

SX SHOCKER: BUBBA VS. EVERYONE ELSE

DIRT BIKE

WPS 34355

DIRT BIKE

APRIL 2002

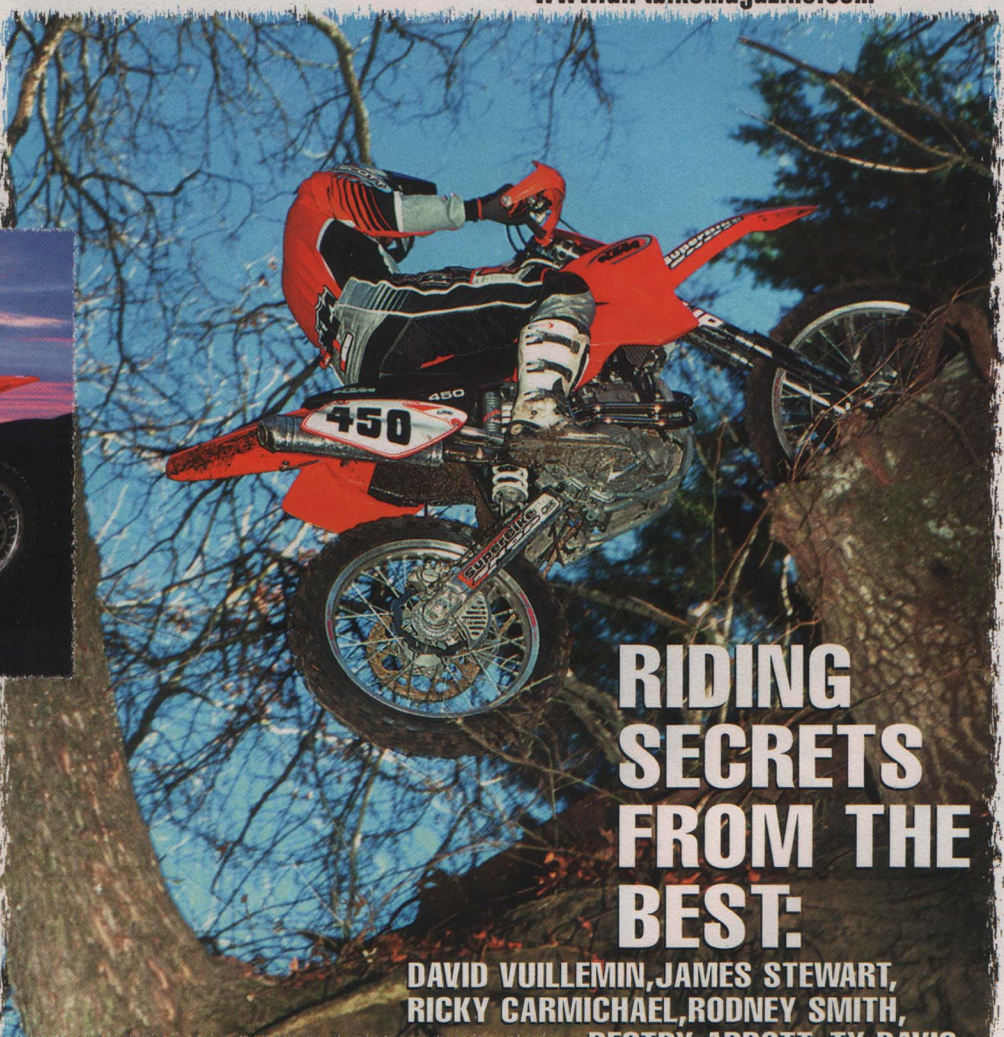
www.dirtbikemagazine.com

7 HOT HOP-UPS:



FROM THE LEANEST TO THE MEANEST

MEGA MINIS THE PERFECT FIT FOR YOUR KID



RIDING SECRETS FROM THE BEST:

DAVID VUILLEMIN, JAMES STEWART, RICKY CARMICHAEL, RODNEY SMITH, DESTRY ABBOTT, TY DAVIS, MIKE LAFFERTY, STEVE HATCH, MIKE KIEDROWSKI, STEVE HENGEVELD



