TECH BY CHRIS MAIDA

LATUS 95" TWIN CAM

Part II: A solid 95-hp/102-torque budget build

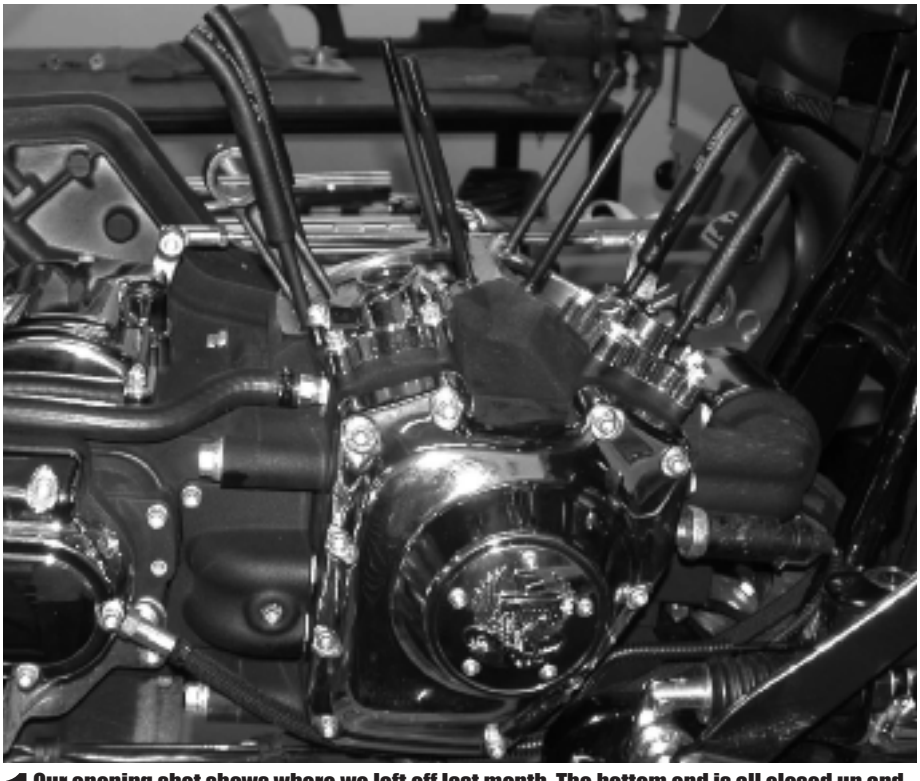
Thunder Alley
HIGH PERFORMANCE HARLEYS

IT'S TIME FOR MIKE STEGMANN, PERFORMANCE specialist at Latus Motors, to finish this performance-on-a-budget build of a 95" Twin Cam. This kit, called the Executive, is what the crew at Latus considers a mild 95" upgrade, one that's perfect for owners who don't have a lot of cash to throw at their engines.

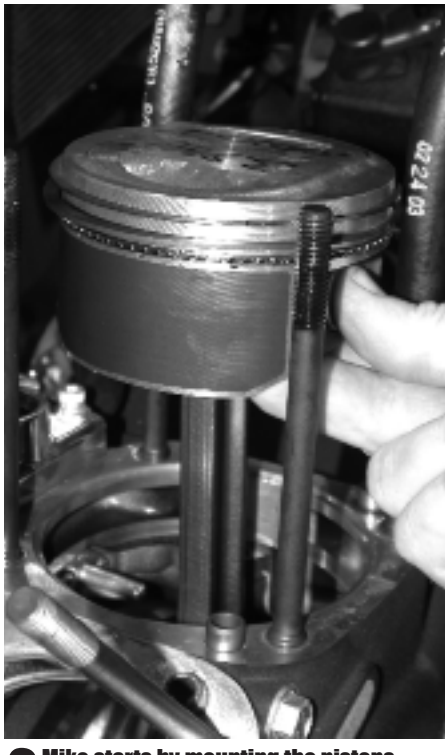
Last month, we showed you how Mike wrapped up the lower end, specifically the gearcase section, by installing a set of Screamin' Eagle 211 cams. He also installed a different oil pressure bypass spring in the cam support plate's regulating valve, which he says helps eliminate oil blowby from the air cleaner. (I guess it works, since I ran the bike for a while on the highway and no oil appeared on the right side of the bike or my leg.) Mike also checked the internal oil pump for excessive wear and replaced all its O-rings. Problems in either of these areas will also result in a case of slimy right leg.

This time around, he's going to bolt up the upper end, dial the bike in on the dyno, and then turn it over to me for some test riding. (Need I say that's my favorite part?) To keep things as inexpensive as possible, the stock cylinders were bored out to accept the new set of Screamin' Eagle 10.25:1 cast pistons. The heads, however, will be going back on as is, with no porting or valve spring work, though the valves were checked and lapped in fresh.

