TWEAKED

PROJECT Surf Ski

SELWITZ

Making the Kawasaki SX-R into a surf-riding machine

Despite the fact that speed is not its main objective, our SX-R provided more than a 5-mph gain in top speed, as well as improvements to its low-end and midrange.

The SX-R, equipped with Factory Pipe's SX-R B Pipe, performed quite well in the surf - just what we set out to do.

SELWITZ

By Josh Burns

Let's get one thing straight - I'm not a professional freerider. Performing back flips and barrel rolls doesn't interest me. I'll save that for the pros. But riding in the surf - be it even just surfing waves on a ski - is a blast. We had a new SX-R at our shop from last year, and we know it was a fun surf ski in stock form, but we wanted to take it to the next level.

The idea for this test was to produce a ski that wasn't overly complicated. We wanted it to run on pump gas and maintain a certain level of reliability. The reality of surf riding is that water in the engine compartment is the norm, and the ski itself certainly can get knocked around a good amount. Reliability is key. The stock SX-R is pretty bulletproof (our SX-R has certainly proven to be thus far), so our hopes were to keep that theme alive while producing a package ideal for surf (i.e.: good low-end power and torque).

We pieced together what we felt was a straightforward ski. Factory Pipe's Ross Liberty mentioned that a great deal of interest has been expressed for a SX-R "B Pipe," so Liberty began work on producing one for the test. We knew we weren't the only ones interested in these results.

Factory Pipe's "B Pipe" has been around for quite some time, and for good reasons since it has a proven track record for reliability. Unlike the dry pipe for the SX-R, this pipe has a wet chamber with a separate water-jacketed head pipe. The SX-R "B-Pipe" is intended to provide better off-idle throttle response than the dry pipe, which makes it more suited for surf applications. And unlike the 800 SX-R dry pipe, this one fits into the engine compartment without a hood modification. We also like the idea of running electronic water injection, since it keeps the pipe cooler and therefore will keep the engine compartment (which gets plenty of water in it during riding) nice and cool. Water getting on a hot pipe can produce enough steam to have a negative effect on engine performance.

Having prepped many surf skis over the years, we decided to have Jet World perform the engine work for us. First off, the "Freeride" port job was performed to provide improved torque on pump gas by porting the stock cylinder's exhaust and transfer ports to improve flow. The stock head was also decked in an effort to increase compression. Keeping true with maintaining as many stock components as possible, the stock carburetors were modified from 38mm to 40mm in an effort to flow more air/fuel mixture to the engine, which is performed to provide the ski with a little more punch. This also allowed us to keep the stock flame arrestors (which have worked great at keeping water out of the carbs in our experi-

(Above) Jet World ported the stock cylinder's exhaust and transfer ports to improve flow, as can be seen by the modified piece on the right compared to the stock cylinder on the left.
(Right) Hot Products' Bilge Pump, which is controlled via a rocker switch that was mounted to the handlebars, helps keep water out of the engine compartment.

ence), although the baffles were removed so the carbs can breath enough air to accommodate the upgrades. Jet World also installed a primer kit in place of the choke, since the choke could not be used with the modified carburetors.

Another key component to the package is the Advent Ignition, which replaces the stock component. The settings we ran on this ski, which were determined by Jet World, provided advanced timing for the low rpm range to offer improved quickness, and it backs off at the high rpm range to reduce detonation and help increase top speed. The ignition features full rev-limiter control, which is set on this boat at 8000 rpm (just above the stock setting of 7800 rpm).

Although the Advent Ignition features two channels to control the water injection (it can control water heading into both the head pipe and the stinger), only one was used for this package to provide water injection to the headpipe, which starts at 1200 rpm and shuts off at 6500 rpm. Advent claims the ignition also provides 5 1/2 times the spark energy over stock.

Although it isn't the flashiest component, a bilge pump is standard for any ski that will spend a lot of time in the surf. We installed a Bilge Pump Kit from Hot Products, which is controlled via a rocker switch mounted to the handlebars.

