



Shop Solutions

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Piston Ring Gapping Tip

Some of you may know this ring end gapping tip, but I have never seen it anywhere. Not even in ring package instructions. This has to do with checking the flimsy oil rail gaps. Most conventional size bores are not much of a problem. The rails on those sizes usually have a lot of leeway. But, when you do some odd, custom bore sizes, the ring package may be a closer fit, and out of the box the oil rails tend to have closer gaps and need more clearance. Under these circumstances, it is much harder to measure the rail gaps accurately.

For example, I am building an engine right now that inspired me to write this tip. It is a Ford 428CJ. It was already +.040" (4.170"). My customer wanted a Scat stroker kit. I instructed Scat to make the pistons .045" over for the kit, for a bore of 4.175". The extra .005" would clean up some irregularities and scuffs and afford me enough to torque plate hone to a perfect tolerance. When the stroker kit arrived, it included the file fit Total Seal special size rings necessary for the odd size bore. The Total Seal instructions required minimum .015" gap for the oil rails.

The engine is for a frame off restored '63 Ford Galaxy street cruiser. It will use premium gas with perhaps a touch of octane booster. No power adders, so no wide ring gaps. Gapping the two top rings was an easy job. They only took about nine cranks each using my old manual ring grinder. The Total Seal instructions required a minimum .015" gap for the oil rails. It is not easy to measure a thin .024" x .132" wide rail with that narrow of a gap on a large bore. When I squared one in a bore, the gap looked pretty narrow. It was impossible to snug a feeler gauge in the gap without disturbing the ring.

Here is what I did; I took the 1/16th thick stiff top ring, which I had already gapped to .020", and squared it back in the cylinder. Then I placed the oil rail on top and lined up the two gaps. Gently, but firmly, I used my squaring device to snug the rail firmly atop the 1/16" ring. That keeps the oil rail square and tight and does not squirm or fold up when checking it with a feeler gauge. I was able to fit a feeler gauge snug in the rail gap. I was thrilled! The gaps were .017". That would be perfect. No way could I have measured it that accurately without the 1/16th ring supporting the rail.

Needless to say, the same can be done with gapless rails or exotic thin rings or spacers. A used top ring can be used for support if it is the proper size. It can be gapped wider to make lining the two ring gaps easier. For this 428 with an odd size bore, I just used the new gapped top ring for the supporting role. No pun intended!

Jim Feurer, Animal Jim Racing, Lacon, IL

Your Shop's Rolling Billboard

If you need to attract new customers, take a tip from many large, successful companies. Consider wrapping your company truck with advertising.

A rolling billboard can create thousands of impressions per mile. Your message will be read by people you might not otherwise reach, even when it is parked!

Steve Rich, Sterling Bearing, Inc., Kansas City, MO



Checking Valve Heights in Solid Lifter Heads

I have made a simple tool to check installed valve heights in non-adjustable solid bucket cylinder heads. The tool is a short square bar with a dial indicator affixed to the end. This allows you to use the cam journal to easily center over the tips of the valves and record the valve heights before disassembling the cylinder head. By keeping the solid lifters in order, and noting the valve heights before machining the head, you assure yourself an accurate valve lash upon reassembly. This is a great time saver tool!

Sylvain Tremblay, Competi-tech, Inc., Quebec, Canada



Keep Parts in Stock for More Sales

Keeping popular head gasket sets, head bolt sets, piston rings, bearings and valves in stock is a proven way to make more sales.

Contact your supplier and ask him what discounts you can get for placing a large stock order. Ask them for a list of the most popular numbers in your part of the country. You may be surprised at how willing they are to help you out. Also, ask for special terms for a stock order.

Many shops don't stock parts and the customer simply goes somewhere else because of the convenience factor. Having parts on hand boosts our parts sales more than 20 percent.

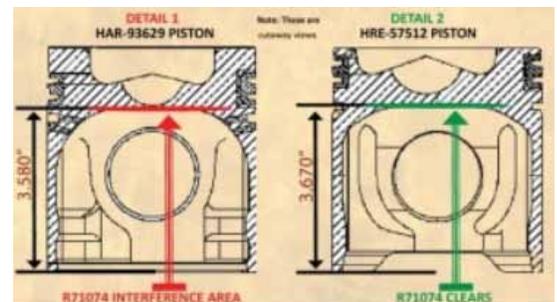
Jeffrey Myers, MAR Automotive, Inc., Philadelphia, PA

Rod-to-Piston Interference in Early 466T John Deere Model 4440 Engines

Here's a caution for engine builders. In John Deere 466T engines, do not use the connecting rod (Howard #R71074) from later model 4450 engines in the earlier Model 4440 engines.

The pistons look similar, but the area under the combustion bowl of the late piston has about .090" more clearance than that of the early piston.

L. Arnold, Howard Enterprises, Inc., Lynn, IN



What's the Latest Buzz on Your Radio?



Are your customers complaining about having a buzz or static on their radio? Today's cars are electrical computers on wheels and no one seems to pay close attention to ground wires. I recently had a customer complain about noise on his radio.

I showed him some dirty grounds, removed the bolts, cleaned off the rust and replaced them. The radio works like a champ again and the headlights seem brighter according to the customer. Keeping electrical connections clean and rust free also prolongs the life of your electrical system.

Roy Maloney, Engine & Performance Warehouse, Houston, TX