Overheating Sportster

I've got one for your Downtime Files. I think I've tried everything, but to no avail! I'm really hoping you can help me.

Vehicle: 1995 Harley-Davidson Sportster, XLH-883 with 58K total miles over 6 years, K&N air filter, H-D "Screamin' Eagle" mufflers and recently converted to 1200cc with KB dished pistons, along with renewing the head (a "valve job").

It's had regular maintenance, there have been no wrecks or major problems, except:

Problem: Overheating and low gas mileage. Until 2002, the bike ran great. My oil tank temperature rarely went above 200° F, even with hard, 80-mph+ riding on 100°+ days. Gas mileage was consistently in the mid-50 mpg range. The bike was ridden almost daily, through mountains, plains, high- and low-humidity, and in temperatures from 15°F–112°F. Accessories were added, but temperature and mileage remained unchanged. It was never raced, nor ridden off-road.

Rather suddenly, in Texas, in late Spring 2002, my mileage dropped to around 50 mpg. It stayed in the upper-40s to low 50s, then gradually dropped to the mid-40s by the end of Summer. This was not associated with any particular modification. Then, last Summer (2003), while riding around 80 mph in 103° temps, I noticed the temperature had climbed to 240°+.

I understand that anything above 250°F is bad, as oil begins to break down, and the tank temperature is lower than the temperature in the engine.

Last winter (average temp maybe 50° F), the oil temperature regularly hit 190–200°F. Once the outside temperature was over 70°, the oil temperature was hitting 210°. That was prior to the 1200cc conversion. Now, with 90° days, the oil temperature will hit 230°F after a short jaunt at 65 mph.

I have used both regular and synthetic oil (20W-50), switching once when I could not get synthetic (originally Mobil 1 motorcycle, then Harley-Davidson SYN3), and during break-in of the new piston rings. I saw no discernible difference in temperature or mileage. I added an oil cooler and noticed the rate of temperature rise was slower, but the end result the same. This was both with and without a thermostat, but on regular oil. Regular or premium gasoline does not seem to make a difference, either.

With the top end apart, my machinist noted the engine had been running very hot (gray valves). The spark plugs were normal. Following the conversion, I retarded the timing by about 3°, per KB's recommendation, and again noticed only a slower *rate* of temperature rise. The gas tank filter and fuel hoses were checked / replaced, the stock CV carb cleaned and re-jetted (several times, both low- and high-speed), gaskets replaced, carb mixture adjusted, new spark plugs and wires installed, along with an M6 primary tensioner.

I don't believe the clutch is slipping, and I have checked and found no intake or exhaust leaks. Neither the brakes nor the wheels are dragging. From the powder black spark plugs, the engine has been running rich with 45/190 jets. Timing was advanced slightly, the idle mixture trimmed, and now the plugs look normal.

I have checked the temperature gauge and it is accurate. There are no unusual noises (even with a stethoscope). I also performed compression and leakdown tests before and after the conversion. Both cylinders produce 180 psi within four compression strokes and leakage is almost nil (prior it was 180/140 psi front/rear and ~25% loss thru the front exhaust valve, ~40% thru rear rings). The bike runs great, no coughs or sputters, and with more power than before.

Now, the engine temperature regularly reaches 230°F and I am averaging 39 mpg. I have questioned friends, mechanics (factory and independent, motorcycle and auto), engineers, motorcycle magazines, and Web sites, but have come up with nothing that makes sense that I haven't tried. I don't know if these conditions are related or not. I assumed, obviously incorrectly, that new pistons, rings, cylinders and valves would help.

I'm at my wit's end here. I am afraid I will do great damage to my engine, and to my body if the engine decides to seize suddenly. The bike's mpg is approaching that of my minivan. I plan to switch over to SYN3 before an upcoming trip, hoping it will perhaps lower the temperature and raise gas mileage. But, from my past experience, I don't think I will see much change. I'm now thinking the clutch or coil or ignition module may be the problem, but that's a stretch.

Sorry for the long letter, but I wanted to describe the problem and attempted solutions in detail. Do you have any ideas?

