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01 If you're looking for a fashion statement it doesn't get much better than the small-block in Jason Scudellari's '49 Chevy pickup chassis. Many of the chrome parts, including the thermostat housing, distributor clamp, alternator brackets, and pulleys came from Trans Dapt. Motor mounts are urethane from CPP.

MORE THAN A PRETTY FACE

Performance and Appearance Enhancements for Small-Block Chevys

by Ron Ceridono & Jason Scudellari

When Jason Scudellari, head wrench turner in our *Classic Trucks Tech Center*, began updating the chassis of his chopped '49 Chevy pickup the decision was made to give the engine some TLC as well.

Although the small-block 350 had been overhauled not long ago Scudellari felt there was the potential

for improved performance and a great deal more eye appeal. To up the engine's output the stock flat-tappet cam was replaced with a COMP Cams hydraulic roller, PN 260xfi HR-13. The new bumpstick has 260 degrees of duration in the intake with 270 on the exhaust (210 and 218 degrees at 0.050-inch lift) valve lift is 0.560-inch intake, and 0.555 exhaust with lobe separation of 113

degrees. This cam is available for '58-'98 Chevrolet 262-400 engines—it's tuned for EFI applications, providing excellent low end and midrange performance. Along with the cam, Scudellari installed COMP Cams roller hydraulic lifters, roller rocker arms, pushrods, valvesprings, retainers, and locks. To aid in adjusting camshaft endplay (a necessity with a retrofit roller cam) a COMP Cams front cover, PN 210, was thrown in the mix.

There was a time when enhancing performance

meant porting and polishing a set of heads and stuffing in the biggest valves that would fit. Today there is a much more effective and affordable option—brand-new heads from Racing Head Service. Scudellari opted for RHS Pro Action aluminum heads (PN 12054-2) that have 64cc combustion chambers, intake runner volume measuring 200 cc with 74 cc on the exhaust. What all those numbers equate to is vastly improved performance for less money than modified stock heads can provide,

plus the advantages of lighter weight aluminum construction—clearly the days of modified stock heads are over.

With the block buttoned up, Scudellari turned his attention to exterior details—the intent was to combine form and function. Working from the bottom up a host of polished aluminum parts were added, including an oil pan from Trans Dapt, Weiand water pump, Weiand Street

Warrior intake manifold, and Holley valve covers.

Once the engine was back together it was bolted to Westech's dyno where it cranked out a respectable 365 hp and 405 lb-ft of torque. Given these numbers were achieved with bolt-on parts, no machine work was required, and the improvements didn't break the bank, we'd say Scudellari's small-block met the goals set forth—and it's more than a pretty face.

02 The object of our attention was a stock 350 Chevy that had a recent rebuild to stock specs with a flat-tappet hydraulic cam.



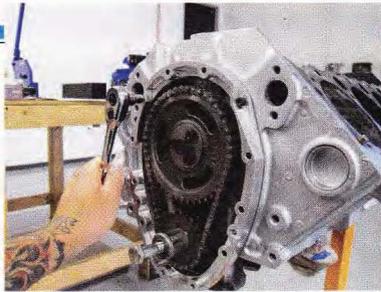
03 To enhance performance we selected aluminum heads from RHS, a COMP retrofit roller hydraulic cam and kit, and a TCI Rattler crank damper.



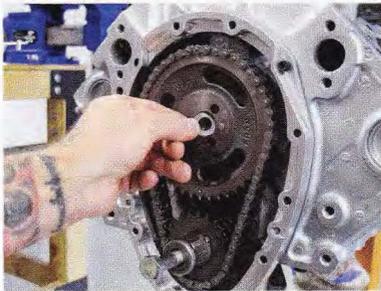
04 Although roller cams eliminate some of the problems associated with breaking in flat-tappet cams, COMP Cams' installation lube is still required.



05 To maintain accurate valve timing a COMP Cams roller chain and sprockets were installed straight up (neither advanced or retarded). Three keyways in the crank sprocket allow for 4 degrees of advance/retard.



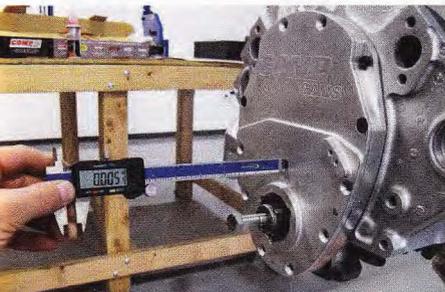
06 COMP Cams aluminum two-piece front cover allows for cam changes/timing adjustments without removing the pan. Note the roller bearing that limits cam endplay.



08 Based on the previous measurement a shim was added to the end of the cam. Forward movement is limited by the roller bearing pressing against the front cover.



09 With the shim in place the bearing was reinstalled and secured with the retainer plate. Rearward movement is limited by the cam sprocket pressing against the block (as with flat-tappet cams).



