



Harley Overheating Recall

The problems with '07 Harleys overheating, as mentioned in your March Downtime Files, has been addressed by a recall Harley initiated in November of their Big Twin models. A free remapping of the engine management system is the fix (see the recall, page 7).

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Tire Wear & Tire Pressure

Over the years I have heard a lot of advice about tire wear as it relates to tire pressure. Motorcycle tires have a round profile that makes them act differently from a car tire. I have heard that lower pressure = bigger footprint to distribute the weight over a larger area for better wear, and higher pressure = less flex which leads to cooler temps so the tire wears less.

I was wondering if MCN has ever done a study of what tire pressure gives the best tire mileage?

I always wear out the center of the rear first. Using the same tire on the same bike, it can vary by over 50% mileage. I understand about the effects of throttle, yet am curious about tire pressure.

Terry O'Leary
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Terry, tires don't actually increase footprint in direct proportion to reduced pressure because the tire carcass has a mechanical structure that prevents the kind of ballooning reaction that the simple pressure = footprint formula would suggest.

Also, different tire constructions from different manufacturers react very differently to pressure changes. Some, like the latest Pirellis on the new Yamaha R1, really don't handle very well if deflated just 4 psi from stock settings, while others will be improved with this change.

Running vertically for long distances will always wear the center of the tread, but this will be reduced with higher pressures (perhaps 4 psi more than specified would not reduce traction too much for safety in most cases), but there is no hard and fast rule.

—Dave

Improving VTX's Handling

I'd like to ask your opinion concerning another solution to the Honda VTX 1300's handling deficiencies.

I've contacted a number of vendors as well as my local Honda dealer searching for a steering/fork brace with no luck. I contacted Traxxion Dynamics and they

say their fork cartridges for metric cruisers will greatly improve handling characteristics (\$999). They have not done a VTX 1300 before but will give me a reduction in installation cost.

Do you think I will get a bona fide handling improvement from their cartridge replacement?

Pete Thompson
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Pete, because our chief complaint was the delay in steering response, which is partly caused by the fork twist and the rest probably caused by frame flex (remember, the VTX 1300's rubber-mounted engine doesn't stiffen the frame), I'm not sure the cartridges would be especially cost effective. They will improve suspension action, but the ride quality wasn't the problem in my estimation.

It might be possible, if you wanted to spend some time with wrenches, to ensure that the triple clamp pinch bolts and the axle pinch bolts are tightened to spec, which might help. If the front fender bolts are loosened first, so that the parallelism of the tube can be verified, first tighten the triple clamp bolts. Next, loosen the axle pinch bolts and then bounce the front end to be sure the axle is free to find its center without binding the tubes at all, then tighten the axle bolts. Then tighten the fender bolts. This is just a guess, and may or may not make a big difference.

A more radical solution would be to strip the steering head area of the frame and conceive of some triangulation that could be effected with welded-in tubes. It's possible that a frame specialty shop, like Computrack, could do such a job more knowledgeably.

I'd also ask them about a fork brace or their suggestions.

A lighter front wheel, from another Honda, might also reduce the torque necessary to effect a turn. We didn't attempt to weigh the wheels, but the VTX front wheel sure looks heavy and that's a big gyroscope in motion.

—Dave

Cleaning The Commutator: Preventive Maintenance For BMW K-Models

When it comes to gremlins on the BMW K bikes there is one major design problem that likes to raise its ugly head around 40,000 miles. This may sound unusual, but you might consider the need to clean the commutator on the starter motor. It seems BMW grounds several items through the starter. This way when you reverse polarity to run the starter, your

headlight and several other things will not work. As soon as you let go of the starter button, the polarity reverses and your headlights and other electrical items work again.

The problem is after around 40,000 miles the commutator that all this stuff grounds through gets dirty and worn and you start to lose ground. My friend's bike did this in Saskatchewan, Canada. We called two dealers and they both said to clean the commutator.

You have to remove the black box, the battery and the battery tray. Remove the two screws holding the starter down and of course the wiring. You can pry and wiggle the starter straight back as it is held in with an O-ring. You might have to rotate it to clear some things.

Once out, take out the two screws and pull it apart. Be sure to put some marks on the adjoining parts so you can get it back together correctly. Once the commutator is free, take it to a machine shop since it probably needs turning. Make sure they debur between the copper blocks and then polish with a commutator stone. If you don't have access to any of this, use a nail file—it's what we used to fix my friend's bike!

I redid it on a lathe when we got home. We got home with no other problems. My BMW had 36,000 miles on it so I did mine as preventive maintenance and it was a good thing, as it was getting black and worn.

Greg Campbell
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Electronic Overload

I have a 2006 Ducati Monster S2R 800. I have gone on longer rides with it and find it useful to carry my onboard radar, and just got a GPS (a Garmin Zumo).

The Crusader radar indicates voltage load, and sometimes shows a drop to 12.5 V with the GPS on, when it used to be 13.8 V. Now I have the prospect of adding a CB radio for ride captain duty, and think I need to stick with batteries and not load the system.

My question is twofold: What options do I have, and what are good ranges of voltage measured for this model—and am I in danger of overloading my system? How do I tell?

Mark J. Landy
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Mark, you shouldn't notice any difference in voltage. The charging system on your bike is more than capable of supporting a GPS and several other electrical devices without a noticeable drop in voltage.

