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Ducati 520 Supermono

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Ducati 520 Supermono
(Ducati 848)

I have always thought the Ducati Supermono was the most interesting example of the perfect engineering creation I have ever seen, even ranking it up there with the P-51 Mustang. As a working class guy, the purchase of a serial numbered Supermono was not possible, let's face it, they are expensive. My Ducati 1198S was serving me well as my weekend bike, which eventually became my track bike. Over time, you begin the typical race conversion; the bike gets body work, rearsets and intermediate race rubber. When on the track and at speed, you find the low trail numbers will cause you all kinds of grief leading to a search for offset triple clamps. What all of this does, is slowly get you to understand how these Ducati Superbikes are made and put together from the layman's point of view. Many times when performing maintenance or changing parts for minor improvements on the bike you are racing, your mind begins to think like a mad man. You see things you would change, improve upon or simplify for the hours it might save when you go through the rigors of race prep. Personally, I don't do lightness for the sake of spending money, for me, it is not cost effective. I never quest to save a few grams here and there, being more inclined to error on the side of robust.



I have built other "one off" singles over the last 30 years, trackers, street trackers, different versions of cafe racers, you name it, I have tried it. In late 2009 I was getting the itch to build another 450 Super Single and was talking with a local dealer about doing a Husky MX conversion. Invariably you have to think about geometry and triple clamp offset to stay away from those dangerous trail numbers. I had everything planned about the project and it was just a matter of getting the bike purchased, but I kept going in circles with the suspension issues I would be faced with doing another MX conversion. Wouldn't it be easier to start with a frame with proven geometry, known numbers and predictable handling characteristics? I was now thinking a little outside the box and more of the "what if" scenario's, started to disrupt the formula. With many hours now spent on the Internet looking at all the Super Single racers in Europe, particularly a few race shops and their Ducati single conversions, I had a new direction. I can tell you that initially, I didn't have the confidence in this plan to take my current 1198S and begin something as crazy as I was about to do in theory. I was now back discussing this new idea with a couple of my local Ducati dealers. Whether or not they understood the scheme, they at least agreed to look for a wrecked Ducati that would be a candidate for this project. It was nearly 6 months later when the 848 Superbike was offered as an option. It was now in route to the dealer, having been purchased at auction I guess, after a low side crash.

There was a bit of a coincidence here, because I was hesitant about the displacement issue when you remove a cylinder from the little 848. It seems the Ducshop was announcing their new 1040 big bore kit about the same time and when you do the math; a 520cc single just might do the trick. A week later I was able to view the Ducati 848 in the service bay of my dealer and found it to be in great shape without body work, so I bought it. Now I have to decide on the best way to balance an engine that was a v-twin by design, and as most would know, this is no small task. I knew of one gentleman who had built a rod box to balance in the same way as the original Supermono, while it was clever, I wanted simple. More research and several email exchanges with Ben Fox lead me to send the crank to him for a lightening process using his "black magic" formulas. The Pistal Piston from Mark Sutton is a real beauty and the only way this was going to work. The 848 cylinder is swapped for a 1098 jug to accept the 104mm piston and would be married to a Carillo rod that I bought from Ben on his recommendation. A few weeks later the balanced crank with the unused oil journal plugged and the rest of the parts were returned to me, and I promptly took them to Paul Lima, the owner of G.P. Motorcycles of San Diego. He was personally going to build this engine, for which I am eternally grateful. While the engine work was going on I took the time to prep the chassis in my garage. The list of items I bought for the chassis was short, Ohlin's front and rear, Woodcraft rear sets, a quick change 520 chain conversion and Dan Kyle's offset triple clamps with a steering damper. I was trying to keep the cost down; after all, this is still highly experimental. As the motor was nearing completion, final preparations were made to blank the vacant cylinder hole and acquire a Microtek ECU as the fueling would need some serious attention.

I am only a hack in the garage and have to thank all those with professional skills in the world of motorcycles that helped me complete this project. The chassis went back to Paul Lima to get the motor installed with attention to exhaust details. I had already removed the rear most throttle body and sealed the airbox. The front injector and throttle body were not modified to improve the odds and keep fabrication as simple as possible, even to the point of using the stock air filter. We are down to the final stretch now and the time for a dynamometer break-in and tuning by Jody at Lee's Cycles. Much like an expectant father, I waited outside the not so, "sound proof" room. I hear long periods of idling and long pulls over the next few hours. The dreaded "Big Bang" never happened and I was eventually handed a dynamometer sheet showing almost 63 horsepower and with a very flat torque and power curve. This is what you dream of, a nice usable power band to make the bike as easy to ride as possible. Even though the bike weighs 321 pounds, and is probably not light enough for racing in the European Supermono series, it was turning out to be good enough for me. As I have told others in various emails, and follow on discussions, this bike was always an exercise in function and sustainable engineering with little to no emphasis on lightness. There is a little

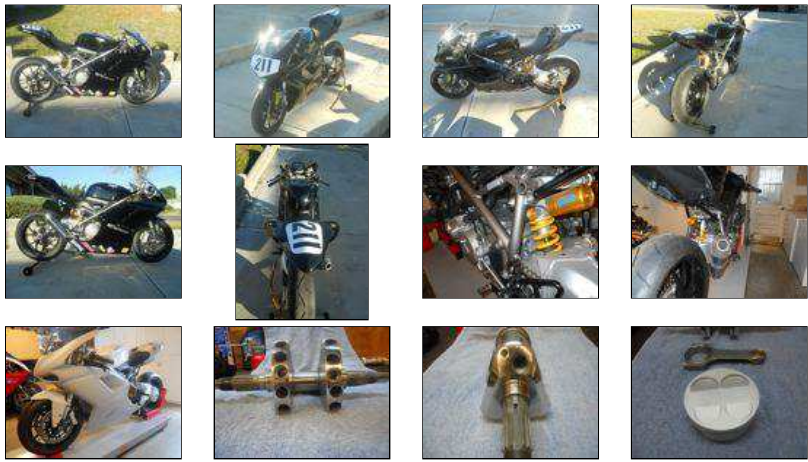


vibration in the 4000 to 5000 RPM range; but otherwise it is not noticeable, especially on the track. I can't thank Ben Fox enough for his prowess there, even though I have a mental shifting RPM, this engine will rev way beyond 11,000 before the Microtek intervenes. Without the team from G.P Motorcycles and the personal engine services from Paul Lima, I would never have completed a single lap at Willow Springs Raceway.

I could talk about the little items about this build for hours on end; as it has been a milestone for me on so many levels. I have completed what I set out to do, and now the time has come for someone to see what this Ducati 520 is capable of. Ducati really needs to build one of these for the rest of us since the real Supermono's are priced out of the reach of us mere mortals. If you are interested in this Super Single, feel free to email me. Please note, this bike is not, nor was it ever destined to be a show piece. It is not drop dead gorgeous, it is functional and designed to be ridden, in fact, there are still some scratches from the original low side as a reminder of its origins.

There is more information, movies and documentation at <http://felkinsr.smugmug.com> and my email address is richard.felkins@gmail.com should you need more information or express interest.





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