

# BEFORE YOU BUY A HARLEY-DAVIDSON MOTORCYCLE – ENGINE DEFECTS

An Article from James Russell publishing...

## YOU NEED TO READ THIS ARTICLE

*"I love Harley-Davidson, but you got to know the truth!"*

I know you love Twin-Cam engine Harley-Davidson motorcycles (I do too) and I know you want to buy one just because it is the cool thing to do and all your riding buddies ride one. That's okay, I had the Twin-Cam (TC) bikes and I still own a late model Sportster 1200 Custom, but you still need to know exactly what you are buying so there are no expensive bank-busting nasty surprises. And before you judge wrongly, at the end of this article, I have written strong reasons why you should buy a Harley-Davidson motorcycle!

Plus, for those uneducated souls who believe this article is full of untruths... you will find every instance mentioned herein within dozens of motorcycle magazines over many years' time regarding every known defect in the Harley-Davidson frame and engine.

What is new? I boiled down all the defects into one article. Yet, still... quite a few idiots still believe all of the reputable magazine editors over the years are liars and that Harley's have no defects. Imagine that! Well, I assure you these defects do exist - whether you wish to believe them or not - they will not go away simply because the defects exposed hurt your feelings.

*"For most of you Harley-Davidson riders this article will be a "awful truth" revelation, but one only need read the many V-Twin motorcycle magazines over a long period of time to verify what you read here is indeed not only shocking, but true."*

***"There are serious defects in the Harley-Davidson twin cam engines."***

What defects? Plenty of them. Enough to alarm you. However, you can fix these defects and end up with a nice bike. Yes, even the new Harley's have serious problems. Even the expensive CVO (Custom Vehicle Operations) bikes have issues not to be taken lightly.

## The Code of Silence!

Those who know, don't tell. Those who don't know, don't want to know. Those who find out the hard way are broke and ashamed to admit their bike is defective. Worse, they believe it is not a defect and will not break again. It is a sin to reveal defects in Harley-Davidson motorcycles. Dealers are silent. Salespersons are silent. Parts people are silent. Mechanics are quiet. All fear losing their job by management if they dare speak of the "defects" so the roar of their silence is deafening!

Okay, here we go...

1. The biggest problem is the poor design of the cam chain system. It still uses "shoes" riding on the cam chains that can still wear out, even with the new hydraulic tensioning system, for that is not a true and lasting fix. What is the problem? The soft plastic or nylon shoes rub against the two chains and the shoes wear out. When they do there will be metal to metal contact and this grinding creates metal shavings that creates a catastrophic engine failure. So bad the entire engine is destroyed; cams, pistons, crankshaft, engine cases broken. It is a wickedly serious engine design defect. Be aware... it can fail at 15,000 miles. Even the new hydraulic system can fail at 40,000 miles or less and those nasty little shoes need replacing at 40,000 miles due to its inherent weaknesses.



By: Impeccable  
Custom Engine  
Repair

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*"You may hear a sound like the starter motor is running, but if your pipes are loud you may not get even this warning. The oil pump passages can clog up without making any noise whatsoever except when the engine starts tearing itself to pieces."*

What is the fix? You can purchase a gear set that eliminates the cam chains and shoes. Harley-Davidson should, in my opinion, make this a standard fix and not an after the fact option. If you can't afford to install the gear system, then you need to disassemble and inspect the inner and outer shoes every 15,000 miles or risk total engine failure. The shoe material can also clog the oil pump totally destroying the engine. There are plenty of motorcycle magazines explaining how to fix this nagging problem.

*"Every Twin-Cam engine has the cam chain follower defect, even the new models. If it has a cam chain it has a problem! And every single one of these engines will seize up without warning. Will it be today, tomorrow or next year? That is the question you have to ask yourself. It may be ten years from now depending on the miles on your engine, but rest assured it is going to fail 100% guaranteed and guess who is going to pay for it?"*

**Note:** Be aware that pre '06 Dyna's and the 1999 to 2006 Twin-Cam Harley-Davidson engines are seriously defective and they will blow up. How? As the spring loaded cam chain follower fails it shreds plastic material that fouls the rotary gear oil pump cutting off oil flow to the engine causing sudden catastrophic engine failure and destruction. Also metal to metal contact produces metal filings to disperse into the oil prior to being filtered by the oil filter. Be prepared to buy a completely new motor. Rebuilding the engine may not be feasible.

## **New Harley Engines Will Fail Too!**

And don't think you are out of the woods if you have the new hydraulic cam chain tensioners for model years 2007 to present. They will fail beyond the factory warranty period. The problem was not fixed, it was only delayed to, on average, fail above 50,000 miles. Check the fine print in your extended warranty as this cam chain related failure may not be protected. Yikes! You may be required to endure expensive periodic inspections to retain the warranty. The fact the hydraulic cam chain adjusters still have nylon pads rubbing against chains the pads will still wear out and big-time havoc happens!

*"Believe it or not! When the engine fails it is not covered under warranty! Dealers will tell you it is a failed maintenance issue. In other words, you failed to pay the dealer to tear your engine apart to inspect the condition of the cam chain followers on a routine basis. This is not fair dealings, but it is what you will get when buying a Harley-Davidson. It's the price you will pay to play."*

**Did you read that right?** Imagine if you bought a new car and they tell you you must have the engine disassembled every 15,000 to keep your warranty! Nobody does that to customers, but Harley-Davidson? Not cool, bro. Not cool at all. This problematic engine defect in the Twin-Cam engine is terrifying, at least I found it so, there is no way I will buy another T-C engine bike. And that's just one engine defect... read on! It gets scarier.

**Note:** Are the 2007 and newer Twin-Cam engines safe? No! Do not be fooled. Hydraulic cam chain followers are now used getting rid of the stiff spring that put too much pressure on the followers rubbing on the cam chain, but this is "no cure" as it only "delays" the problem. Instead of the engine failing at 15,000 to 30,000 miles it now fails at 50,000 to 75,000 miles. There is only one cure... get rid of the chain system entirely and switch to gear driven cams. Do your research now and budget your repair. Do not wait until the engine fails because if you ride a Twin-Cam Harley the engine is going to blow up!

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*"You won't get a straight honest answer from Harley dealers regarding this awful engine defect. I have been lied to by dealers and given a run-around by dealer employees. It just happened again July 2, 2011 in Carson City, NV Harley-Davidson dealer. The service writer would not answer my questions, gave me a song and dance and refused to forward my questions and concerns to the mechanic or management and frankly upset me with sarcastic comments. Problem is a problem exists and Harley-Davidson dealers are actively not giving straight answers to customers. That is a deceptive business practice and it is against the law under false and misleading advertising and dishonest business practices concealing known facts from the consumer prior to sale!"*

**Note:** You will not hear any rubbing sounds or receive any indications the cam follower has failed even if you have quiet stock exhaust pipes on the bike. The engine will fail suddenly and catastrophically and it may even take you down to the pavement as the engine oil coats your rear wheel. This is a dangerous and expensive engine defect nobody wants to talk about, but it is a real threat to your health, safety and your finances.

