



ON TRACK The Quick Shift

070
2wrtmag.com

Race bikes get the good stuff. Sometimes that means better components like more advanced suspension with more adjustability or a higher state of tune such as motors that have had special fuel maps made for a specific exhaust system. Then there's the "Trick Bits." These are parts that most stock bikes simply don't come with at all such as quick shifters.

The standard way to upshift is to get to the top of the gear you're in, back off the gas as you pull in the clutch, shift with your foot and let the clutch out as you open the gas. Sounds like three steps, doesn't it? Well, when accelerating in a race, you want to get there as fast as you can. Getting it done faster and having less time off the gas is better.

Many riders do a "clutchless" upshift with no added equipment. This is simply

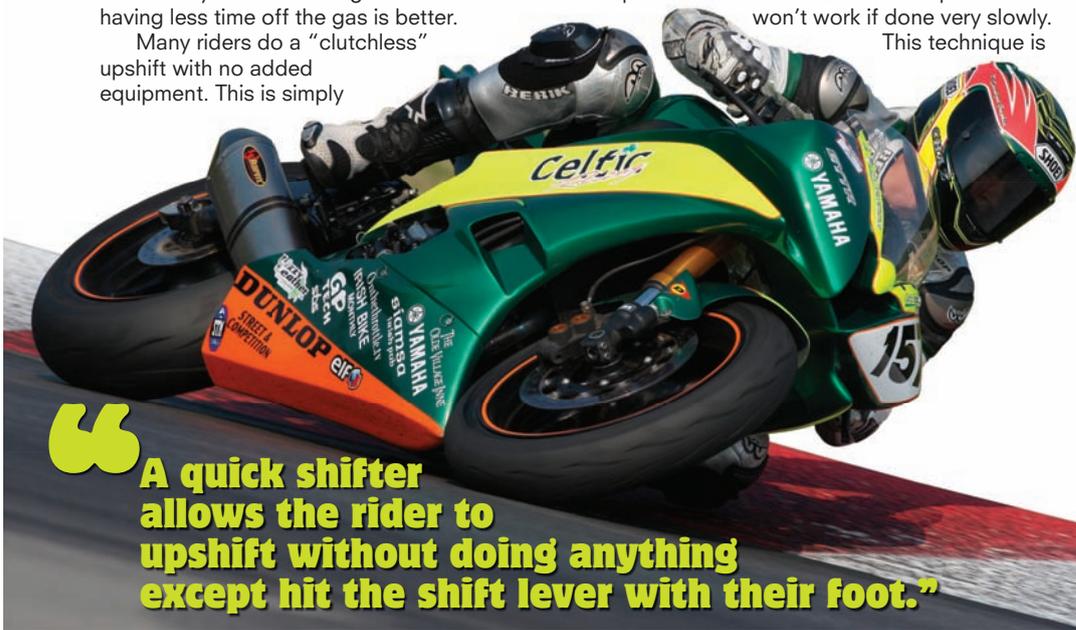
accelerating to the top of the gear they're in and quickly backing off the gas as they shift the bike at the same time, and then they're right back on the gas. No clutch is used and the idea is to do it almost like it is one motion. The foot and hand act at the same time, shifting as you back off the gas and then immediately back into the gas. It takes as long as it does to say "shift": one pulse.

Done correctly, this is smooth, seamless and is not bad for your transmission. Backing off the fuel for that moment takes pressure off the shift dogs in the transmission and since it is time to shift anyway the bike just goes into gear. This would not work with the bike only at 50 percent of the normal RPM shift point and won't work if done very slowly. This technique is

pretty good and once mastered is very quick with very little time out of the throttle, but there is still some time lost: getting out of the throttle to shift, no matter how quickly, does slow your acceleration. What do we need, automatic motorcycles? No, just quick shifters.

A quick shifter allows the rider to upshift without doing anything except hit the shift lever with their foot. Imagine that you enter a turn in third gear and as you get the bike upright and accelerate to the top of third gear it is time to shift. All you need to do is shift the lever with your foot. No clutch and no backing off the throttle.

The quick shifter has a switch built into the shift lever or the shift linkage that senses you are shifting. This switch cuts the fuel for you so you can stay wide open on the throttle. The difference is it cuts the fuel just for a few thousandths of a second and you can't move your wrist that fast.