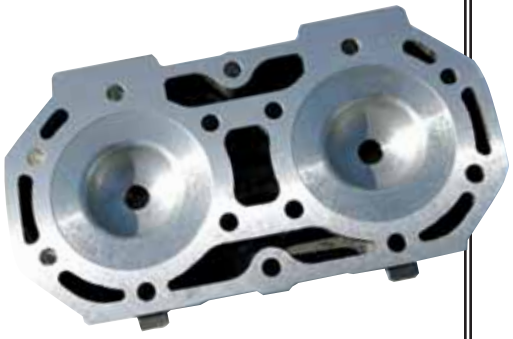
The Worx SX-R Extended Ride Plate replaces the stock piece to provide added stability and to help bring the nose a bit more out of the water, thereby improving the craft's already good handling characteristics. We also used the Worx SX-R Scoop Grate, which features a rather mild scoop that is ideal for surf-riding applications since it doesn't quite grab the water as much as those with steeper scoops.

We replaced the stock impeller with a stainless-steel 13/18° Skat-Trak impeller that is designed to handle the low-end power we would produce with this package. The stock exit nozzle is also modified to Jet World's specs to complement the setup.

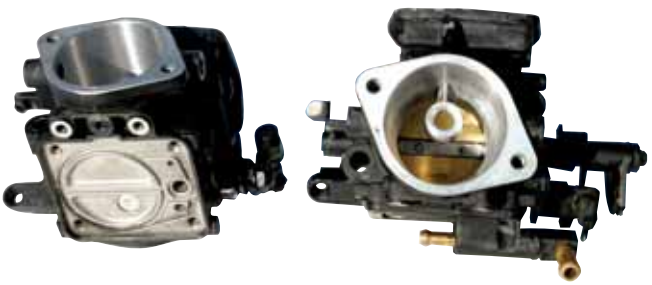
Once the ski was put together, we took it down to flat water to perform radar runs. Numbers really aren't important on this boat; it's all about the performance and response in the surf. On the other hand, numbers can parlay what can be felt but not seen. To go from idle to 20 mph, the surf ski took 1.33 seconds. Although we didn't have a stock ski to compare it to, this is definitely faster than the last test we performed at the same location in similar conditions and with riders of roughly the same size. During that test, the stock ski went from 0-20 mph in 1.84 seconds, so this is definitely an improvement. Continuing with the theme, from 20-35 mph the surf ski also improved over stock with a time of 1.36 seconds (it was 1.46 seconds for the stock ski to cover the same ground). The attention-grabbing number is always top speed, which on our surf ski was 54.07 mph at 7300 rpm. That's definitely faster than the 48.64-mph top speed we saw out of the stock ski last month. In all areas, there's no doubt this ski is quicker.

Numbers aside, the craft's power delivery is significantly improved over stock. Keep in mind, too, that these modifications were performed on a ski that has seen a fair share of use over the last year, which made the results a little more impressive in some respects. It doesn't have the rip-your-arms-off feeling of a superstock ski, but it certainly pulls from idle much harder than stock. Its top speed of 54.07 mph should enable this craft to outrun just about any wave on the planet.

The stock SX-R felt great in the surf. The added low-end power Kawasaki provided the 800 SX-R with over the 750 SXi made it responsive enough to be very playful in surf conditions. With that said, this package felt very similar to the stock ski in respect that it still had that fun, playful characteristic. But



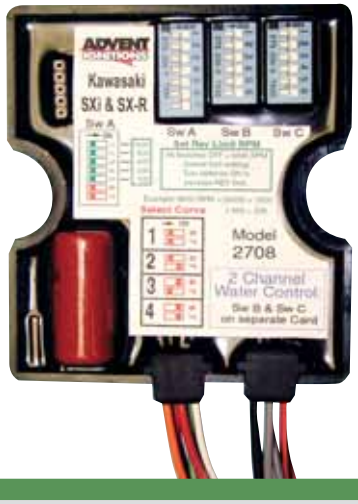
Jet World decked the stock head (left) to increase compression, while it also modified the carbs (right) from 38mm to 40mm to improve flow.