**New Development on Cam Follower Problem:** Installing a gear drive system is not the cure and may actually cause severe engine damage in the future if installed. First, the crankshaft run out (up and down, left and right motion, not thrust of the crankshaft) must be within a tight tolerance. The problem is the gears are "stacked" one upon another instead of side-by-side so if the crankshaft is out of alignment (and it will get out of alignment just with normal wear the crank and camshaft bearings) the gears will "compress together" and that can break the engine cases, bearings, crankshaft, cams and it devastates the engine to near worthlessness. So, there is now no cure for the Harley-Davidson Twin-Cam engine. This indicates why Harley-Davidson has no cure "real" for this cam chain tensioner shoe problem.

## DO YOU HAVE LEGAL RECOURSE?

If your Twin-cam engine explodes and Harley-Davidson never told you in writing how to prevent such a catastrophe and how to fix the problem at Harley-Davidson's cost you can win in small claims or Superior court a refund of the purchase price of your motorcycle. Consult an attorney. That's what I would do if my engine exploded due to a known manufacturing defect and nobody told me about it in writing when I bought the new or used motorcycle from an authorized Harley-Davidson dealer. A dealer cannot conceal known defects to sell a defective product upon an unsuspecting consumer, but that is what Harley-Davidson and its dealers are doing. They are even charging riders money to "inspect" their defective engine profiting upon innocent consumers who have no choice but to pay and obey which is illegal to profit from a corrupt business transaction and a bad contract. I would sue Harley-Davidson and the dealer in small claims court for a full refund of all such recommended inspection costs and/or make them buy the motorcycle back at the full purchase price, tax, license, registration, insurance, etc.

## WHAT IS THE TRUE FIX?

There is only one fix for this cam chain follower problem and that is to convert the entire cam drive system to gears. Don't bother with aftermarket fixes that will convert and update your "spring" tension cam chain follower system to the newer "hydraulic" cam chain system for both of these systems are defective and both will fail because it really does not fix the problem, it only prolongs the problem to fail later down the road and usually out of warranty coverage on new bikes. The hydraulic nylon hydraulic cam follower will still wear out and the plunger piston will exit the bore and no tension will be on the cams and valve float can swallow the valves breaking pistons, rods, crank and cases and the oil pump can be blocked by debris to totally ruin the engine. A horrendous expensive mess! The gear cam drive system may be a tad noisier from gear whine but it is way better than a wrecked engine! But in all reality there is no true fix other than Harley-Davidson redesigning the cam drive system to get rid of those cam chain shoes and not stacking

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vertically gears to drive the cams. The cam gears must be aligned horizontally as the Sportster engine so does intelligently. The crankshaft pinion shaft can be bent when the bearings wear causing the gears to slam against each other... yikes!

*"A lot of Harley riders are "silent" on these defect issues. They don't want to know. They don't want the embarrassment. They just want to ride and not think about it. Many Harley riders do not even know they are sitting on a time bomb and their engine is going to tear itself to pieces. Ignorance is bliss, but they all will pay the price."*

2. Most Touring model Harley's have a high speed wobble that can be dangerous. The engine is not sufficiently secured to the frame causing weaving, wiggling, wobbles and rear wheel steer. In some cases riders have lost control and crashed. There is a fix. ProgressiveSuspension.com makes brackets you can install yourself to stop the high speed wobble. True-Track also makes a fix for Dyna, Low Rider and Touring models. Some newer Harley's may already have the fix installed, but not all of them, so consider this before buying. The 2011 model year bikes have had the wobble problem repaired.

3. Lifter block failure. The lifters can seize in the blocks or just plain rattle in the bores when worn out. It is a random thing. Some engines never have a problem while others will fail. The failure can be bad as it can hang up a valve so the piston hits the valve and "wham" the engine is blown. The Evolution Big-Twin engine also has lifter problems and the lifters must be replaced each 25,000 miles to be safe. The Evo's lifter's roller needle bearings fall apart and this can take out the cam lobes and the oil pump's gears. The actual hydraulic lifters are also weak and fail and that is another reason why H-D makes upgraded lifters for the T-C engine especially if you hop up the engine as performance cams "slam" the lifters hard. But even a tiny spec of dirt in the oil can make a lifter fail. If you have lifter failure you better learn to change your own oil quickly as dirty oil is being left behind causing engine damage. Dirty oil is simply abrasive oil that is like injecting sandpaper inside your engine or valve grinding compound. If lifters fail replace all four of them, not just one. Upgrade to stronger lifters, don't go back to using factory stock lifters!

*"You won't hear about these serious problems from a dealer or salesperson. But you do have a right to know."*

4. The shift drum is operated by a spring loaded awl and if this spring fails, and they do fail, the spring falls into the transmission gears and horrific damage takes place. The rear wheel can lock up, the transmission cases split apart throwing oil all over your rear wheel causing you to crash. There is no fix for this problem. It is a faulty design issue. It would be advisable to replace the shifter awl spring once every three years or 30,000 miles to be on the safe side.

5. Belt drive can be an expensive problem. To replace a worn or perforated belt the entire primary chain case must be taken apart along with the bike's swing arm. It is expensive to replace a belt or the transmission drive pulley because it is time consuming. Most riders don't even think about this until the day comes they have to replace the belt and find out it will cost them \$1,000 or more. And, believe it or not, a drive belt should be replaced every 30,000 miles even though it may last much longer, if a belt fails, it can cause you to lose control, lock up the rear wheel or transmission and cause a crash. And new transmission and rear wheel pulleys also need to be installed too driving the cost sky high. The bill for pulleys and belt and labor may exceed \$2,500. There is a company Super Max that can put a liner on your existing pulleys to save you money. Did you know that Harley-Davidson Sportster's do not have this problem? You can change the drive belt in just 30 minutes! Read our article on Sportster's. Have you noticed more and more experienced riders are switching to them? Unlike earlier models you can convert the newer models fit your ergonomics to gain comfort.

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*"Every 20,000 miles you need to replace the cam chain tensioners on the 99-06 model years of Twin-Cam engines and this replacement is expensive. But even the new hydraulic-operated cam chain adjusters still have those cam chain plastic followers and they too can and will fail, only later down the road when the engine is out of warranty coverage, so you will pay for it!"*

6. The crankshafts on Harley's can suddenly go out of balance. The repair is expensive. I had a new Harley crank fail at just 6,000 miles. Most riders are lucky, but there is a weakness in some crankshafts that randomly fail. The crank flywheels are "pressed" together onto the crankshaft and are not welded (crankpin to flywheel) and it can slip. This is a very old design and outdated in this modern world. However, welding fixes the problem. You will notice big-inch motors all have welded crankpins to their flywheels to stop this flywheel slipping out of balance problem. You know you have a slipped crankshaft when engine vibration gets stronger than normal. It will feel like a motor mount has broken, allowing the engine and frame to shake more, but it will be silent. I you suspect this problem always tighten the motor mounts and look for broken or worn rubber grommets in the mounts first. It could be a minor fix. If not, the entire engine must be torn down and engine cases split to fix the crankshaft. The dealer may on install a new H-D crank that is not welded... it is still not a good idea even if it is a covered H-D warrantee repair. Riders who do have vibration problems? Dealers enjoy telling them, "All Harley's Vibrate!" This is true, but up to a limit of course. Don't expect dealers to be eager to fix your vibrating bike. Many riders are given the run-around even when the crankshaft has shifted out of balance.

