



UPPING THE ANTE

Adding horsepower can come at a price.

QUESTION OF THE MONTH

MORE TOP SPEED

Q I have a Spectre 30 cat with a pair of Mercury Racing HP500EFIs with Whipple Supercharger systems. The engines make 780 horsepower. The boat is equipped with Bravo One XR drives with a 1.26:1 gear ratio spinning 36"-pitch props. Currently my speed is 126 mph on GPS at 5,800 rpm. How can we pull out 300 to 400 rpm and get more top speed?

Fernando Galue
Maracaibo, Zulia, Venezuela

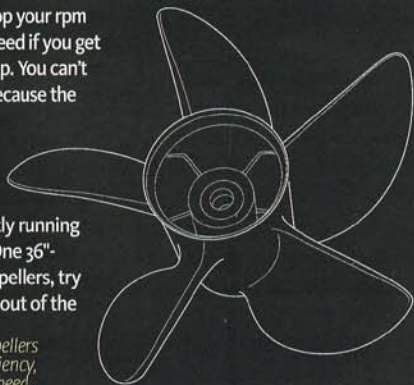
A According to my calculations, your prop slip is more than 20 percent, which is very high for a performance catamaran. You should be able to drop your rpm and pick up some speed if you get the prop efficiency up. You can't run any more rpm because the rev-limiters on the HP500EFI Whipple setup are at 5,800 rpm.

If you are currently running lab-finished Bravo One 36"-pitch four-blade propellers, try a pair that are stock out of the

Five- or six-blade propellers should help with efficiency, leading to more top speed.

box. Simply going to the standard propeller with the same pitch might help you achieve your goal. The standard propellers will be a little more efficient in the midrange and will put a little more load on the engines at the top-end. Mercury Racing can provide you with a pair of lab-finished 38"-pitch Bravo One propellers as an option.

Your boat works pretty well with the Bravo One four-blade propellers. You might try some five- and six-blade offerings from Hering and Hydromotive. Be careful with a new setup because the more the prop is hooked up, the more influence it has on the handling and attitude of the boat.



NOT A GREAT BLOWER CANDIDATE

Q I recently purchased a 1992 Ebbtide Campione Sport Cuddy with a MerCruiser 454 that is the 300 version with a Bravo One drive. It runs about 58 mph on the GPS with a 23"-pitch Mirage Plus propeller. I would like to add around 100 horsepower to the motor. It now has 78 hours on it. Do you think I should install a Weiand blower, upgrade the cam, heads, intake manifold and carburetor, or just wait until it's time for a repower of this boat?

I'm like every other boater. I want to go faster but more importantly, I want big-time reliability.

Jeff Pendleton
Orion, Ill.

A The 300-hp version of the marine 454 cubic-inch engine, which is the base engine for the MerCruiser 7.4-liter carbureted and the 7.4-liter MPI engine, is similar to the GM 454-cubic-inch truck engine. It is designed to produce more torque at lower rpm, which is why most of the engines were equipped with a rev-limiter that keeps the engine rpm to a maximum of about 4,700 rpm.

Your engine is likely equipped with a cast crankshaft, cast aluminum pistons and the smaller 3/8"-bolt connecting rods. The cylinder heads have very small inlet runners and usually have rotator assemblies under the valve springs on the exhaust valves. While the components are fine for their intended application, simply adding a blower will likely expedite your future repowering project.

If you want to spend the money, upgrading the heads, cam, intake manifold, carburetor, ignition and exhaust system would add the 100 horsepower you're looking for.

This information was provided a couple of years ago regarding similar modifications I had done on a MerCruiser 7.4-liter carbureted motor with pretty good

Aluminum heads are a reasonably priced option to replace your current "truck-style" heads with rotators on the exhaust valves. Aluminum heads also dissipate heat better than iron heads, which will help control detonation especially when using gasoline that is available today.

success. Edelbrock has a cylinder head assembly (Part No. 6049) that works pretty well for this setup. It flows well and has a 100 cc chamber. Using this head will raise the compression and allow you to install performance springs and a valve train on your engine. These aluminum heads are a reasonably priced option to replace your current "truck-style" heads with rotators on the exhaust valves. Aluminum heads also dissipate heat better than iron heads, which will help control detonation especially when using gasoline that is available today.

The World Products intake manifold (Part No. 63034) with the brass inserts in the water passages is a good choice for your engine. Use a Holley 800 CFM marine carburetor (List No. 9022) right out of the box.

I would convert the camshaft to a hydraulic roller. A Crane No. 13HR00146 (for Mark IV and Generation V engines) or a Crane No. 168731 (for Generation VI engines) are good choices for a carbureted 454. This cam profile will net good power, will not contribute to an exhaust valve reversion problem with other than stock exhaust, and will provide for adequate piston-to-valve clearance with your stock pistons. If you go with a hydraulic roller cam, install Comp Cams No. 929 springs at a 1.880" installed height using Manley 13656 retainers and Manley 13195 10-degree locks.

A good choice for exhaust will be IMCO Marine Powerflow 2000s, CMI E-Tops or Unitops. If you add the MSD ignition system and all the other components described above, you'll bump the rev-limiter up a few hundred rpm for added performance.