance for your XP DI, RX DI or GTX DI, this is a great option. *PWI*