*"Don't you believe those salespersons and parts managers when they tell you the defects have been fixed in the new Twin-Cam engines... they have not been fixed, the same failures still occur!"*

7. The chrome may look nice in the showroom, but don't expect it to last. I had a new Harley rusting its chrome in just one year. The polished aluminum oxidized too. I was gravely disappointed with my second brand new Harley-Davidson motorcycle.

*"Think twice before you buy a Harley-Davidson motorcycle. Be aware of what you are getting into."*

8. At just 8,000 miles an internal oil leak will develop in the Twin Cam engine's oil pump gears and/or the O-ring between the engine case and cam plate. This will allow engine oil to leak down into the crankcase when the engine is stopped and cooling down. So, you need to be aware that if you have an elevated oil tank you can't check the engine oil level when the engine is cold as it will show a low oil level inducing you to add oil and that can flood the engine with oil and cause hydraulic engine damage and even crack pistons and break connecting rods. Start the engine, warm it up, and then check the oil level. This allows the oil pump time to scavenge oil from out of the crankcase to give you a proper oil level reading on your dip stick.

9. After you buy the bike make sure the spark plugs are snug to torque specification is a Harley-Davidson motor. If the plug works loose it will cause expensive cylinder head repairs. This procedure is covered in the book How to Change the Oil in Your Twin-Cam Harley-Davidson. Also, make sure the electrical plug connecting the alternator (near the oil filter) is snug and connections are clean. A loose or dirty connection here will certainly burn up the alternator and rectifier including the circuit breaker.

10. The above engine problems are for the newer twin cam engines even the 2011 and newer models. There are even more serious problems with older Harley's prior to model year 2007. So if you plan to buy a used Harley you had better consult with some experienced mechanics to identify the known defects before you buy and get stuck with a real bombshell.

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11. Harley's do not retain their value as much as you are being led to believe. The worst enemy is high mileage, so don't bother riding your Harley if you want to retain its trade-in or resale value. What is considered too high? Try 15,000 miles. That's low for most bikes, but a Harley with that many miles will suffer with a great loss of depreciation in price. Why? Because the Harley engine design is old with many seals and gaskets that will eventually fail and leak oil. The top end runs hot and the piston rings and valves just burn away requiring an overhaul. If you own a Harley, get an oil cooler as it will extend engine life, but it will not give you any points or dollars when it is time to sell. One thing a Harley rider will learn soon enough, buy a Harley and you'll lose your money! Depreciation affects all vehicles, but when low miles become high miles there is a big problem for the consumer. Be aware! There is one solution, buy another brand of motorcycle or buy a Harley-Davidson Sportster (see comments below) Why You Should Buy a Victory Motorcycle and use that bike to do most all of your riding and use your Harley just for special occasions. Of course, if you can buy a Harley-Davidson Sportster model you can have your cake and eat it too.

*"Even hiring a mechanic to inspect a used Harley-Davidson motorcycle is useless due to the engine design defects. A brand new Harley-Davidson sitting in the showroom has the defects."*

11. If you buy a Harley-Davidson V-Rod motorcycle, be prepared to pay a small fortune for service as the valves must be manually adjusted and to do that the engine must be dropped down out of the frame. This is expensive and it will be a routine expense to be sorry for. The labor and parts to perform the valve adjustment is just terrible considering the other Harley's with hydraulic lifters that never need to be adjusted period. You had best be prepared to pay for valve adjustments or learn to do the job yourself. Either way, you will find doing this job a royal pain in the wallet and a total waste of your valuable time. Will this be the future fate of all motorcycles? If so, learn to perform these valve adjustments yourself.

12. Another terrible problem all Twin-Cam engines have is the dreaded "crankshaft slip." A perfectly new bike with low miles can suddenly begin vibrating so badly it makes riding no fun anymore, even if the engine is rubber mounted. I too had a brand new Harley and the crank slipped. The crankshaft flywheels are pressed together to the crank pin. Without notice and without cause the flywheels will slip out of alignment and the vibration is born. What is sad is that the Harley dealers will tell you it is normal when it is not. They will not fix the problem. I have met other riders with the same problem and the same bad results. My brand new Harley failed at just 3,000 miles. I traded it in for another new Harley and the crank slipped on that one too! Those were my last Harley-Davidson's. Two strikes on two brand new Twin-Cam engine bikes was enough for me. I switched to Kawasaki Vulcan 2000 with a 125 cubic inch V-twin and later to the Victory 106ci V-twin which is a superior designed and reliable motor, but dealership qualifications to perform warranty work I found, in my case, was not up to industry standards. That is a big problem if the bike you buy can't be fixed quickly, reliably and professionally. You will find this problem throughout the "power sports" industry, so beware.

13. You will notice modern motorcycle engine design eliminates the inner and outer primary case the Harley-Davidson Twin-Cam engine uses. It is an old design full of flaws and weaknesses using a sloppy chain to connect the engine to clutch and transmission. It is a source of problems mostly regarding oil leaks from the outer and inner primary gasket and seals for the crankshaft, transmission countershaft and starter motor. It is not cheap to fix these oil leaks. And to makes matters even worse that this entire primary chain case system must completely disassembled to change a drive belt, pulley or chain sprocket. Ask around for a price to do these jobs and it will open your eyes a bit wider. Your drive belt will need replacing one day and you will have to pay a dear price due to this outdated, unfriendly engine design. Of course, if you learn to do it yourself it will only cost you time and parts. Most riders do not know how to do it. For example if you look at the Victory Freedom 106ci V-twin engine none of these problems are evident. You can change a

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drive belt and pulleys yourself. There will be no oil leaks from seals and there is only one simple gasket for the primary system. No chains for it is totally gear driven primary system and it uses the engine oil, not a special primary case oil. Yes, this engine too has a cam chain but of a totally different design. A proven reliable design using long cam chain guides like modern car and motorcycle engines use. If the cam chain guide wears out it will not self-destruct the engine. But you have to drop the engine out of the frame to overhaul the rear cylinder whereas a Harley can be performed in the frame.

*"Roland Sands makes a see-through Clarity design cam plate timing cover so you can visually inspect at least the outer cam chain shoes. Go to [RolandSands.com](http://RolandSands.com)"*

14. Harley-Davidson's generally require an oil change each 2,500 miles (newer models 5,000 miles). And it requires that three oil compartments be drained and filled each with different types of oil; engine oil, primary case and transmission oil. I wrote a book showing you how to do it. *How to Change the Oil in Your Twin-Cam Harley-Davidson* You will notice it only takes ten minutes to change the oil on a modern motorcycle like the Victory and it only has to be changed each 5,000 miles. So, oil changing on a Harley will cost you twice as much as other engine designs.

