



Shop Solutions

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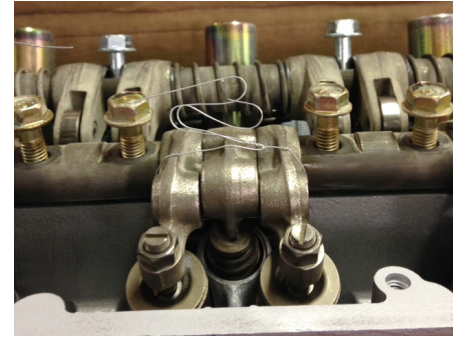
Shop Solutions may be submitted to shopsolutions@kceenginepro.com



Don't Fall Off Your Rocker Pins

Several types of Honda heads have a rocker panel with a set of three rockers together. These rockers have pins that can easily fall out and be lost once the rocker panel is removed from the cylinder head. Before removing the panel, use a small wire to hold the three rockers together.

Ronnie Myers
MAR Automotive, Inc.
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Exploding Piston Trick

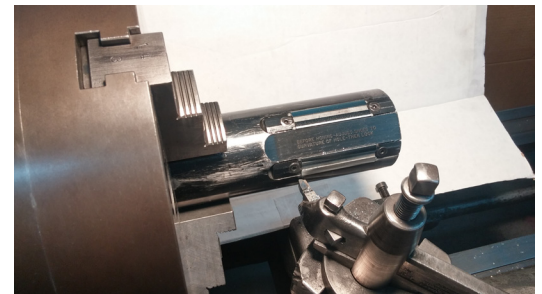
One of the more distasteful disassembly jobs in our shop involves hypereutectic pistons. It seems that no matter what fixtures we use we still end up with the occasional piston "explosion." I believe we have come up with a few workable solutions for the removal of press fit hypereutectic pistons from connecting rods. Our first solution was to construct a 1/4" thick clear Lexan shield, hinged at the top of the press to keep the operator from having to "wear" the exploded piston parts. This shield worked in that the operator was out of harm's way, but it did slow down the operation and the chunks still ended up on the floor, and occasionally other workers nearby. Lately, we've simply wrapped the piston with duct tape and made a slit for the pin arbor before disassembly. The pin itself will make its own exit hole in the tape. If the piston does shatter, the parts are contained within the tape, making clean up easier and lowering the fear factor for the operator. When we need to disassemble the occasional cracked or partially broken piston, we still wrap it with tape, but also tighten one or two hose clamps around the skirt for additional support.

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Shoe Repair

When my CR honing shoes get worn funny, I set up the mandril in my lathe and turn them down to straighten them out. I also cut a couple grooves on the ends. This helps to keep the shoes straight while honing. I'll even turn new shoes to get them in line and then they hone great right from the start.

Randy Torvinen
Torvinen's Machine
Menahga, MN



Windsor Ford Balance Weights

All 351 Windsor Fords use the 28 oz. balancer. In fact, all 351's regardless of Windsor, Cleveland or Modified are 28 oz. In addition, virtually all of the 302 stroker variants will use the 28 oz. balance weight, unless the rotating assembly has been internally balanced. An easy way to tell which 302 crankshaft you have is by the center counterweight. If it is a round, "half moon style" it is the 28 oz. In contrast, the "Bar style" counterweight is the 50 oz. version.

Paul Wampler
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GM LS-Series Double-Roller Chain Oil Pump Spacer

Warning

If you are using a spacer to reposition the oil pump forward in a Chevy LS engine so that a double-roller chain can be installed to drive the camshaft, use caution to make sure the pump has sufficient end play and is not binding. If the pump binds, it can wear the thrust surface inside the pump and damage the housing and drive gear.

The accompanying photos show the result of what happens when the oil pump lacks sufficient clearance because of a stack up of manufacturing tolerances when a spacer is used. The thrust surface of the housing and the inner drive gear both have turned black from the excessive friction and heat. Steel turns black at 800 to 900 degrees F, and blue at 1,050 to 1,100 degrees F. The thrust surface in the pump housing has also been worn down nearly .014".

To reduce the risk of oil pump binding, assemble the crankshaft in the engine block with the pump and cover bolted down, but with no pistons or rods or upper valve train components installed into the engine yet. If the crank rotates freely, the pump should have sufficient clearance. But if the crankshaft does not turn freely, the oil pump is probably binding.

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