Either the voltage reading your GPS is giving is incorrect, or there is something wrong with the charging system on your Ducati. Given that your bike is relatively new, I'd suspect the reading of the GPS. Try taking a reading at the battery with a voltmeter while the bike is running. That will verify the voltage the GPS is indicating. —LT

Firming Up FXD Suspension

I have a 2004 Harley-Davidson Dyna Super Glide FXD with 38,000 miles. I really like the bike, but the suspension is for a much lighter person than me. I'm 240 lbs. and 6' tall and fairly often have a 130-lb. passenger.

Different springs in the front forks didn't help at all and in fact, made a crunching sound when bottomed out. I went back to the stock springs and lived with front and rear bottoming out as a riding routine. I try to avoid freeways and enjoy winding roads. The Harley dealer where I used to do business had no suggestions/cures other than buying unknown shocks.

I have solved the front bottoming problem by adding air fittings in the fork caps and charging them with 5 psi of air. This works well and the bike can go over a parking lot speed bump slowly without the frame dragging, riding solo.

I want to correct the rear also (I've had it on the highest preload setting since day two of owning the bike new), but so far have been unable to find the shocks that will support two-up riding. Can you suggest a cure or shocks?

Don Vincent
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Don, the difficulties you are experiencing with your Harley are common to most cruisers, American as well as metric. The Harley-Davidson models are very softly sprung: designed for the "worldwide average rider" of 165-175 lbs.

The result is a full-sized rider such as yourself overwhelms the stock suspension, using up most of the 3-4" of available travel just sitting on the bike. Adding a passenger or even spirited riding results in the harsh bottoming and frame dragging you are complaining of.

The brand of aftermarket springs you tried may have been coil binding to create the crunching noise you described; higher quality springs won't have that issue. Adding air fill caps as you have done is the simplest solution; however it does have its drawbacks: The air space above the oil in forks is used as a secondary spring. Air pressure in the forks increases due to Boyle's Gas Law, as the air space in the

fork decreases under compression, the air pressure increases in direct proportion.

A certain amount of fine tuning can be done by playing around with fork oil levels (reducing the air space in the fork) in order to use Boyle's Law to your advantage. Raising the oil level will have a noticeable effect of increased stiffness in the second half of the fork travel, however, you must make sure some air space is left in the fork at full compression. Oil is not compressible, so if the oil level becomes too high, the fork will "oil lock" before full compression.

By adding air pressure in the forks as you have done, the starting air pressure is above atmospheric by how much psi added and thus takes advantage of Boyle's Law in your favor. The drawback to adding air pressure is it creates stiction (static friction) by expanding the pressure under the fork seal. The result is increased harshness in the fork, increased seal and fork tube (chrome) wear.

The best bet is to use a high quality fork spring set or suspension upgrade kit as opposed to air on a daily basis. Race Tech offers high-quality, high-performance fork springs in several rates as well as improved valving options, even complete fork kits for Harley-Davidsons (\$110-\$260). See www.racetech.com for details. Maintain your air caps for extra heavy load and passenger situations.

Rear shock options are limited and expensive (\$600-\$1200) for your application, however, the results are amazing! Your passenger sits almost directly above or even behind the shocks and most luggage also adds weight behind the shocks, increasing the leverage on the shocks even more than additional driver weight does. Race Tech and Öhlins (www.ohlinsusa.com) offer ready-made shocks for Harley-Davidsons. Works Performance (www.worksperformance.com) custom builds a set of shocks to your weight and riding style if you are willing to wait a while for delivery. Make sure to advise them that you often ride with a passenger so proper spring rates can be selected.

All these high end aftermarket shocks will offer a wide range of adjustability, allowing you to tune for your riding situation. Matthew Wiley

Re: Excessive XS650 Blow-by

Regarding Ron Folmer's letter, Downtime Files, April 2007: Ron, I'll tell you exactly why your XS650 is blowing oil, and it is very simply cured. It has absolutely nothing to do with blow-by going past your piston rings.

In an upright twin where both pistons descend together, the pistons build up

tremendous pressure in the crankcase. There has to be a vent to relieve this pressure, or it would blow out the crankcase seals. The crankcase breather is this vent; that is its only purpose. There is no valve in the breather of an XS650, it's just an opening with a partial baffle plate.

If you fill any XS650 to the high mark on the dipstick, it will quickly blow a half a quart of oil out of the breather pipes. Never fill an XS650 higher than halfway between the low and high mark.

Also, if you want expert advice on maintaining, troubleshooting and fixing an XS650, go to www.650wiki.org/index.php/Main_Page, where you will find many articles by enthusiasts such as myself. I have owned XS650s for over 20 years, and I currently have three.

The condition can be even further aggravated by the following modifications, and you can be sure over that in 30 years there have been changes to your bike.

- Part substitutions may have been made from other model XS650s, which, while they fit, are wrong. There are over 40 versions of the XS650.

- Prior to mid-1975 the dipstick called for too much oil and a bulletin was issued to recalibrate these dipsticks. Your bike may have a dipstick (or an engine) from an earlier bike.

- A well-known enthusiast has a Web site where he recommends opening the breather to reduce crankcase pressure for added performance. Doing this is certain to increase oil blow-out, and your previous owner may have done this.

Note that your bike does not call for 20W-50, it calls for 20W-40, which is available at truck stops and auto stores. Shell Rotella is a good 20W-40 without the additives found in modern automobile motor oils.

If you want a list of typical problems to watch out for on an XS650, go to 650wiki.org/index.php/12.09._Foibles_of_the_XS650

Enjoy your ride, you've bought a great bike; a reliable classic.

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