*"Most riders are absolutely totally ignorant of the problems they are soon to face with their rides."*

15. I like Harley-Davidson motorcycles. I appreciate the awesome look, the sound and the comfort they give along with every conceivable custom option and aftermarket item you can buy for the bike. But what stopped me from buying Harley-Davidson again and again is the Twin-Cam engine and other problems mentioned in this article. And I did not like the low trade-in value they gave me on my Harley's. They don't hold their value like they used to. Since then I have bought four new motorcycles and not one is a Harley. They need to fix the problems before I buy again.

16. Transmission trouble? Yes, there is a problem with the transmission 5th gear. As the 88 twin cam engine evolved to the 96 cubic inch a strain developed on the gears. In the year 2007 the inner bearing race was upgraded due to bearing failure. In the year 2010 the fifth gear was changed to a reverse-helical gear to neutralize the side load on the bearing. What does this mean to the average rider? It means if you hop up the engine on any twin-cam engine you risk a major transmission failure. So, you need to purchase and install a fifth gear and bearing/shaft update kit if you ride the bike hard (which many riders do). The race on the shaft can move, which lets the seal leak and the bearing walk/wobble more than it should accelerating wear and fail. Some riders have found this bearing failure twice in 40,000 miles. Mostly hard-ridden stock 88 and 96 will fail along with those with souped-up engines (pistons, cams including crankshaft long-stroked engines). But the new 103 cubic inch twin cam are not immune to transmission failure even though they have the updated kit installed at the factory. Read item #17 below explains the reasons.

*"When installing cam gears tell your mechanic to make sure to get a .005" lash on the S&S brand gear's clearance so there will be no whining or rattling noises."*

17. Overheating: Harley-Davidson engines run hot. The 88 cubic inch engine ran hot and at the high limits and the 96 cubic inch engine runs hotter yet which is not good for the engine. The 110 cubic inch engines run exceedingly hotter and so much so a class-action law suit was filed against Harley-Davidson from riders being burned from the engine heat (mostly from the rear cylinder near the rider's thighs). Heat burns to the skin is not the only problem as heat is an engine killer and the hotter these big air-cooled V-twins run reliability falls drastically. Don't expect engine longevity with a 103 or 110 cubic inch air-cooled V-twin such as the Harley-Davidson design. Clean synthetic engine oil and a large external engine oil cooler is a must have accessory, but it only helps engine cooling not cure these serious excessive heat problems that self-destructs the engine.

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*"Yes, Harley-Davidson does make a solution for the weak oil pump and spring-loaded cam chain tensioners problems. They have a replacement oil pump and a conversion to a hydraulic cam chain follower. It costs about \$500 plus labor to install it. It helps, but does not solve the problem completely."*

18. The Harley-Davidson engine looks nice with all the chrome, but if you really look good you will notice the engine design is so archaic it is truly a problem to behold for there are way too many moving parts inside the engine and in the primary case to wear out and break down. The transmission is small in size and that means smaller, weaker shafts, bearings and gears are inside. Way too many moving parts each over-stressed! This is why you see so many in shops being repaired and broken down on the side of the road being towed back to the dealers. The engines also run very hot when stock and even hotter when the engine is "hopped-up" and this old engine design just can't tolerate all of that heat. Oil coolers will help, but will not shed enough heat to stop engine damage from excessive wear. Even full synthetic oil won't stop the wear due to hot spots in the engine. Even replacing a drive belt will cause you grief even if you do it yourself for it will take you hours of labor. It will be expensive for a shop to replace your drive belt. And with the cam followers going to bite you and blow up your engine you need to consider replacing those followers often like every 20,000 miles (30,000 miles if you have the newer hydraulic followers). But they can even fail quicker in some cases. The 103 cubic inch will evolve into even higher 110 cubic inch engines that will create even higher stresses and heat and reliability is going to suffer even more. The way I see it, I will not buy a new Harley-Davidson Twin-Cam engine due to all these defects.

*"Don't even do a Stage-1 tune up on a Twin-Cam engine of any size. The extra power and heat generated will absolutely wear down your engine into oblivion."*

A good example is to see what Harley-Davidson should have done by redesigning their Twin-Cam engine is to look at a cut-away view of the Victory motorcycle engine. It has all the modern materials and racing valve gear, etc. Less moving parts and much stronger parts to boot. There are limits to the power output of any engine design and Harley-Davidson is tinkering with the Twin-Cam engine to stroke and bore it out to create an engine that just is overpowered for its design. What happens? You have a hot engine that self-destructs even under normal running conditions. Even water cooling a Twin-Cam engine with restrictive water channels will help, but it will not alleviate the overheating problem.

Nobody wants to admit it because there is a lot of money repair shops and dealers and after market firms are making hot-rodding these Twin-Cam engines and people are falling for it and paying the price of engine failures. Just take a look inside the repair shops and you'll see these repair bays are full of broken down Twin-Cam engines. Yes, even brand new engines!

*"Most riders put on an aftermarket air cleaner and exhaust pipes and dyno-tune it not knowing this will damage their engine's longevity because the Twin-Cam engine is inherently unstable, weak in material strength and naturally runs exceedingly hot. If you don't ride it hard you may get lucky."*

You deserve to know the truth about the Harley-Davidson motorcycle. Just because you see a lot of them on the road, especially at motorcycle rallies, most riders are absolutely totally ignorant of the problems they are soon to face with their rides. I learned the hard way too. I had a new Harley engine crankshaft go out of balance in just 6,000 miles... a brand new motorcycle! I have seen others suffer the same fate and dealers tell people, "Harley's vibrate. It's normal."

19. I have seen with my own eyes nightmare stories of customers in tears at repair shops and dealerships paying dearly for shoddy workmanship. The mechanic ruins the engine and the customer pays for it. This is why I wrote the book, How To Change the Oil on Your Twin Cam Harley-Davidson Motorcycle which also covers spark plug and air cleaner

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service intervals. This book will give you tips on how to prevent engine damage. You will save a lot of money and service will be done right because you did the job yourself.

20. The Twin-Cam engine between the years 1999-2006 has a very weak oil pump that actually drops oil pressure near "zero" when idling which accelerates internal engine wear. You can shim the pressure relief valve to gain more pressure, but this is still not a cure as those chain followers wear (as yours are wearing as you ride your bike) the follower debris slowly blocks or destroys the oil pump and the engine will be horribly ruined without notice catching you by surprise. One day all is well, the next day be prepared to buy a new remanufactured engine. Don't you trust the warranty you have will cover this failure as it likely will not and you will be stuck with the bill. How can this be? Excuses are many and are you having these followers inspected each year? Probably not and that is just one loophole that will be used to deny your warranty claim. There is a fix for the marginal oil pump, but you have to buy an aftermarket cam-support plate. On late 96'ci engines it will permit you to fit "real" bearings on the outer camshaft journals, where the factory plate has none, and in the earlier engines it will allow you to install a better, late-model oil pump. The replacement plate is stronger with no flexing. But remember, as long as you have cam chains and tiny followers pressing on those chains your engine will eventually fail catastrophically unless you solve this problem or are "very vigilant" with frequent inspections. Those inspections are expensive and most Harley-Davidson riders are not aware of the problem in the first place to bother asking or performing these visual inspections.