COMAG 2.75

DIRT BIKE
APRIL 02



9 770364 154077

www.magazinecafe.co.uk

KTM's 450SX & MXC450

Guy Cooper airs out two answers to the CRF450R

By Xtra-Xtra-Lump



Chalk it up to the power of the press. In our December 2001 issue, we unveiled the ultimate 540SX, which launched the Evansville Superbike Shop into a veritable whirlwind. Not only did the phone start ringing off of the hook in Indiana, one of those calls was from KTM Sportmotorcycles USA. To make a short story shorter, Evansville Superbike Shop, which has only been a KTM dealer for three years, is now to KTM as Yoshimura is to Suzuki. KTM was so impressed with the machine we rode in Pennsylvania that it formed a partnership with Gary Virgin and the ESS crew to develop 450cc machines for 2003 motocross and supercross. The 520 will no longer be legal, as the AMA is dropping allowable four-stroke displacement to 450cc for the 250cc class for 2003, so John Dowd will have to downsize a bit.

Superbikes



DIRT BIKE SPECIAL MX/OFF-ROAD TEST

Whether you're into strafing bermed MX turns or pinbaling between the trees, KTM's new hop-up shop can turn your RFS 400 into a breathing 450. Guy Cooper demonstrates.

Anyway, that's how this test came about. ESS developed a lightweight, electric-start 450cc 400SX using much of the technology that went into the Ultimate 540SX (but without the Ti valves). The plan was to get it to rev out and run like a 426 or CRF but to have the magic button and weight competitive with 250cc two-strokes. ESS also built a torquer 450cc motor for off-roaders, this one being an MXC. Then we lined up Guy Cooper and Mike Lafferty to ride for photos at the awesome but secret McKool Ranch. Virgin also brought out the original 540SX, which has gained another astounding 10 horsepower and may even coax Air Cooper out of retirement (see sidebar) at the ripe age of 39! Here is the skinny on two ripping 450s!

FAST, FORGIVING 450SX

Street-bike power for the dirt

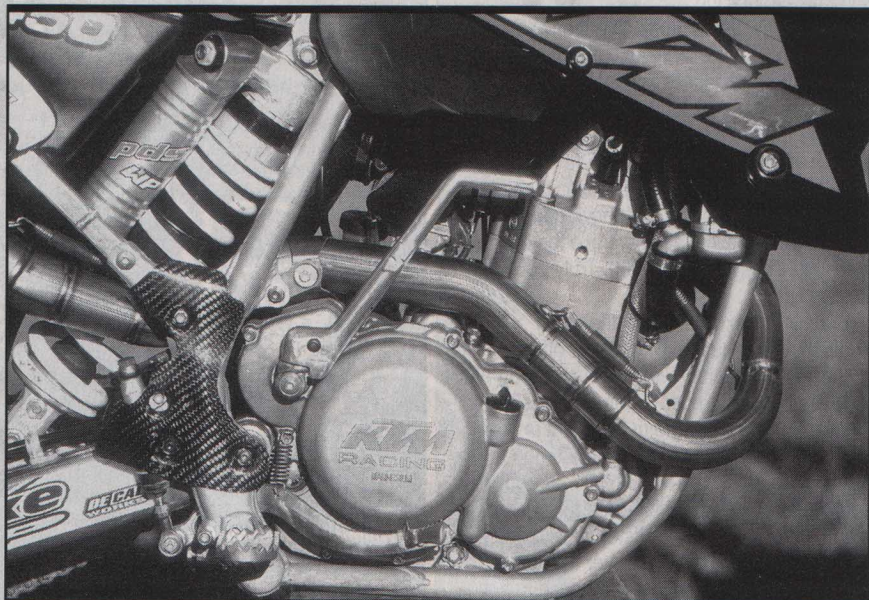
Yamaha's YZ426F came from road racing technology, and Honda's CRF450R came from its involvement in F-1 auto racing, while KTM's RFS came from motocross. Evansville Superbike Shop came on board with KTM to inject road-racing technology into the 400SX. While he didn't reinvent the flywheel, Gary Virgin put his expertise to work and totally reworked the engine with lighter valves and a shaved, balanced crank. (While the 540 has valves with thinner stems and different guides, both 450s tested here have standard-sized stems and stock guides.) He also machines the gears and tranny shafts to offset the weight of the EXC electric starter. Ti bolts throughout the engine, chassis and suspension drop weight to an incredible 220 pounds.