Steve Lange
steve@slangexpressions.com
Dallas, TX

It sure sounds like you have covered most of the bases. If we assume (and we know that's dangerous), that the problem is not air/fuel related, and that it's not an ignition timing problem, what that mostly leaves us with is either improper oil volume moving, so it's not carrying heat away efficiently, or lack of lubrication causing a lot of friction heat (and that would also explain the lowered gas mileage). The first thing we would do is check the system for proper oil pressure, and volume. Make sure all screens and filters are clean, and that there are no restrictions in any of the oil lines or passageways.

Good luck.

Twin Cam Bearing Warning Signs

In February, I purchased a H-D Road King; a week later I got the *Motorcycle Consumer News* issue with the H-D Owners' Survey and the info about the Twin Cam engines and their cam bearing failure problems.

What symptoms should I look for, or listen for, regarding cam bearing failures? Does this happen suddenly, without warning? Or are there warning signs I might catch that might allow me to make it to the shop before the "grenade" goes off?

Gregory J. Mitro
gmitro@elp.rr.com

What fails in these units are the bearings that support the cams, so you are listening for a rubbing, grinding noise. It's not very loud and is very hard to hear most of the time, so that it will often fail without sufficient warning. If your unit is one of the affected ones, we suggest a pre-emptive strike—to replace the bearings before they fail. It's a lot easier to just replace them, rather than to replace them and fix/clean up the damage after they fail.

Twin Cam Cam Bearings: Fixed?

I've been reading about the problems with the cam bearing failures on the TwinCam 88 motors with much interest. I have an '03 FLHTCI that I had upgraded with the Stage Whatever kit (I lost track when they changed the stage numbers from the Evos); the one that swapped the cams and bumped it up to the 1550cc motor, when it had 729 miles on it.

My question would be, do you think they would have replaced the troubled parts when they did this, or am I still rolling the dice out on the road? Would Harley have issued a service bulletin to have the dealers replace these while they were in there installing the kit, or would that have been a much larger step?

It would offer some peace of mind to know that I'm not going to have this problem. The bike now has about 9200 miles on it and has been a great ride with no indication of trouble, but what I've been reading seems to say that when these things go, they go without warning.

Ivan Tuttle
itut55@yahoo.com
Indianapolis, IN

You don't say when you had the work done as far as month and year, but we would think that while they were making the other changes, they would have installed all updates. Why not simply ask them if they did?

VTX1300 Wobble

I own a 2003 Honda VTX1300S. Overall it is a great bike. My problem is a front end wobble. I experienced it on my way home after buying the bike in Miami and riding it home to Atlanta. It happens on deceleration at around 45-40 mph. You can feel it with your hands on the bars but it seems to have little effect on straight line steering or stopping.

The problem is in the turns, when it can shake and leave you with a very uncomfortable feeling! I have had the Honda dealer, that I now use for service, look at it on at least four occasions when the bike was in for service or scheduled maintenance.

I have had the steering head bearing checked and torqued to spec each time, front springs changed out to Progressive 11-1126, fork oil changed to 15w (from 8w), wheels checked for true and the tires checked for run-out and balance. I have 9600 miles on the original tires and still look pretty good. I would guess that they would give me another 2-3K miles before needing to be changed. I don't have any cupping that is visible to the naked eye or can be felt with your hand. I run 36 psi front and 38 rear as recommended by Dunlop. Changing the front springs and fork oil helped, but did not entirely cure the problem. I'm not sure what to do next.

I really love this bike, except for those times when I find myself in a turn at the speed indicated. Any help or suggestions would be greatly appreciated.

Stephen West
swestw@mindspring.com
Tucker, GA

It sounds like your frame may be out of alignment. Your best bet is to have it Computrack or laser checked. We have seen a few bikes that have come from the factory slightly out of alignment; not enough to see, but enough to cause the problems you describe.

Watts Up?—Surplus Or Deficit?

Hello. I have a question concerning the output of my bike's charging system. I have a 1995 Honda CB750. It's rated charging capacity is 320 watts at, I believe, 5000 rpm. In addition to the standard draw of headlights, taillights, turn indicators, I occasionally use a Widder System-1 electric vest (about 35 watts), and their gloves (20 watts) and I've just installed some Kimpex grip heaters that are rated at 28 watts low and 40 watts high.