Newer Twin-Cam engines also have oil pump problems if ridden hard or the engine has been modified. The problem is not the oil pump's pressure side, but the suction evacuation side become overwhelmed and can not remove the oil fast enough from the crankcase. If oil accumulates in the crankcase a piston can hydraulic the oil and the motor is going to grenade. The cure is to replace the oil pump with a higher capacity pump such as a Fueling high performance oil pump. Specify the year of your Twin-Cam engine and modifications made to the engine and Fueling will tell you which oil pump to install. If you see excessive oil build-up in the cylinder head breathers it is a sign you should back off the throttle and ride with less aggression or get a new oil pump.

21. Harley-Davidson motorcycles are huge lumbering beasts that are unstable to ride and tend to slide sideways and fall down when the brakes are applied, mostly the rear brake. They have balance and suspension problems. You have to fight the motorcycle constantly on mountain roads and even on the freeway. It wanders and floats and most riders just think this is normal and for a Harley-Davidson and it is. When you hop on other brands of motorcycles you will see a world of difference in handling. You no longer have to keep inputting steering corrections and fight with the motorcycle to stay on course.

22. Breather problems! The 96 and more so the 103ci (cubic inch) Twin-Cam engines do have a breathing blow-by problem where oil is pumped out of the engine's breather vent and is sent to the intake manifold to be burned. At high engine revolutions and load this oil pumping become worse. This has always been a problem with big twin Harley's, but controllable to a degree. Excess oil will dribble down under the air cleaner element making a mess of the engine. The newer big CVO 110ci Twin-Cam engine has a much more serious breathing problem to the point that riders are being told to lower the oil level by 1/2 to an entire quart of oil to help stop the oil leaks. Problem is, less oil means less cooling for the engine! This problem is serious and not yet resolved entirely, but you can install a Baker larger oil pan to the engine which will allow more oil cooling and get the oil quantity back to normal or higher as it is rated for 5.5 and 4.5 quarts of oil. If the engine piston rings are worn you will notice an increase of oil blow-by as crankcase pressure increases so the original breathing problem become awful and severe. You will have to overhaul the top end of the

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motor or install an aftermarket racing compatible breather (such as an S&S cam cover) that can catch this blow-by oil or both.

23. Electrical problems! The Twin-Cam bikes 3-phase 45 and 48 amp alternators burn up or they will burn up other electrical components. There is a cure. Replace the entire alternator with a new 50 amp unit manufactured by CycleElectric.com

24. Harley's have a high theft rate, but so do other motorcycle brands. In fact, sport bikes are stolen at a higher rate than Harley-Davidsons, but still you need to be careful as there is a huge market for Harley-Davidson parts and lots of chop-shops are operating to fulfill the need. This is why you may pay more for theft insurance.

*"The Twin-Cam engine is pure bad news."*

25. To change the oil each 5,000 miles (or less) is a relatively complex process and a mystery to many Harley riders who do not know how to perform oil changes on the Twin-Cam engine. Reason being there are three different oil compartments on the big-twins that confuses people. And if you look for the oil drain plug you can be side-tracked when you see other bolts that could be oil drain plugs, but are not. So, if you do not learn to do the job yourself (read my book described below to learn how to change oil, spark plugs, air and oil cleaner) the routine oil change expense will get expensive for you. Some dealers charge astronomical rates as high as \$450 to perform a scheduled routine service and many will charge you half that amount which is still way too high to pay!

26. More bad news: The Twin-Cam "stock" engines are being bored, ported and stroked for more power and this is bad news. The air-cooled engines can't get rid of the heat and internal engine damage is taking place. Even larger oil pans and oil coolers won't cure the intense heat problem. Maybe, the new H-D formula Syn-3 synthetic oil will help, maybe not, but worth a try. Heat kills air-cooled engines and more power generates more heat. The rear cylinder is especially susceptible to heat-related failure. The intake facing side of the piston scuffs against the cylinder wall real bad due to heat boiling away lubricant wearing out the piston and cylinder prematurely. And if you modify the engine to obtain more power than stock you are going to run into trouble with excessive heat, fast component wear and tear and a screaming bank account crying for more funds to replenish your savings. The Twin-Cam engine is pure bad news.

27. As you know all Twin-Cam engines are susceptible to having the crank shaft slip out of balance that requires the entire crankshaft to be replaced for it is cheaper to replace than to rebalance. It happened to my new bike at just 6,000 miles. But the connecting rods can be bent in as little as 8,000 miles and that is "normal" riding not horsing around. Now you know why H-D sells a much stronger crank, flywheel and rod assembly! And there is another problem of the crankshaft bearing walking out of the case and the engine tears itself apart. These are all serious design problems and wicked defects inside Twin-Cam engines. Most riders just don't know of these problems and those that do nobody wants to talk about them.

*"There is a Harley-Davidson that is flawless. It is the Sportster Evolution Engine."*

28. Did you know the Sportster engine is near perfect and has none of these Twin-Cam engine problems? It is true. The Sportster engine is near bulletproof with superior engineering design and workmanship and should have been duplicated and made larger for the big bikes instead of using the Twin-Cam engine. Harley-Davidson has the wrong engine in those big V-twin cruisers! The new Sportster's (2004 and newer) have rubber mounted engines and the frames and wheels are being beefed up with better accessories to make this bike a serious consideration. It's no longer a "girl's bike" especially the XL Custom 1200 and the new models. The Custom 1200 has a larger 4.5 gallon gas tank, superb engine reliability, no nagging engine defects whatsoever, good ride quality, economical fuel mileage, so check

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them out! With mini-ape handle bars, fat 16" tires and a wide touring seat with stronger front forks these Sportster's are not as tiny as the old models were. About time! It is also easier to change the oil as there are only two oil compartments to drain and fill. If you want a reliable Harley-Davidson you really need to consider the new Sportster models. You'll save a ton of money with the Sportster from price of purchase, insurance, maintenance and fuel economy. Take one for a test drive.

29. Remember the cam chain tensioners problems mentioned above? Well, the "B" Twin-Cam engine is internally balanced with spinning counterweights and more chains are buried deep inside the engine cases that drive those weights. The chains have more durable tensioners but they can still wear out and will need to be replaced. But to do so it requires a complete engine disassembly. Imagine the cost and the bill you will get for this! Stay away from "B" motors. Buy a Twin-Cam engine that is rubber mounted to the motorcycle's frame. Better yet, buy a Sportster 1200 as they have zero defects, a perfect engine design! Read this article!

## **WHEN YOU THOUGHT THINGS WERE SAFE? YOU FIND OUT THEY ARE NOT!**

Now here comes even more bad news...