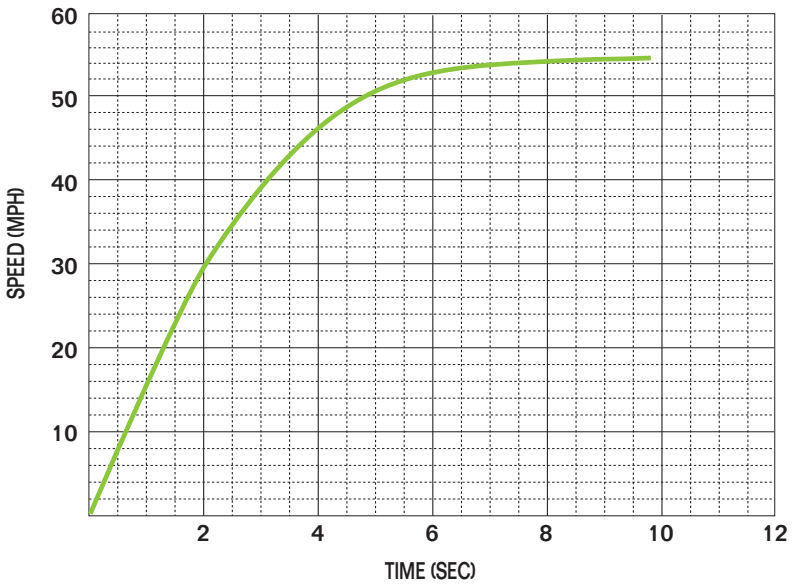
there was no doubt that it had more pull, and the added speed was noticeable in all areas - getting wave position, catching air off sections, outrunning waves, etc. More importantly, I managed to sub the ski on a few missed re-entries and floaters off the lip, and despite the fact that I got plenty of water into the compartment, it just kept on going. I rode it like it was a stock ski, and even if the engine died after a fall, it quickly came back to life. The bilge pump aided in pumping water out of the compartment. All in all, whatever I did to the ski in the surf, it just kept right on going.

Mission accomplished. We felt the surf ski we set out to build was spot on. It runs on 91-octane pump gas and still has great reliability. Its focus is on fun more than raw power, and we didn't stray from the theme - something that's easy to do sometimes. While we avoided performing some standard surf modifications, such as changing out the handlepole, bars, mats, etc., we'll save those for later. We wanted to modify as few parts as possible and maintain as much of the stock craft as we could. It's a great ski in stock form, so we didn't want to get too far away from that. It proved to be a good plan. *PWI*

The Worx Extended Ride Plate and Scoop grate replace the stock pieces on the SX-R.



(Right) Skat-Trak's 13/18° impeller helped complement the added low-end power provided by this package. (Far right) Advent's Ignition replaces the stock component to advance timing at low rpm for improved acceleration and backs off at high rpm to reduce detonation.



SX-R SURF SKI

0 - 20 MPH — 1.33 SECONDS	20 - 35 MPH — 1.36 SECONDS	35 - 54.07 MPH — 7.15 SECONDS
0 - 54.07 MPH — 9.84 SECONDS		PEAK SPEED — 54.07 MPH

PARTS LIST

Factory Pipe B Pipe	TBD
Advent Ignition	$475
Ignition Mounting Bracket	$17.50
Jet World Cylinder Porting	$350
Jet World Head Modification	$60
Jet World Carburetor Modification	$150
Jet World Exit Nozzle Modification	$60
Skat-Trak 13/18° Impeller	$232.99
Worx SX-R Extended Ride Plate	$149
Worx SX-R Scoop Grate	$129.95
Bilge Pump	$22
Bilge Switch	$70
Bilge Fitting Storage Sleeve	$9.95
Bilge Electric Part Kit	$8.25

CONTACT CONNECTION

Advent - 714/630-0446; adventignitions.com
Factory Pipe - 707/463-1322; factorypipe.com
Hot Products - 858/566-3363
Jet World - 818/559-9610
Skat-Trak - 800/969-7528; skat-trak.com
Worx - 800/329-9605; worx.com.au

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