10 Using a screwdriver through the valley to move the cam forward endplay was double-checked. With the proper shim it measured the specified 0.005 inch.

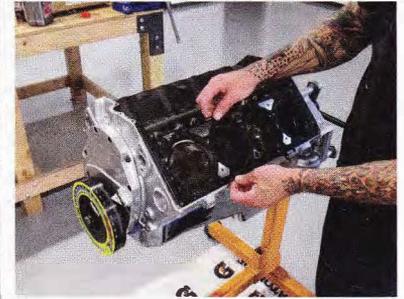
07 The COMP Cams front cover also has a port that allows endplay of the cam to be measured—the initial measurement was 0.463 inch.



11 For a vibration damper TCI's unique Rattler was chosen. It uses internal rollers to offset twisting forces that cause vibration and has timing marks engraved around its circumference.



12 Closing off the bottom of the engine is a ribbed, polished aluminum pan from Trans Dapt.



13 To ensure a perfect seal, Fel-Pro PermaTorque MLS (multi-layer steel) head gaskets were used. They are designed to maintain contact pressure between the cylinder head and block during the engine operation and heating and cooling cycles.



14 Head bolts, as well as all the other engine fasteners, are from ARP. Note the washers used with aluminum heads.

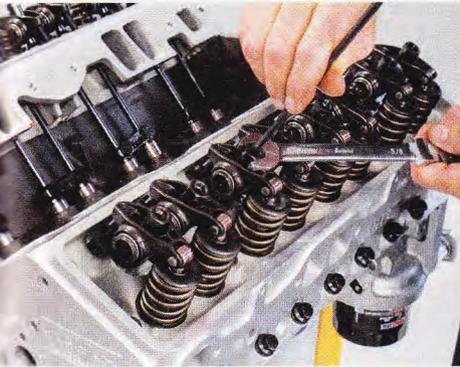


15 The RHS heads came with 2.02-inch intake valves, 1.60 exhausts, screw-in studs, and pushrod guideplates.

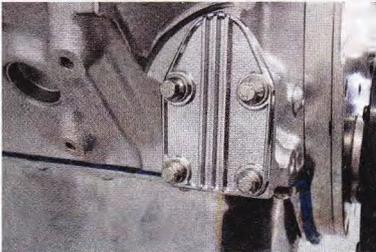
16 COMP Cams retrofit hydraulic roller lifters come with tie bars to maintain proper alignment with the cam lobes.



17 To further reduce friction COMP Cams Magnum rocker arms were installed. They not only have roller tips but roller fulcrums.



18 COMP Cams locking rocker arm nuts use as setscrew to lock them in position. Pushrods are also a COMP Cams project.



19 As the mechanical fuel pump will not be used, a Trans Dapt block-off plate takes its place.



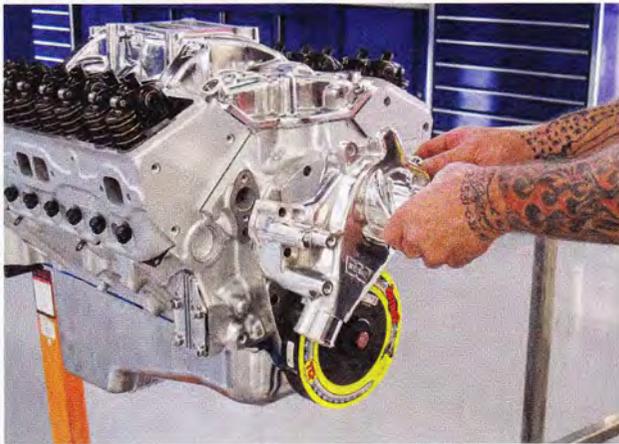
20 Topping off the engine are a bunch of polished goodies: Holley valve covers and air cleaner, Weiand intake manifold and water pump, and Hooker exhaust manifolds.



21 Rather than use intake manifold end seals (which tend to squeeze out) a bead of silicone was applied to the block's bulkheads.



22 Antiseize was used on all the ARP stainless fasteners to prevent galling of the threads.



23 Weiland's Action-Plus water pumps have been completely redesigned for better performance and utilize their exclusive "twisted snout" look. They feature premium quality bearings and seals that have twice the load capacity of stock pumps and six-blade stamped steel anti-cavitation impellers.



24 Holley's new vintage-style aluminum valve covers fit all '58-'86 small-block Chevy engines with perimeter bolt patterns. Available finishes offered are as-cast, satin black with machined fins, and polished—valve covers are 3½ inches tall with pre-installed internal oil baffles (oil fill and PCV grommets also included).



25 Charging and starting chores are handled by an MSD Dynaforce 120-amp alternator (PN 5322) and an MSD Dynaforce gear reduction starter (PN 50951).



26 Strapped to the dyno at Westech, our 350 used an MSD ready-to-run distributor and a Holley Terminator EFI system.

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