30. Primary Chain Adjustments. Remember when we used to manually adjust the primary chain? Well, the new models have hydraulic primary chain adjusters which use oil pressure to keep the chain taught. Sounds great, except there is one problem. Never should the primary chain ever run tight as it can cause damage to the transmission and crankshaft bearings. The hydraulic primary chain adjuster is not an adjuster it is a "tightener" which does not loosen so it is not adjusting, it just keeps ratcheting the chain tighter and tighter. Time will tell, but I believe you will be seeing bearing, chain and gear teeth failures due to this innovation. If you get on the throttle hard then back it off briskly this will trigger the automatic chain adjuster to adjust tightening the primary chain and this is bad news. It will cause seal and bearing shaft wear and premature chain and sprocket wear and even outright breakage! There is a fix, but it will cost you some money. Baker has a Bully style primary cover with an inspection cover so you can manually adjust their Attitude brand name chain adjuster. Now you can manually adjust the primary chain like the good old days. Harley-Davidson is advertising and selling automatic chain adjusters for the older Twin-Cam models. Don't buy it. Keep your manually adjusted system just as it is. One more thing, those automatic primary chain tensioners are failing in another way... they wear out and need to be replaced around 40,000 miles. A lot of riders do not know about this weak part defect! The old manually adjusted system was way better for us riders. The new system makes money for dealers!

31. Shaft Flexing. Take a good look at the H-D Twin-Cam engine. Notice how far away the end of the primary cover extends on the left side of the engine. It is hanging way out there in space and so are the abnormally long crankshaft and transmission shafts and here is the danger as those shafts can not be supported by a bearing so the shafts bend, flex and break not on the shafts, but the bearings and cases and also the transmission gears are twisted. Yikes! This is due to a poor engine design. If you look at the H-D Sportster engine it has none of these problems, the shafts are short and the transmission is reversed so the output drive pulley is on the right side of the engine curing the shaft length problem. I told you the Sportster engine is a perfect, perfected engine, and it is way advanced over the archaic, defective plagued Twin-Cam engine/transmission/primary design. The shaft flexing is a serious problem on a stock engine. If you add power you add more breakage, simple as that. There is no real cure except to convert to a belt drive primary with a Baker 6-speed transmission that will put the drive belt on the right side like the Sportster engine. You will need a new rear wheel too. The fix is not cheap, it will cost you less than \$10,000. The shaft flexing is a problem, so don't ride hard, don't take off fast from stops, don't speed-shift through the gears. If you want to do these things buy a brand new

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Sportster for it can handle abuse because the engine is sound, solid and strong due to a superior engine and transmission design.

When the shafts flex they load up the engine and transmission bearings and that creates a bearing failure load on them and the engine/transmission cases which causes them to stress and crack. Eventually the small cracks migrate to form larger cracks and the shafts will destroy the bearings and/or the cases with no warning. Catastrophic engine/transmission failure occurs. Now, if you have a stock bike under warranty you are covered for the repair bill, but that's if you survive the risk of a crash as cracked cases blow oil on the rear tire. If that does not happen, you may be out of luck if you are out of town on a long trip. It can take a month to get the bike fixed depending on the season.

You may get luck with just bearing pitting loading failure. It means each time the shaft flexes it take a tiny pit out of the bearing eventually causing the bearing to fail. It will make a rattling noise and shifting will be jerky and not as smooth. If you have loud pipes you may not hear the bearing failing until it totally fails, so you need to rely on feel. You can place your ear on a screwdriver near the bearing to hear the bearings if you are skilled to know what a bad or good bearing sounds like. You can't inspect these bearings easily. You must measure shaft run-out with a dial indicator and it requires primary system removal which the average rider does not do. However, most riders are totally unaware of this shaft flex problem and ignore it until it becomes a major repair.

*"Break a clutch cable and you are tow truck bait and forget about fixing it yourself... most riders can't do the job."*

32. You better hope you never break a clutch cable on your Twin-Cam Harley-Davidson especially when out of town. You can't replace the cable with ease. Believe it or not, you need to remove the exhaust pipes, right side floorboard, drain the transmission of oil and remove the transmission trap door just to replace a clutch cable on the engine side. Then you have to reinstall all these items you removed. On the other hand, you can easily replace a clutch cable on the Sportster without this grief and you can fix it on the side of the road, but the Twin-Cam models it is absolute hell (heavenly if you own a repair shop) for what should be a simple procedure. It can easily cost you a couple hundred dollars and we are only talking shop costs, not the cable cost, towing, motel, lost time from work, etc., if your cable breaks when you are out of town. Even carrying a spare clutch cable will do you no good. And, clutch cables can fail without notice and without showing any signs of fraying or wear. Ask your H-D dealer how much they charge to replace a clutch cable. It may surprise you.

33. There is a helical gear in the new transmissions and now that is causing problems. Why? Simply because a helical gear creates thrust, a thrusting of the transmission shaft to exit out of the transmission case! While the transmission shaft won't push out the case, it will terribly stress the bearing in the case and cause bearing failure. If you start riding from a low rpm in third gear then go to wide open throttle you will see the clutch lever on the handlebar flipping back and forth. This is the thrust acting on the output shaft to the clutch plate assembly. No cure. Just wait until bearing fails or overhaul the transmission occasionally. I know, not great advice, but defective component design make it hard on all riders/owners. The six speed transmission also are making noise riders complain about. It won't hurt anything, just your mood as you ride.

34. The "compensator" in the Twin-Cam primary case is a shock absorber fixed to the engine crankshaft to smooth out the erratic power pulses a 45 degree crankshaft produces. Problem is, they are failing. Find out if you should upgrade yours to a Screaming Eagle racing compensator or aftermarket sprocket. Some new H-D models already have the upgrade. If so, you may want to consider changing the size of your compensator sprocket to a one or two tooth smaller (more acceleration) or larger (lower cruising engine rpm). The latter saves fuel and reduces engine heat at highway speed.

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35. The starter gear has a tendency to wear out a bit too soon due to a soft metal. If it fails it will not permit you to start your engine or if partially fails it can wreck your primary chain system. Chances are the gear will just wear itself smooth over time and begin to slip and make a grinding noise, but it can fail and create thousands of dollars in repair cost as that broken gear thrashes everything inside the primary case. This sort of failure can break engine and transmission cases, bend crankshaft, etc. You can buy a stronger starter gear on the aftermarket. The V-Twin magazines have advertisements for this part. Van Bergen and Greener, Inc., makes a heavy duty unit: StarterDrives.com

36. The air cooled Twin-Cam engine runs hot. Even the 88 cubic inch engines run hot. The 96, 103 and 110 run even hotter. You must buy an oil cooler for these big motors. Yes, even the 883 and 1200 Sportster's should have oil coolers even though they have huge fins as large as the big Twin-Cam engines to shed heat. Some newer Harley's with the 103 engine come with an oil cooler, but it looks too small to really be of much use. Aftermarket oil coolers are much larger and will shed more heat from the engine. Here's a good one for big engines; Jagg fan-assisted oil cooler. This is important as engine failure can come on just one hot day or a day stuck in traffic. The cylinder can get so hot the cylinder walls warp out of round and the piston will scuff the wall and seize or bend your connecting rods and the valve guide seals can bake and crack or melt. Now you got big trouble! Now you have a huge repair bill even if you fix it yourself (if you know how) it will cost you a bundle. Get an oil cooler if you Harley does not have one. It should be thermostatically controlled as cold oil can also damage your engine from oil starvation (high viscosity oil) allowing internal metal to metal contact. You can see valve guide seals fail at 10,000 to 20,000 miles. To fix the valve seals right, the cylinder heads should be removed, but there are methods some mechanics will use to replace the seals without dismantling the head from the cylinder. Sealed Power makes valve seals for Harley-Davidson so check them out. Cold or too hot oil can wipe out bearings and seals fast. Go to a motorcycle rally and guess what you will see? Yep, few bikes with oil coolers! Those engines will fail soon, and you can bet on it.