I'm concerned, perhaps prematurely, about discharging the battery at normal cruising speeds. I don't think I'd be using both the electric gloves *and* heated grips at the same time, but I'm wondering if I need to be concerned about slowly discharging the battery as I'm rarely cruising at 5000 rpm. Any advice/information would be appreciated.

Kurt Jensen
kurtjens@comcast.net
Eugene, OR

The items you listed if all used together consume about 100 Watts (as you won't have the heated grips on "high" and "low" at the same time). Even without the accessories, your bike's regular electrical draw occasionally exceeds the rated output of your charging system and the added accessory draw could well lead to a battery charging deficit. (I have the same type of problem on my bike and it is very common, unfortunately.) The only thing to do is to choose which accessories get used at any one time, and to plug the bike's battery into a tender after a day's ride. I know that's not a great solution, but it's all there is.

One thought I have had (but never actually tried) would be to mount a small solar charger on the bike to act as a trickle charger while it's parked during a break from the ride.

Re: Hot Running VFR

After reading Todd Hershey's letter, "Hot Running 2000 VFR" (May '04 Downtime Files) I thought two things were odd. First, I've never seen anything negative about any Honda VFR in any moto mag, ever! Second, I had the exact same problem with my 2001 VFR800.

I was riding the lakes region of New Hampshire during Bike Week, and the bike's temp consistently ran 245°+. The weather was in the low 70s, and I had been riding at a pretty good pace. When I suddenly encountered stop and go traffic, the temp gage went red and stayed at 255°.

I nursed the bike back to my dealer in Manchester, and my salesman came out, heard the story, and immediately (and correctly) diagnosed the problem. He reached under the left side of the faring and plucked a pebble out of the cooling fan housing. There's no screen over the fan assembly, and, apparently, it's pretty common for the front tire to kick up road debris that gets caught between the fan and the housing, so that the next time the fan needs to run, the fuse blows…instant overheating.

With the pebble gone and a 30 second fuse change I was headed back north to enjoy the rest of the race weekend. Bottom line is, for about $2 per machine, Honda can have the perfect bike!

Bill Donroe
bdonroe@adelphia.net
Londonderry, NH

Oil Specifications

First off, I have followed and read all of your excellent articles on oil and performed all maintenance on my '95 Triumph Trophy 1200 for 90K mi. I just bought a new Sprint ST and in both the owner's and workshop manual it states to use oils that are synthetic 10W-40 or 15W-40, meet API-SG or SH *and* JASO-MA specifications. What's JASO-MA? The only thing the dealers and the U.S. distributor says is to use Triumph Mobil 1 racing 4T, at $11 a quart! I can understand Triumph's specifying synthetic 10W-40 or 15W-40 grades, but is this bike engineered *that* much differently than my '95. Also, for fork oil it states to use Showa SS8 grade in the front forks. I haven't looked into this but figure it's Showa's own 8 weight fork oil.

I have been a long time subscriber and will continue to be a long term subscriber (my current subscription ends Oct/09). I also pass out the special rate cards I got from Fred Rau at every MSF class I teach (about 6-7 a year). Thanks (in advance) for your help. Keep up the good work (telling the Truth).

Don Kames
Dkamest110@aol.com
Kaneville, IL

Don, JASO is the Japanese-American Society of Operating Engineers, a cooperative testing and certification agency for products commonly involved in trade between our countries. JASO are the ones who established the first-ever oil standards for motorcycle engines; the MA and MB ratings (which are still rarely found marked on oil distributed in the US).

Basically, MA is for standard four-stroke motorcycle engines, and MB is for racing engines. The MA rating is virtually identical to the older SG rating for automotive oils. I am surprised that your manual includes SH-rated oils, as JASO recommends against using these oils in motorcycle engines—at least in 10-grade or below, which you also mentioned. However, 15-grade and above is considered acceptable, even if the oil is SH-rated.

No, your engine isn't that different from your 1995 model. None of these oils is likely to do any harm, but just for safety's sake, use an SG-rating, if and when you can find it. But if you can't, use an SH-rated oil that starts at at least 15-grade or higher.

—Fred Rau