Topping off the build is a



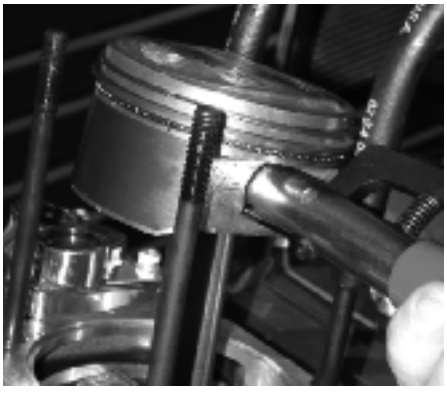
1 Our opening shot shows where we left off last month. The bottom end is all closed up and ready for the top to be installed. The cylinder studs have rubber hoses over them to protect the pistons.



2 Mike starts by mounting the pistons he assembled last month onto their connecting rods, noting the direction arrow on the top of the piston, by slipping in the new (lubed) wrist pin.

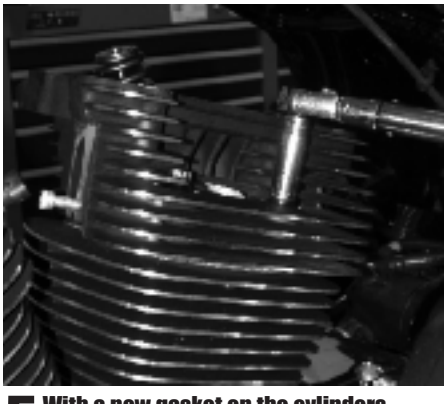
SOURCES

LATUS MOTORS H-D
870 East Berkeley Street
Dept. *AIM*
Gladstone, OR 97027
800/446-2525
www.Latus-HD.com

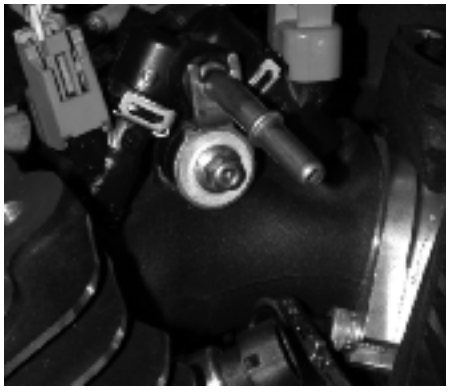


3 He can now pop in the last wrist clips using the H-D tool, taking care not to drop a clip into the lower end. He then removes the rubber hoses from the cylinder studs.

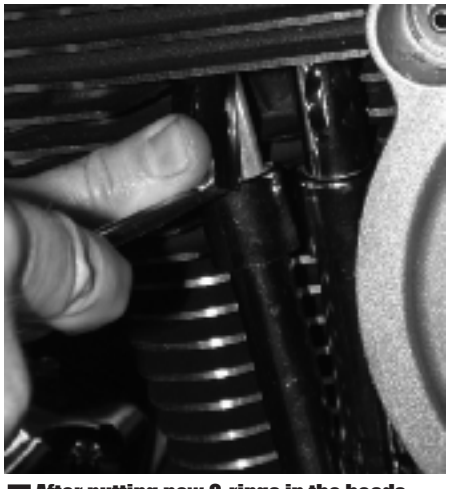
4 After putting new O-rings onto the two oil dowels on the cases and the bottom of both cylinders, Mike uses a ring compressor to slip the pistons into their cylinders.



5 With a new gasket on the cylinders, Mike installs the stock heads back onto the engine using a 12-point 1/2" socket. Before he torques the bolts to spec, as per the H-D procedure, Mike puts a drop of oil onto the head bolt threads and under the heads.



6 After he's installed new seals, Mike bolts the stock EFI throttle body onto the engine using the stock hardware and a 1/4" ball-end Allen. He uses a 7/16" socket to bolt the backing plate to the heads.



7 After putting new O-rings in the heads and lifter covers, Mike pops in the stock pushrod tubes and retainers using a flat-blade screwdriver.

8 With a new gasket on the heads, Mike bolts on the lower rocker boxes using a 7/16" socket, as per the pattern in the H-D manual. He then torques the six bolts to 15-18 ft-lbs.

9 After putting a new O-ring into the lower boxes and installing the top engine mount, Mike drops the stock pushrods into their tubes: black for the exhaust and silver for the intake.

10 He then replaces the umbrella valve in both breather assemblies.

11 Ditto for the oil scrubbers, the foam component of the breather assemblies. The breathers are then installed onto the rocker arm assemblies, which were taken off the engine as a unit.

12 With some blue Loctite on the bolts' threads, Mike uses 1/2" and 3/8" sockets to bolt on the rocker arm assemblies. He walks them down slowly, to give the lifters time to bleed down.