Install Tires On Motorcycle book



"Learn to Install New Tires on Your Motorcycle and Fix Flat Tires". Even Installing and Balancing Harley-Davidson Tires Too... stop paying, do it yourself... it's easy.

37. The swingarm bushings in all models of the Twin-Cam bikes are weak. Yes, they do work, but they just won't last. You will notice, when they are failing, handling of the bike begins to suffer from wobbling. If those bushings outright fail it can throw you right off the bike due to a loss of control crash! These bushings have no zerk grease fittings to lube and they are of a sleeve nature. Aftermarket has sealed ball bearing kits to replace these weak factory stock bushings. Contact: True-Track and Sta-Bo

38. Be aware that any engine or transmission failure can result in a lock-up of the rear wheel or create an oil breach from the cases that will flood the rear wheel for instant loss of control and a devastating crash. You got to pay attention to those Twin-Cam Harley's as

those defects can bite you hard. Falling off a motorcycle or crashing into objects can be devastating to your health and to your wealth. If you use 100% synthetic oil with a large engine oil cooler you can escape from many engine failures. While it may not solve or cure problems, it will certainly increase the longevity of your engine and transmission and primary system resisting component failure. Example: We know the cam chain tensioners shoes will wear out, but they will last much longer using cool synthetic oil. Even if the Synthetic oil increases some engine/transmission noise it is better to live with that than a catastrophic engine failure.

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39. Again, the Sportster frame, engine and transmission has none of the defects you read about here on the Twin-Cam bikes. The Sportster is actually a perfected machine for it is a racing engine design. Older riders are wise and jumping ship from the TC to the Sportster. These Sportster's are being converted into baggers, choppers, touring models and they ride nice now due to the upgrades in suspension and wheels. With a minor investment of installing taller handlebars, stretch seat, Progressive rear shocks with extending foot pegs a little bit more for tall riders these cost effective modification can give you the comfort of the larger H-D touring models. With good pipes you won't miss anything because the 1200 Sportster sounds just as awesome as the Twin Cam's. And for those who want to ride with a passenger just install a two tooth smaller countershaft pulley for that extra pulling power. If you love to ride Harley-Davidson's and find the TC's an expense try the Sportster. I did and I have no regrets! It has been one positive experience upon another. Even parts and accessories, tires, brakes, everything is cheaper including insurance and registration with great fuel mileage too!

40. The metal circlips inside the transmission that holds the gears in place are not strong enough and can fail causing massive transmission damage. The problem is found on 2006-09 Cruise Drive transmissions, but are being watched on late models as a "concern" to be aware of. If you want to have a better transmission on any Twin-Cam Harley-Davidson replace it with a Baker Drivetrain unit. They are built strong and will not fail. But it will be expensive to make the upgrade. You can purchase their bearings and gears set and install them in the stock transmission case at a lower cost.

41. Bad brakes? Yes, the brakes on most all Twin-Cam engine motorcycles have bad brakes. What does "bad brakes" mean? Well, it does not mean the brakes won't stop the bike... it means the brake pads are fine, but the brake rotors are overwhelmed by the sheer weight of the bike. It means the front wheel brake rotors will warp from heat and that is why you have been likely told by a dealer that you need new brake rotors and brake pads. Harley's are heavy, heavy, heavy bikes and the rotors are just too thin to handle all that weight. So, do not be surprised to keep paying for front fork brake jobs. The rear brakes are okay, they just don't heat up as much as the front brakes as most of a motorcycle's stopping power is up front. Brakes are not covered under warranty. Read our article, Harley-Davidson Advice - Let's Talk Harley's! on how to fix your bike, etc.

42. Alternator failure? Yes, the bonding agent that glue the magnets to the rotor fails and the magnets fall away and grind up the alternator coils and can cause serious damage to the crankshaft and primary case components. Only engine heat high temperature creates this failure, not how much electricity you use. Too much electricity will burn the regulator-rectifier and will not destroy the engine like a magnet failure will. Not every T-C engine will see this failure, but those who ride hard or hop-up their engines and have no external oil cooler will likely see it eventually. If you see leaking oil and the electrical wires from the primary case being pulled into the primary case a magnet is loose and pulling in the wires and total failure is imminent. You may likely not even get this warning, but you'll hear a grinding or rubbing noise from the primary chain case.

43. Crankshaft Run-Out. This is not a slipping of the flywheels causing an imbalance, it is the warping motion of the right side crankshaft's pinion shaft. This thin shaft drives the oil pump and cams and it can bend or elongate causing a wobbling motion. Think of a spinning bent shaft. Generally it can bend on its own usually from high engine heat, but most riders intentionally bend the shaft with burn-outs, drag racing, pulling wheelies, hammering the throttle wide-open, riding at high speeds (over 90mph) will cause the shaft to bend. When it does bend too far it can snap or vibrate terribly affecting the engine to fail. Shaft run-out is so critical if it is out of specification you can't even install a gear-driven cam setup to cure a cam chain shoe failure unless you replace the entire crankshaft. The harder you ride your bike and the faster you ride you will see crankshaft run-out. If you drive normally you won't have a problem, in most

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cases. However, it is bad news for anybody that has hopped-up their T-C motor as crank pinion shaft run out is coming and it will be expensive to repair.

44. Buy a used Harley-Davidson? Can you imagine the problems you will be facing buying a used H-D motorcycle? Just read this article and realize none of the issues listed here were corrected. You would be buying a disaster bike! You got to buy a H-D brand spanking new and keep it under factory warranty, or else! If you are a mechanic, no problem. If you are not, you'll wish you were. If you really love Harley-Davidson's you should learn to repair them yourself or always ride a new bike. Or consider buying a new 1200cc Sportster and customize it to fit you... they have no defects! They are the most perfected H-D engine every developed. Yes, you can hop those Sportster's up to blow away any T-C engine. Sportsters can get 125 horsepower when hopped-up. Yikes!

45. Defective Fairing? Yes, on touring models the two upper fairing support brackets are notoriously known to suddenly crack and it is not an easy fix that takes 3 hours time to repair. The stock H-D replacement brackets will only keep failing making your dealer repair shop very, very happy to serve you. A welder could charge you \$150 to beef up the brackets. There is a 30-minute aftermarket fix though offered by Bagger Parts that cost only \$40.

