HOT ROD Forum

By Bruce Crower

It seems as though history is starting to repeat itself based on the 40-year cycle. Activity is steadily increasing relating to "early Forties" hot rodding and the engines of that era. The interesting thing about it is that the Forties rodder may now prefer to build up another roadster, "just like the one I used to have," with the Ford suspension, rearend, and even the older drum juice brakes instead of modern discs and spots. We have been in mouse-motor heaven since the late Fifties when the small-block goodies became available, but the Ford V8 flathead was still very quick, with memorable performers like the Bean Bandits, Jazzie Nelson, and others carrying the marque.

What has happened is this: the nostalgia bug has captured the 1940-'50s hot rodder because many have reached retirement age with extra time and bucks to do it all over again, and perhaps even better than before. Count me in on the fever. I recently acquired a pure stock '32 roadster with original paint, low miles, and even 1932 license plates. I've been hitting some swap meets to check out available vintage speed equipment, but there are not that many choice parts, such as heads, manifolds, cams, ignitions, etc., to be found at reasonable prices. They're drying up fast.

One of the "afflicted" called the other day and we began hashing over the Ford flathead, reminiscing on what we used to do, and then speculating on what would be a 1980s approach to making the flathead "go." We discussed the excellent stock parts that were raceable, such as the rods and cranks, which permit most of the budget to go into the speed parts. The "Y" and "L" blocks could be bored to 3⅜ inches or 3 7/16 inches, and, with an offset grind on a '49-present Mercury crank, the stroke could increase an extra ⅛ inch. The '32 V8 came with 221 cubic inches, and the big bore stroker sported 293 cubic inches. These engines were the most feared at the lakes and drags.

The dilemma on the L-head design, however, was the inability to get high compression ratios without cutting off the breathing around the valves and restricting the transfer passage to the cylinder. It was quite obvious on dyno tests that the high-compression heads (9:1) would pull better power at around 5000 rpm, but would fade away as the rpm went up. Conversely, the lower compression, such as 7.5:1, would generally carry the torque better in the 6000-and-up rpm area. A "lakes" engine pulling a tall gear at 5000 rpm liked the high compression, but a drag

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engine with lower compression would always turn better times due to the extended rpm range.

I think the modernized flathead could have the best of both worlds; that is, high compression without the usual breathing restriction by applying a couple of different twists when building it. One part of this would be to machine a "stepped-roof" chamber above the valves, giving the intake valve the room for at least a .500 lift, but limiting the exhaust lift to .300 with a low-roof chamber above. The lower exhaust lift will not affect power as most of the exhaust gases leave the cylinder before the valve reaches .200 lift. Also, in the flathead design you really have an inverted overhead cam, and valve control is excellent, even with very fast action.

The other way to reduce combustion chamber volume and retain a large transfer passage is to exploit the pop-up piston to a greater degree, even up to 7/16-inch using a flat-top piston. This would eliminate the need for a deep relief in the block and provide a transfer passage equal to inlet valve flow capabilities. Unfortunately, such a head was never available, and there is not enough material in the vintage heads to accept the deep counterbore for the pop-ups. A rework of older heads involving expensive welding or the solid aluminum plate route with the cover lid as per Robert Roof's Model "A" head would also do the trick. The last suggestion is for the retiree with a Bridgeport mill and an understanding wife: mucho chips!

So far, we've handled the compression and breathing problem, but we still have the siamesed center exhaust ports to contend with. Any flathead builder remembers the exhaust divider that directed the exhaust down the port instead of letting it blast directly into the adjoining cylinder. The exhaust intrusion still existed, though, and kept the cam grinder stifled as to really developing the ultimate cam. On this score, a 180-degree crank would solve the problem, as each center cylinder would share the port at equal intervals, and there would be no need for the bolt-in divider. This would open the door for exhaust tuning and way-out cam timing. True, there were some 180-degree cranks made "back then," but for one reason or another they were not widely used.

The .500-lift cam would best be handled by enlarging the bearing bores and using larger later bearings. This would require a steel billet cam and hard-chrome or chilled-iron lifters in either the radiused or flat configuration. In the valve department, I always used a Lincoln flathead valve with the head reduced to 1¾ inches. Although this obviously blocked the back side of the valve for air flow, the normal path of breathing seemed to be mostly straight out in line with the port.

To keep our modern flathead streetable, I would top it off with an Edelbrock three-carburetor manifold with progressive linkage and any of the good ignitions with four-lobe cams and dual points. I suppose the all-time best sparker was the one built by Kong Jackson with the huge cap and precision Winfield breaker cam.

For those who are building flatheads, either the V8 or four-bangers, let your needs be known to the equipment manufacturers, and I'm sure they would be pleased to pull out the old casting patterns, cam masters, etc., to fulfill the need if the quantity was right. In 1949, Paul Schiefer dyno'd my 258-cubic-inch flathead at his old San Diego shop and it developed a respectable 209 hp on gas and 248 hp on 10 percent nitro. It doesn't sound like much now, but that's the way it was, and it might be more fun the second time around. HR