

FZ1 Electrical Short

I recently bought a 2004 FZ1 with only 1700 miles from the parts manager at my local Yamaha dealer. It's an absolutely incredible bike in every respect. Mine is stock except for a Yamaha GYT-R pipe. I could have written the same letter as Chris Adams in the May issue, except that I just pulled over and had it towed. It died the same way, shifting gears, and it seemed as if someone had turned the key off. It would spin freely, and I even tried to bump-start it with the momentum I had built up. Nothing.

However, I am willing to bet that I know the answer to your problem. And trust me, I'm not some blow-hard know-it-all. I realize that I know very little and don't mind admitting it. I was simply lucky enough that the guys at the shop gave me an honest answer.

Bear in mind that they spent over six intense mechanic-hours trying to track down the problem. They explored every possible scenario, from bad gas to the kickstand switch. Every component tested perfectly. Finally, when there was nothing left to check or try, they called Yamaha and explained the situation.

They were told to ignore the test results. They said that sometimes the motors weren't cleaned as thoroughly as one might hope after the various drilling, machining, boring, etc., operations were completed. With that in mind, Yamaha told the local shop to look closely at the pickup that triggers the spark. They pulled the engine cover, with extremely meticulous scrutiny, and saw (barely) a tiny sliver of metal lying perfectly across the two wires, creating a dead short. This was not a wire. Three different people described it to me as being the size of a human hair. It's the kind of thing that the best of mechanics could miss time after time. Luckily, someone at Yamaha had stumbled upon the answer in the past. And, incidentally, Yamaha did the right thing and picked up the tab.

I certainly can't explain your bike starting and then stopping, but everything else is just too exactly alike for me to not suspect that you have the same problem. It's actually pretty easy to check, just order the gasket ahead of time.

I really hope this helps, Chris. Good luck.
Phil Emore
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High-Speed Hiccups

I reside in Encino, California, and currently ride a '95 Honda ST1100 with 76,000 miles on the clock. The only modifications have been a Progressive Suspension fork kit and Penske rear shock. I ride all year round and daily distances are not an issue.

For the past year, while cruising at higher

speeds (100 plus—I love Nevada) the bike has started stumbling and slowing down as if the tank is not venting properly. Only after I reduce my speed to 30 or 40 mph for a few minutes and roll into third gear can I accelerate back up through the gears to an indicated 135 mph. I have replaced both the gas cap and the fuel filter and vented the tank to the atmosphere. The problem, although only related to higher cruising speeds and 5th-gear loads, is troubling and potentially terminal due to my love of great uninhabited expanse. I know the issue is vacuum fuel related but no one has the answer.

Chuck Avis
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Since you have already looked at all the usual suspects, I would think about the atmospheric vent tube routing from the carbs. Often they are routed into the airstream under the bike. At high speeds the aerodynamic turbulence can build up pressure that prevents the float bowls from refilling properly until the bike's speed drops. Of course, you could always slow down a bit, too.

Old Honda Trans Binding When Hot

I have a 1973 Honda CB350 Four in excellent original condition and 8000 miles on the odometer. I have owned it for the past 10 years and only ridden it 500 miles.

The cycle has a conditional shifting problem. After riding for 15–20 minutes the shifting becomes difficult between all gears but still manageable. It's particularly difficult to shift between 1st, 2nd and neutral. I cannot detect any clutch slippage. The problem doesn't get better or worse the longer you ride, but seems to disappear when the bike has been shut down and allowed to cool to ambient temperature.

The clutch cable is brand new OEM and has been adjusted numerous times according to the Genuine Honda Service Manual procedure. All three adjustments have been done, the upper- and lower-cable adjustments, and the adjustment on the engine case housing the clutch assembly. I have done four separate complete oil changes using the following motorcycle specific oils: Synthetic 10w-40 and 20w-50, Petroleum 10w-40 and 20w-50, yielding no improvements. I have inspected the clutch plates, both fiber and metallic according to the Honda manual and found nothing! The metallic plates were not pitted, grooved, discolored or gouged. They were checked for warping via the Honda service manual procedure (feeler gauge/plate glass method) and they were all found to be almost perfectly flat, all exceeding the manual's limits to the good! The fiber

plates were not pitted, grooved, discolored, gouged or warped. The amount of material on the fiber plates was also well within the Honda manual's limits. The tabs on the fiber plates showed almost no wear as did the clutch basket. The metallic and fiber plates did not exhibit a burnt smell whatsoever. The clutch-spring lengths were checked and were in the middle of the manual's limits. I checked the complete clutch assembly against the Honda manual's exploded view and found the order to be correct with no missing parts. Looking at not only the clutch housing gasket, but all the engine gaskets, this engine appears to have never been opened except for maybe a valve adjustment! Other than this shifting problem the bike runs/rides great.

Obviously something is binding with the introduction of heat. However, I am at a loss for a solution. Thanks again for any time and effort given to my problem.

“Clunky”

You have looked real hard at the lubrication just as I would have, and found nothing amiss. I think the next logical place to look would be the shifting mechanism itself—the shift drum, shift forks and especially the springs on the fingers of the shifter pawl unit. It sounds like the unit is freezing up with heat, perhaps a bearing on the drum? The only way to find out is by examination and perhaps heating parts with a heat gun to cause the problem to appear while manually operating the parts and trying to get it to fail while partially disassembled. Good luck.

Motorcycle Oil Additives And Catalytic Convertors

I have a question concerning oils and today's motorcycles that are more and more being fitted with catalytic converters. While looking at the Mobil 1 motorcycle oils site (specifically under the 10w-40 oil info) I found the following statement: “The motorcycle oil also has more phosphorus/zinc for enhanced wear protection at high engine speeds and high loads. Remember, most bikes don't have catalytic converters, so higher levels of phosphorus are not a problem.” However, my FZ6, as well as several other bikes, *does* have a catalytic converter.