"A quick shifter allows the rider to upshift without doing anything except hit the shift lever with their foot."



A switch senses when you shift.



Best Quality Chrome
www.xxxplating.com

Email: sales@xxxplating.com
Phone: 414.839.9598



Special:
All Exchange Switch Covers
JUST \$89
(Just mention this ad)

Part Exchange Program
Front To End Chroming
Premium Quality Plastic and Magnesium Chroming
Fastest Turnaround time in the Industry (3-5 Days)

SHOP THE
NEW XXX CHROME STORE
WWW.XXXCHROMESHOP.COM

er Advantage

ON TRACK



071

2wtmag.com

If you were accelerating side by side with an exactly equal motorcycle but your opponent had to keep backing off the gas to shift and you could just hit the shifter, only losing a few thousandths of a second each time, you should get there first. 



This chart was made on the Super-Flow Dyno at Celtic Performance

Celtic Performance is based in North New Jersey and runs a privateer AMA Pro race team. Crew Chief Mark Rozema surprised a lot of AMA Pro teams last year when his Yamaha R6 and rider Chaz Davies beat factory teams on a regular basis. In fact, they set pole position a couple of times. We went to the team's race shop to evaluate the benefit of using a quick shifter.

Mark: Rather than run a horsepower/torque curve we wanted to illustrate the benefit of utilizing a quick shifter. The chart clearly shows the difference in distance traveled over time. Being on the gas for more time clearly allows the bike to cover more ground in the same amount of time.

2WT: Does this hurt the transmission?

Mark: No, it actually is better for the transmission because you can tune the amount of delay to accurately allow the transmission to properly unload.

2WT: Could you shift normally if you wanted?

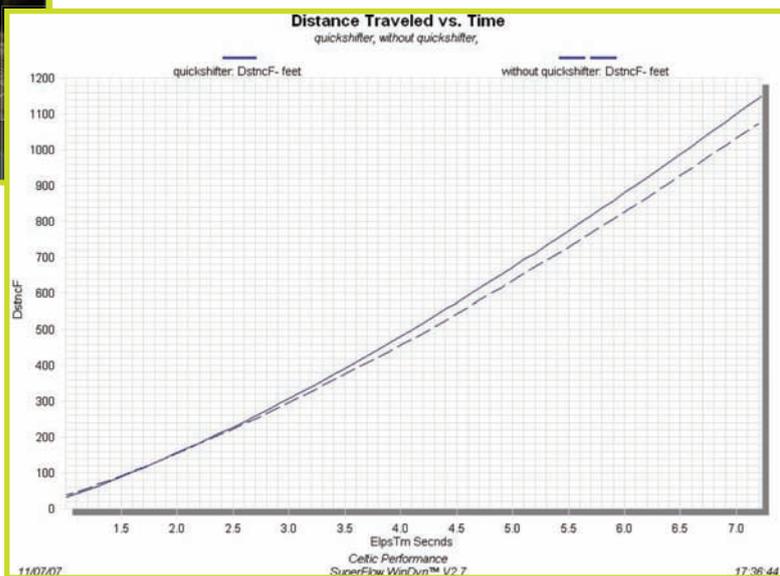
Mark: Yes, if you choose to use the clutch the shifter still cuts out for a few milliseconds but this would not interrupt normal operation of the clutch.

2WT: How much does this type of system cost?

Mark: We use a Dynojet Power Commander and quick shifter, which is \$339 for the Power Commander and \$285 for the quick shifter option.

2WT: Should riders install it themselves?

Mark: A high-performance service center or local dealer should be used to install this equipment so they can properly set the shift-kill duration.



815-485-8028 • www.jdacustom.com • 22037 Howell Dr. "B" • New Lenox, IL 60451

Online Orders • FREE U.S.A. Shipping Code: 2WTUNER

JDA CUSTOM

Billet Parts, Accessories and Customization for Late models and The Oldies!
Dealer Accounts Welcome!



Chain Guards • Frame Sliders • Dress-Up Kits • Mirrors & Block-Offs • Reservoir Caps • Fork Caps • Lowering Links • Grips & Bar Ends
License Plate Tag Relocators • MUCH MUCH MORE!!! • Available in Chrome, Polished, Anodized, Personalized or Custom One-Off's

JDA CUSTOM MANUFACTURES ALL PRODUCTS IN HOUSE!