Transformed, the 450SX is light-years ahead of the 400SX in performance. It carburets off of the very bottom cleanly and has more torque everywhere. The engine revs out like a CRF or YZF and makes comparable power, but it vibrates less than any thumper we've ever ridden, except the Ultimate 540SX. Even the counterbalanced Husaberg feels like a washing machine with a bowling ball in it compared to this engine. It feels like someone wedged a road-race engine into a dirt bike. The motor is fast but not furious. We even enjoyed it in the tight woods, and it never stalled, popped or pinged.

Wolfman howled at the power, and Cooper started turning individual tabletops into huge doubles. This isn't your normal electric-start four-stroke by any means.

As impressive as the motor is, the chassis and suspension also transform the 400SX into a superbike with knobs. Virgin dialed in more compression damping for moto, and the results are infinitely better bottoming resistance than stock, but the fork and shock pick up track and trail junk better than the stock WPs. Where the stock 400SX tends to push in loose corners,

Guy Cooper shows off the Evansville Superbike Shop/K-Style 450SX over unrestricted airspace south of Dallas.



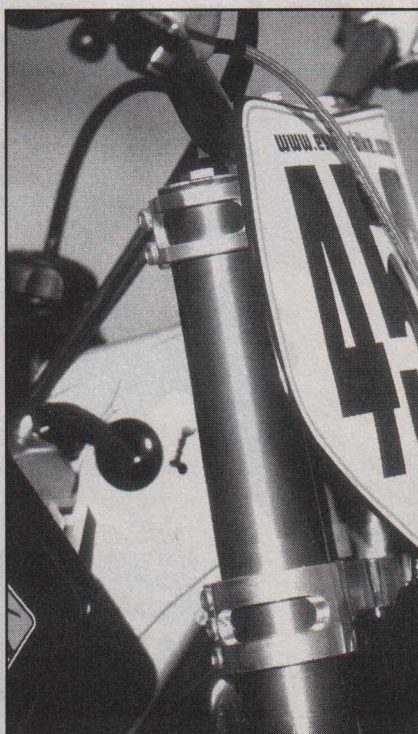
Akrapovic makes the all-titanium RFS exhaust system for KTM Austria, and the system is available through ESS and all other KTM dealers. The ESS 450cc kit gives the 400 a personality more like a 520.

the 18mm offset tripleclamps and Michelin meats hook a brother up on any surface. Mud, clay, sand or hardpack won't confuse this bike. And the lightness of a two-stroke 250 just adds to flickability.

This thing will eat YZ426s and CRF450s alive, plus it has the happy button! 🍀



Both the 450SX and the mighty 540 are turned over by this compact, maintenance-free battery, cutting weight high in the frame. The MXC sports the OEM cell.



How beautiful are these 18mm offset clamps? Handling is improved enormously by eliminating front-end push.

ESS 450SX PARTS LIST

450cc kit (piston, jug, gaskets)	\$590.00
Camshaft w/adj. timing	134.86
Lightweight superflow valves (ea).....	70.00
Port/flow head, valve job.....	450.00
Lighten, balance, assemble engine	600.00
KTM Ti exhaust system	1055.00
Ti chassis bolt kit	280.00
Ti engine bolt kit.....	687.00
Ti fr susp. bolt kit.....	335.50
Ti rr susp. bolt kit.....	326.00
Suberbike superlight battery	149.00
Billet aluminum 18mm clamps	299.00
Shorten subframe 3/4"	55.00
0.46Kg/mm fork spring.....	80.00
Revalve fork.....	100.00
Revalve shock.....	100.00
GPR steering damper	366.99
Braking floating wave rotor	229.00
Braking wave rear disc	139.00
Michelin S12 tires (fr, rr)	135.00
Talon sprockets & D.I.D. chain	189.00
K-Style front fender.....	21.99
K-Style rear fender.....	29.99
K-Style sideplates (ea).....	24.99
K-Style front number plate	20.99
K-Style EXC-Hi seat	85.00
K-Style Flex lever set.....	68.00
K-Style hologram graphics.....	49.95
K-Style hologram seat cover.....	69.95
Carbon-fiber frame guards.....	89.99

FACTORY MXC450

Ready to tame the wild

🍀 While the 450SX is tuned for high-rev power, the MXC450 engine gets more torque at lower revs through the Doma muffler and head work. ESS ports and flows the head with a full radius valve job, using lightweight, stainless steel valves and matching the head to the Superbike 450cc jug.