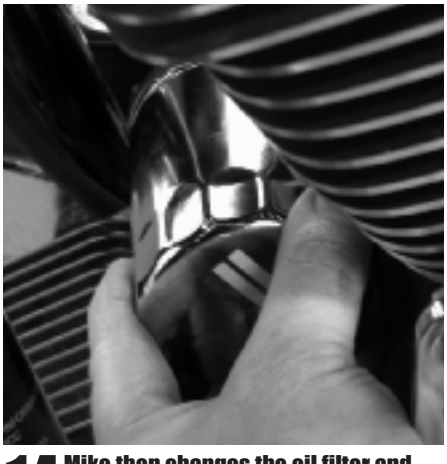
15 Mike uses a T27 Torx to install a new SE air cleaner element.

18 The dual mufflers go on next, followed by the floorboards. Note: The right floorboard has to be extended to clear the front header pipe, and Rinehart supplies everything you'll need.

13 With a new gasket on the lower boxes, Mike installs the top rocker boxes using a 7/16" socket. He torques the bolts to 168 in-lbs., as per the pattern in the H-D manual.

16 A 5/16" Allen takes care of the outer cover. Mike then reinstalls the stock coils, new spark plugs, and what-ever else needs to be hooked back up at this time.

19 A new, stronger diaphragm clutch spring must be put onto the clutch, so it'll be able to handle the extra power the engine will now be putting out.



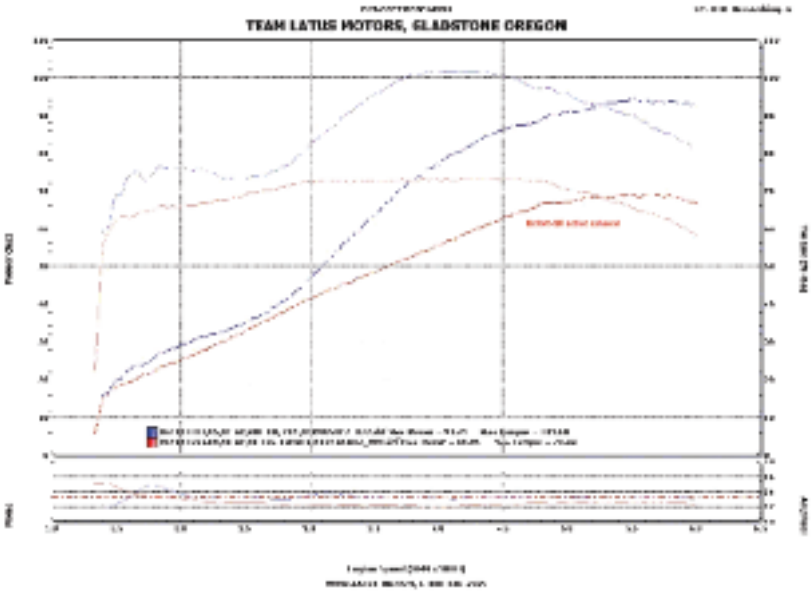
14 Mike then changes the oil filter and drops the oil. He likes to break the engine in with regular H-D oil and then switch to SYN3. He then attaches the various necessary cables and wires.

17 This bike is also getting a Rinehart dual exhaust system. Mike first bolts up the header pipes using a 1/2" socket, after installing new gaskets into the exhaust ports on the heads, of course.

20 Once the fuel tank is reinstalled and the battery hooked up, Mike uploads a standard map using an H-D Race Tuner, so the bike will run. He'll then dial in the proper fuel and ignition maps.

DYNO RESULTS

THE DYNO SHEET AT RIGHT TELLS THE TALE: THE BIKE, WITH THE STOCK 88" engine equipped with a freer-flowing exhaust and air cleaner (an SE airbox and Active slip-on mufflers) starts out making a max of 69 hp and 73 ft-lbs. of torque. After installing the SE cams and other hi-po additions, plus Mike's expertise in the dyno room, the mill is pumping out almost 95 hp and 102 ft-lbs. of torque using the stock heads and valve springs.



As you can see, the engine is making around 73 ft-lbs. at 2500 rpm, which is what the stock engine put out at its maximum. It then starts its smooth climb to over 100 ft-lbs. at 3750 rpm and stays above 100 until about 4600. As for the horsepower, it's about 29 at 2000 rpm — 4 hp above the original amount. The old and new horsepower lines stay near each other until 2900 rpm, where they part company, with the 95-incher climbing to reach a peak of almost 95 hp at 5500 rpm, passing the old maximum of 69 hp at 3650 rpm. When I took the bike for a test ride, this power increase all across the powerband was very noticeable and solid, and it made the bike a pleasure to ride. n AIM