Despite being the correct viscosity and meeting the API Service Requirement, will these motorcycle oils (and I am assuming all motorcycle-specific oils are now in question, not just Mobil 1) damage, clog, or render worthless the catalytic converters found on these bikes?

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Reading between the lines, Mobil's

statement seems to be saying that the oil is meant for bikes without catalytic converters. On the other hand, I'd think that a properly running bike would put very little phosphorus/zinc into the catalytic converter, since oil escapes past the rings at such a low rate. But, the build-up of any chemicals in the exhaust would be cumulative and must, therefore have some effect.

Readers, can petroleum engineers out there shed some light on this for us?

Settling A Charging System Debate

I recently got into a debate about charging systems. My friends are trying to tell me that a motorcycle is like a car and will run off of the charging system. I say that if you disconnect the battery, the bike will stop running. I was also told never to charge a new battery off of the bike's system. Instead, you should use a charger, and only after getting it to peak voltage, install it in the bike. Afterward, the charging system will maintain it. Is this correct?

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As to your first question, there are several types of ignition systems which can be used on motorcycles, and the answer to your question depends on which type of system the specific bike uses.

For example, that AC CDI-type system used on many off-road machines uses no battery power at all, nor do the old magneto-type systems. If the bike has no battery, and you can start it by kicking or pushing, it has one of those types.

The other consideration is the charging system type—there are two major ones: Permanent magnet, and field coil (generators and alternators). Generators use magnets, and as long as they are spinning will produce voltage, and sometimes that's enough to power a points-type ignition system. Alternators must have a battery to power the field coils before they start to produce an output. So, alternators won't power an ignition system without a battery installed. Most bikes with an electronic ignition system use alternators, so they won't produce a spark without a battery.

Second question: You are correct about the right way to initialize a new battery.

Friendship-straining Ducati

I owned an ST2 for about 7,000 miles before selling it to a friend. The bike always worked fine, with the exception of a charging light that was stuck on (the previous owner had covered it with tape so it wouldn't annoy him). Since purchasing it, my friend has had nothing but charging problems. I have no idea short of replacing

the entire harness. What can be done about it. Every month I read the Downtime letters of MCN and thought, now here's a real problem that has been well thought through but is completely baffling.

Help me help my friend.

Gregor

You didn't specify the model year of the ST2, but the '98 ST2 has charging problems wrought by a faulty stator. In fact, Ducati issued a service bulletin on the stator and will replace it for free. A dealer will be able to call up the VIN and tell the owner if the warranty work has been done. When the stator fails, it typically blows out the voltage regulator as well. However, Ducati won't warranty the regulator. Have the owner fully charge the battery, start the bike and put a voltmeter on the battery leads. The bike should put out over 14 volts at anything above 3000 rpm. If it doesn't, you'll know the culprit is the voltage regulator and/or the stator. That will also confirm that the dash panel idiot light is correct. Also check all the connections leading to and from the battery. Corrosion on the leads going to and from the starter, battery, voltage regulator and stator can also cause charging system problems.

—LT Snyder

BMW Brake Fluid Flushing

I have just screwed up and was wondering what is the best way to recover. While doing the yearly service on my 1990 K75, I changed the brake fluid, flushed out the old stuff thoroughly and ended up with nice clean stuff throughout the system. As I placed the nearly empty container of DOT5 silicone fluid on the shelf I realized that last year I had used DOT 3-4 synthetic. Now isn't that a great way to start the day? Other than the fact both types start with “S” I doubt that they are similar or completely compatible. I haven't ridden it yet, but what damage have I done and do I now have to disassemble and clean/replace caliper parts?

Thanks for any advice.

Charlie Hester
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If you got the DOT 5 fluid out of the system completely (as in a complete system flush with DOT 3-4) in a relatively short time (less than about 3 months) you probably did not do any damage at all. The only components of the system which might be sensitive to the DOT 5 silicone-based fluid are the seals, and as long as they are okay and not leaking (you might want to inspect them), probably no real harm was done.

Bike Vs. Car Engine Longevity

My current bike is a Suzuki V-Strom 650. Most of the bikes I've ridden rev at about 5000 rpm at 70 mph, (something must be magical about that because bikes from BMW's to Kawasaki's, large or small, seem to run there). This is twice the revs my Toyota Camry runs at the same speed. Engine wear would seem to be directly related to rpm, so is it reasonable to expect a motorcycle to last as long as a car (say 100K to 200k before major engine work)? I don't want to use my bike as a commuter and put lots of miles on it if it is going to fall apart at 50-75K.

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Bike engines and car engines wear at different rates due to a large number of factors. Engine speed is only one of them (and by the way, at 70 mph my bike revs much higher, and H-D's rev much lower, it's all in the gearing and the engine's rev range). Major engine wear also depends on what the cylinders are made of (or coated with), riding style (more aggressive riding wears things out faster), engine cooling effectiveness, the lubrication scheme used and many other things. It is very unusual for a bike of the type you have to reach over 100,000 miles without major top end work. But, if it helps your peace of mind, with proper maintenance the cost of such top end repairs would not exceed the cost of a replacement bike.



Downtime Files

is a joint service of
Motorcycle Consumer News
and the American Motorcycle Institute
of Daytona Beach, Florida.

Please keep in mind that since the AMI staff has not seen your motorcycle, the answers given are best-guess assumptions based on prior experience and education, and may not necessarily be correct. When in doubt, take your motorcycle to a qualified shop.

Send your typewritten questions and photos if possible to:

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