On the trail, these mods give the MXC400 low-end boost more like a 520 but more forgiving. Throttle response is instantaneous, so it's easy to wheelie over logs, roots and such. Wick the throttle harder, and the 450 claws into a much-improved midrange then revs out like a turbine on an F-18. The MXC doesn't leap forward like a 520, so you don't have to fight to stay on the thing, but it's more like the 520 in personality than the stock 400. Truly good stuff.

Handling is excellent, too, thanks to Superbike tripleclamps with 18mm offset, a shortened subframe, reworked suspension and a GPR steering damper. Virgin replaces the fork spring with 0.46Kg/mm coils and revalues the fork and shock to eliminate the tendency to blow through the travel on big hits, a problem with the stock WPs. Gary valved the suspension for Wolfman, and Wolfster came away impressed with initial action over trail junk, lack of any midstroke spike and resistance to bottoming. Coop bottomed both ends on flat landings, but Airtime could bottom anything.



Wolfman airs out the Evansville MXC450. While the stock MXC comes with SX suspension settings, ESS gave it softer EXC-style settings for the Texas woods. Both 450s share 0.46Kg/mm fork springs.



Extra displacement helps the mighty MXC450 wheelie over roots, even if those roots are at the top of an eight-foot cliff. Airtime demonstrates.

Brakes, turning, stability, everything is improved substantially, so much so that riding the Evansville Superbike Shop MXC450 is like riding a works bike. And the shortened sub-frame and tall seat improve the riding position for dabbing on tight trail. And, while the MXC450 had some Ti bolts, it didn't have the titanium exhaust and full Ti bolt kits, so there's even more room for improvement. The mind reels. 🌀

ESS MXC450 PARTS LIST

450cc kit (piston, jug, gaskets)	\$590.00
Camshaft w/adj. timing	134.86
Port/flow head, valve job	450.00
Suberbike superlight battery	149.00
Doma aluminum muffler	247.00
Billet aluminum 18mm clamps	299.00
Shorten subframe 3/4"	55.00
0.46Kg/mm fork spring	80.00
Revalve fork	100.00
Revalve shock	100.00
GPR steering damper	366.99
Braking floating wave rotor	229.00
Braking wave rear disc	139.00
Michelin S12 tires (fr, rr)	135.00
Talon sprockets & D.I.D. chain	189.00
K-Style front fender	21.99
K-Style rear fender	29.99
K-Style sideplates (ea)	24.99
K-Style front number plate	20.99
K-Style EXC-Hi seat	85.00
K-Style Flex lever set	68.00
K-Style handguards	59.00

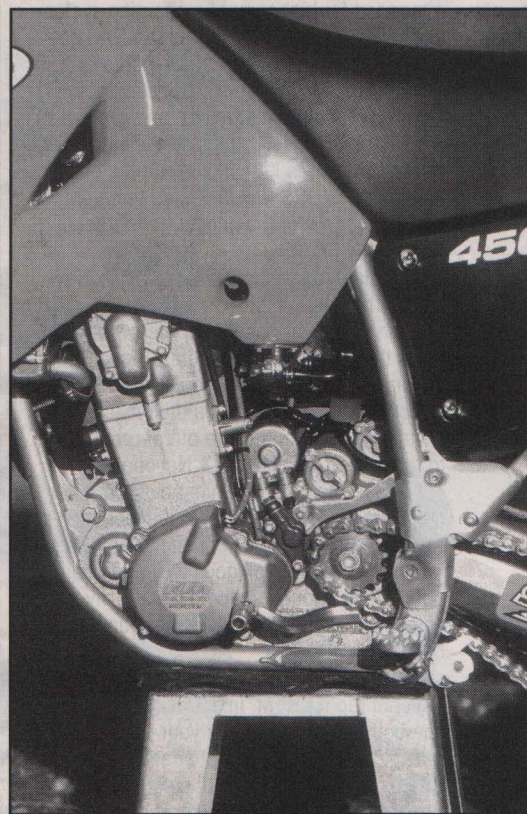


ESS tuned the MXC450 engine for more low-end torque, while the 450SX is tuned for more power everywhere. The best thing about the 450 kit is that it looks identical to the 400. Don't expect to fake it in the 400 class at the ISDE, though. ▶



◀ K-Style makes replacement plastic in orange, silver and black. Cross-country racers should swap the electric-start button to the left side for quicker starts.

◀ A GPS steering damper smooths out the impacts from the many roots, fallen logs and sharp Texas rocks.



