



LOW-COST WEIGHT LOSS

Make your bike so light it's illegal!

How much would it cost to make your Honda CR500 lighter than the one Team Honda builds for Rick Johnson? You're probably thinking in the tens of thousands of dollars. How about less than a thousand? Interested? The greatest thing about our weight loss program is that you can use it on nearly any bike without sacrificing strength or performance. This isn't a

story about having a drilling and grinding marathon in your garage—that won't work with today's bikes because nearly every part is engineered to weigh as little as possible. We found the ones that weren't and replaced them. We started with the 233-pound CR500 because it's one of the lighter and more popular big-bore motocross bikes. We figured that if we could significantly reduce the

weight of a bike as carefully designed for light weight as the CR, anyone should be able to trim as much or more fat from any machine he has. We set out to make the machine so light that it would be illegal to race, according to the AMA's minimum weight limits for motocross machines. According to AMA rules, a 500 motocross bike—including Rick Johnson's—can weigh no less than 224 pounds, 250s must weigh at least 216 pounds and 125s can be no lighter than 194 pounds. The bikes are weighed without fuel but must be in running condition with all the necessary fluids and lubricants in place.

We dropped more than nine pounds from our CR500 with simple, reasonably affordable bolt-on items and succeeded in making our CR500 illegal! Here's how we did it.

The first items to go were the stock Dunlop tires. They're excellent intermediate meats but the CR was on a diet and only the lightest tires would do. Pirelli's Sandcross soft-terrain knobbies reduced the weight nearly a half-pound at the front and more than four pounds at the rear! Five pounds of unsprung blubber, gone—right off the bat!

Weight loss at the wheels is a real bonus because the suspension can control the wheel better when it has less weight to cope with, just like it's easier to catch a tennis ball than a bowling ball. We used stock, standard-thickness tubes in the tires because we could

◀ We dropped more than nine pounds from our CR500 by carefully selecting lighter-than-stock aftermarket components. Now the CR is illegal for AMA Pro class motocross because it's too light!

Every one of our weight-reducing replacements to the CR added performance or strength or both, unlike the frenzied drilling marathons of years ago. ►

not find a significantly lighter tube. It's possible to find some tires of the same brand, model and size with as much as a two- or three-ounce weight difference, so it pays to look for the lightest individual tires you can find, not just a certain brand or model that you've discovered to be lighter than most. Remember to choose the correct tire for the terrain you'll be riding. Our CR corners like it's on Velcro in soft terrain with the Pirelli Sandcrosses on it, but these tires, like any soft-terrain tire, wouldn't hook up or hold up well in hard, rocky terrain.

After such good luck with the tires, we hit the bars—the handlebars, that is. O'Neal sells Arrow alloy bars, which we discovered were 12 ounces lighter than the stock Honda steel bar. Arrow alloy bars are premium-quality bars and are used by 125 world motocross champ Trampas Parker, former 500 world motocross champ Georges Jobe and Paris-to-Dakar rallye winner Edi Orioli, so we were sure they'd hold up under our riding and frequent crashing.

An aftermarket expansion chamber is usually an easy way to shave weight from the engine. We saved a pound on our YZ250 by switching to an aftermarket pipe a while ago. There's less excess blubber on the Honda, though. PSI's pipe was the lightest we could find and it saved just two ounces compared to the stock pipe. We discovered it was more than worth its weight when we test-rode the bike. The pipe pumped up the CR's low- to midrange power delivery without disturbing its ridability or its ability to rev out. We chose a Pro Circuit silencer because, at two pounds, it's lighter than most aftermarket silencers and a full pound lighter than the stock part. It's also got a clean, business-like appearance.

Pro Circuit provided a subframe for the CR made of trick, rectangular aluminum. It saved another full pound compared to the stock part and adds a works look to the back of the bike. All the stock pieces fit the Pro Circuit subframe perfectly, just like it was a stock Honda part.

The last item in our weight loss program was to have been an aluminum bolt kit for the low-stress areas on the bike, the bodywork, airbox and engine side covers from On the Line Racing. On the Line specializes in exotic, expensive lightweight parts like aluminum frames and carbon fiber brake rotors that cut serious amounts of weight, but



WHAT WE SPENT & WHAT WE SAVED

This chart shows the cost of each item on our lightweight project Honda CR500, its weight, the weight of the Honda part it replaced, how much weight it saved, the total cost for the parts and the total weight savings we achieved.

	Price	Weight	Weight of Honda part	Weight savings
Pirelli Sandcross front tire	\$75	7 lbs., 14 oz.	8 lbs., 4 oz.	6 oz.
Pirelli Sandcross rear tire	\$78	10 lbs., 6 oz.	15 lbs.	4 lbs., 10 oz.
O'Neal Arrow alloy handlebar	\$54.95	1 lb., 4 oz.	2 lbs.	12 oz.
Pro Circuit Aluminum subframe	\$185	2 lbs., 7 oz.	3 lbs., 7 oz.	1 lb.
Pro Circuit Aluminum silencer	\$64.95	2 lbs.	3 lbs.	1 lb.
PSI Performance pipe	\$159	5 lbs., 12 oz.	5 lbs., 14 oz.	2 oz.
On the Line Aluminum bolt kit	\$100	4 oz.	15 oz.	11 oz.
On the Line Titanium bolt kit	\$275	11 oz.	1 lb., 5 oz.	10 oz.
TOTAL WEIGHT LOSS				9 lbs., 3 oz.
TOTAL COST	\$991.90			

we were out to save money and weight, so we resisted their more costly goodies. When we hit the scales with our Honda it came up heavy! Shock and disbelief gripped the *Dirt Bike* staff. There was only one thing we could do: call On the Line Racing again! They suggested their 8mm billet titanium bolt kit for high-stress areas like the handlebar clamps, fork triple clamps, seat mounts and chain roller and subframe. The kit, at \$275, wasn't cheap but it dropped the weight of the Honda ten ounces, allowing us to reach our "illegal" sub-224-pound target weight!

CAN YOU FEEL IT?

Nine pounds is nothing to sneeze at. Any manufacturer would love to reduce the weight of their stock machines that much just because it would look so good in their brochure. The fact is, our project CR500 felt better than if it had merely lost the weight.

The feel of fresh tires (on appropriate terrain), the high-performance pipe and silencer gave the bike a lively, easy-to-control feel, and the weight loss was noticeable. A light bike is a real advantage in long races, when your strength starts to fade. Unfortunately, now that everyone knows about our bike, we'll have to race non-AMA events to avoid being protested! □

DIRECTORY

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