46. Primary Case Oil Leaks? Yes, there are engine and transmission seals that can fail and leak oil into the primary chain case, but the chain case itself has gaskets that can fail and leak oil. It is just another weak design to be aware of. Primary gasket is easy to replace, but engine and transmission seals are not, so expect a big repair bill if those fail. Use Harley-Davidson SYN3 oil in all three compartments as that oil has seal conditioners to prevent seals from drying out, cracking and leaking oil.

## **THIS ARTICLE WILL HELP YOU**

It is hard on me to write this article as there are so many problems and defects it defies the imagination that such could be the case with such a popular H-D engine, transmission and frame. Whenever I visit a Harley-Davidson dealership and see all the new Twin-Cam bikes it seems among all the glitter the defects are not there (yet, I know better). With people buying new bikes and riders riding in and out of the parking lot it all seems so good. But one only needs to take a walk over to the repair shop section and it all comes raging back like a bad storm. You'll see a lot of stripped down engines being repaired, too many! The defects are real. If you do your research you will know that what I write here is not a fabrication. Many motorcycle magazines also report on these defects and their cures. The worse thing you can do is be ignorant and assume nothing is wrong with your Twin-Cam engine for that will only lead to disaster which most riders will painfully realize.

You will often notice that the repair shops at H-D dealerships are now being sealed from public view. They are actually hiding what is going on back there. What they don't want you to see is that novice, unskilled people are working on your bike. Tire changes are not performed by mechanics, yet should be as tire mounting errors and failure can kill quickly. Oil changes are also being performed by parts people, service writers and other non-mechanics. But this is not what you are paying for. You are paying top dollar for service you are not getting. Then, when you add in the severe engine failures due to defects of design the poor bike owner is being scalped.

I moved away from owning a H-D due to these problems, but when H-D finally perfected the Sportster 1200 Custom (and other models) I tried one and bought a new one right away and I got that H-D experience back (which we all love) but without the ending defects.

Many riders are seeing the light at the end of the tunnel and buying the Sportster 1200. You save money on the purchase and there are no more engine failure repair bills. You get that reliability we all desperately desire.

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Now, there are egos out there that just can't allow themselves to be seen on a smaller displacement engine and fear being looked down upon by other Twin-Cam owners. However, I see them as fools. If I speak to them about the engine defects in their motor/transmission they are "totally ignorant" of them and are sitting on a time-bomb that will wipe them out financially. Most don't have the \$5,000 it will require for a new engine. I rather ride my Sportster knowing it will never blow up than sit on the Twin-Cam grenade. Get smart, go buy a Sportster 1200 or at least go test ride one and see for yourself how cool they really are. You see more of them on the road now because Harley riders are getting smart and avoiding personal bankruptcy.

And if you think just because you got money to pay to fix these engine defects that will not be a cure for that engine will fail and fail and keep on failing ruining your vacations and wasting your time until you too get sick of it. Many riders jumped ship and bought other brands of bikes to get away from the unreliability issues of H-D bikes, but you can now buy the Sportster 1200 and have it all.

You need to get it out of your mind that the Sportster 1200 is a girl's bike or a beginner's bike. It was true years ago, but since 2004 up to 2012 many changes have been made to the Sportster that it is now a serious cruiser and with way more reliable power to spare. It is a new machine for a new crowd of enlightened riders. H-D has a big winner here. Don't be left out, jump on board.

One way I deal with the inferiority complex of pulling up with a Sportster in a sea of TC's is to realize I won't be paying horrific prices for self-destructive engine and component failures for my bike has zero defects. I push the starter and ride away knowing this Sportster is doing everything I want it to do, and more. And one more thing, my Harley does not look like everybody's Twin Cam. I no longer try to impress anybody. As long as I am satisfied, I win!

I push the Sportster for another reason. Many people are leaving Harley-Davidson due to the TC defects have bitten them financially and they are so disillusioned they go buy a Victory, BMW, Honda, Suzuki, Yamaha, etc. Those bikes will not satisfy a true Harley rider due to the sound and feel of the bike. There is a way out and that is the Sportster. Most riders are totally unaware that the new Sportster is a perfected mechanical design with zero defects. That is amazing and now you know. So, give one a test ride and consider making it fit you with some minor alterations. I admit, the stock bikes do need some ergonomic fitment alterations, so do all other bikes too.

*"Know what you are buying. Know the defects. Then prepare."*

**Final Comment:** Even with all the defects I still like Harley-Davidson motorcycles. I like the look and the sound (so do you) but I do not want to buy another Twin-Cam bike until the engine defects are resolved which I do not see ever happening with the Twin-Cam engine for it just too old of a design to be reliable. I had Harley-Davidson motorcycles and I have good and bad memories with them. They are getting way too expensive to purchase and the mechanical problems associated with that old Twin-Cam engine design is just too hard on the wallet. At least if you know what you are buying and you know the defects you can better understand how to manage them. The average rider has no idea just how bad it is until the bike fails and he gets a monstrous repair bill. What is sad is the bike is not fixed at all, the defects remain and it will break again, and again and again.

**Sound Advice:** Don't buy a used Twin-Cam Harley-Davidson motorcycle unless it has an extended warranty as long as you will own that bike. The moment the warranty expires trade it in for another bike. Devise a plan where the bike you own is always under warranty, or else! And don't do anything that can cause the warranty to become void. Never trust or believe a salesperson, a parts person or a service writer sitting behind the counter. They are all professional liars working for a boss who tells them to say things they should not be saying. Verbal communications are not to be trusted.

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Read the warranty and obey it. Harley-Davidson does deny warranties if you hop-up the motor to create more power, so beware. Try to keep the bike stock as much as possible. Even a Stage-1 tune up can void your warranty depending on which part fails.

**Note:** No motorcycle is perfect. All have drawbacks of one sort or another. However, serious mechanical problems will be experienced with the Harley-Davidson. As long as you are aware of the problems and accept the drawbacks you will be a happy Harley owner knowing that you knew beforehand certain problems can arise. This article exposes them so you can take appropriate action to fix the problems to prevent disaster. Knowledge is power! I still like Harley's, but I do not think I will buy another brand new Harley-Davidson Twin-Cam engine motorcycle due to the numerous defects and problems that just don't seem to get permanently resolved.

*"Take steps now to fix the problems. Don't ignore them. They won't go away."*

None of the above problems are secrets. You will find these issues mentioned in motorcycle magazines at one time or another. You certainly will not hear about them from other Harley riders as most are not even aware of these problems. You won't hear about these problems from a Harley dealer or salesperson. But you do have a right to know.

*"Show me proof what you write is true."*

Some readers of this article ask for validated proof of what I have written is true. I can gladly say if you subscribe or purchase back issues of V-Twin Magazine and other motorcycle magazines you will have read about these defects. It is common knowledge in the industry these serious abnormalities exist. It is no mystery except for the fact most Harley-Davidson riders are totally not aware that these defects exist and they ride in a land of oblivion mindset... until they have to pay the bill. Road Iron Magazine exposed the cam defects in January 2013 issue as did Baggers Magazine too. Most magazines have covered the defects which leads me to believe the "code of conduct" among riders is still strong. Perhaps, if they ignore the problems the problems will go away? Pipe dream.