Just as Suzuki has Yoshimura, KTM Sportmotorcycles now has the Evansville Superbike Shop to develop racing hardware for its various teams. Mike Lafferty could end up racing a 450, as there are no displacement rules for AA enduro riders or the GNCCs.



COOP AND THE 540SX

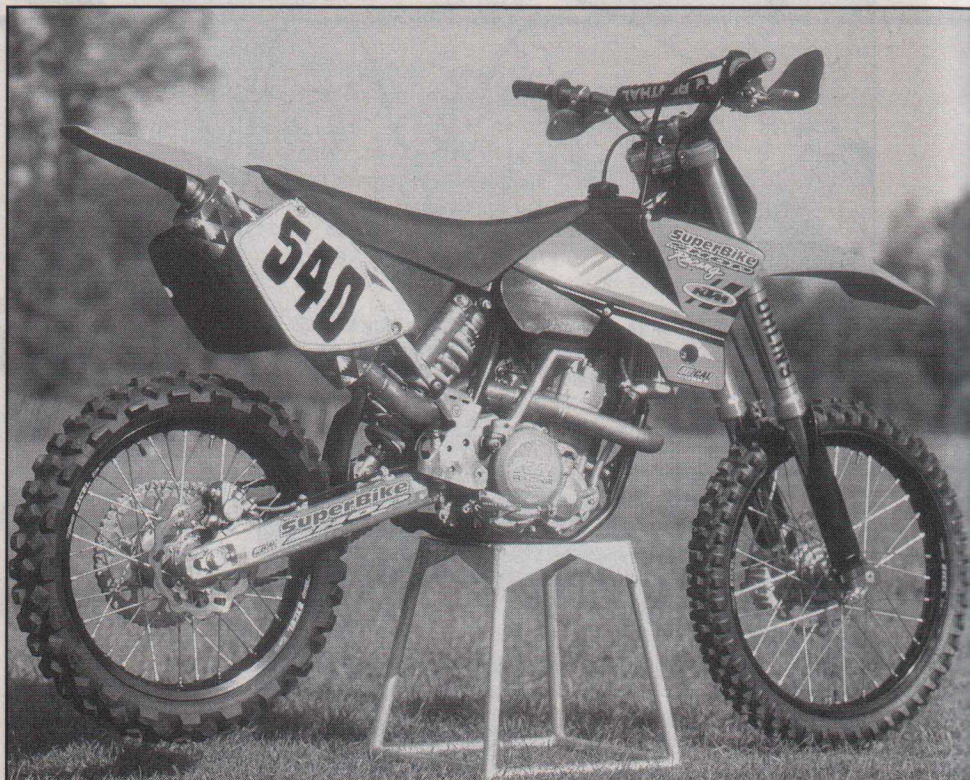
Gearing up for holeshot awards

Starting with a 520SX, Virgin adds the factory 540cc kit with the CDI black box remapped for higher revs, a charging system for the EXC electric starter and an EXC six-speed transmission. While the engine is apart, ESS lightens the flywheel and gearbox, flows and ports the head and replaces the valves with lighter ones. Since September, when Lump first rode the ultimate 540SX, ESS has extracted ten more horsepower out of the engine, for a total of 78!

Wolfman was stunned with the bike, saying it's the best motorcycle he has ever ridden, and Wolfster has ridden more works bikes than most factory racers. Cooper was so impressed with the Superbike 540SX that he formulated a plan on the drive back to Oklahoma, a plan to come out of retirement to race the 2002 250cc MX Nationals!

"Travis Pastrana is coming out to stay with me this spring," said Cooper afterwards, "And I'm going to train with him to get ready for the Nationals. If all goes well and I can get in good enough shape, I'll make my comeback aboard the Evansville Superbike 540SX."

To do that, he'd likely have to quit as a regional rep for KTM. Imagine that—a bike so good it'll make you quit your job and go racing. Cooper still has great speed, as he finished second to Doug Dubach at the White Bros. World Vet Championships on a stock



Wolf said the ESS 540SX is the best motorcycle he's ever ridden, and Cooper said he's coming out of retirement to race the 250 nationals on it.

520, and the Dubach is still a top-ten rider in the Nationals. Armed with the not-so-secret weapon of the 540SX, he'll be collecting holeshot and top-privateer awards in addition

to purses and points-funds. With the ESS-KTM connection, John Dowd may even come on board. If he doesn't, Cooper could well end up with the most top-privateer awards and a