

# GM Journal

## Revenge of the GM Flatheads

The world once again matches these engines

**BY JON G. ROBINSON ■ IN 1949, OVERHEAD-VALVE CADILLACS AND OLDSMOBILE ROCKETS BROUGHT THE ENTIRE AUTO INDUSTRY INTO A POST-WAR WORLD. BUICK FOLLOWED IN 1953, AND PONTIAC AND CHEVROLET FOLLOWED IN 1955. THEY ALL DID IT WITH VERY NECESSARY, HIGH-COMPRESSION, SHORT-STROKE V-8s, AND THEY WERE THE WAVE OF THE FUTURE.**

Or, were they?

A high compression ratio is no good without high-octane gasoline to go with it. To work efficiently, an engine with 10:1 compression needs 100-octane gas, but we don't have that anymore. Today, we have 87-octane regular and only a few octane more if we buy premium. For 87- to 92-octane gas, 7:1 compression is perfect. Flying under the radar are the venerable General Motors flathead engines from the late 1930s and 1940s – inline sixes and eights from Pontiac and Oldsmobile, and V-8s from Cadillac – with exactly the right compression ratios for today's gasoline.

Highways rapidly improved after World War II, and the days were numbered for long-stroke engines because they suffer badly at sustained high rpm. By the early 1950s, freeways sprang up throughout America's highway network. The massive Interstate Highway System followed, of course, and short-stroke V-8s absolutely were the order of the day and the most-efficient, least-self-destructive engines on the road for the newly consistent highway speeds.

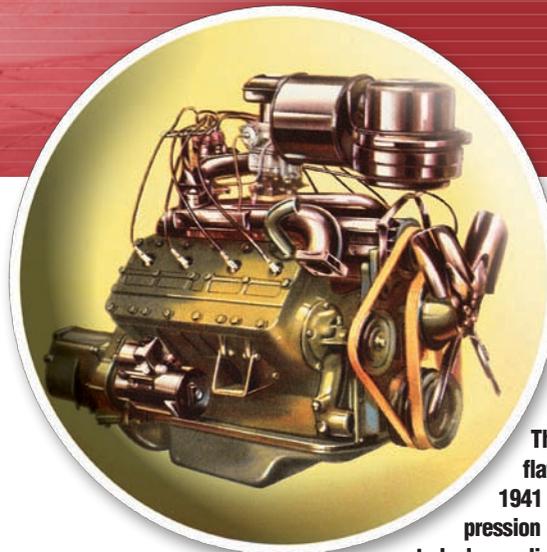
The bad news for today's collectors is that, as gasoline octane ratings rose in the mid 1950s, so did compression ratios. For example, the Oldsmobile overhead-valve V-8 started out in 1949 with a compression ratio of 7.25:1 and

rose to 7.5:1 in 1951. Today's mid-grade, 89-octane gas is perfect for them, but in 1953, the Olds compression ratio rose to 8.3:1 which is just outside the optimum range of any of today's gasoline. The high-compression V-8s are reliable, but they don't run as efficiently as they could on today's gasoline. This condition worsens by the 1960s when compression ratios of 9:1 and 10:1 are common.

Paul Ayers has restored several Cadillacs with flathead V-8s and uses his 1940 Cadillac 70 sedan as a long-distance highway car.

"The flatheads pull strong at low rpm," Ayers says. "They're extremely smooth, particularly if you have a standard shift. You pull away from a stop without winding the engine up at all. I appreciate the later, overhead-valve Cadillacs, and they're perfect if you want a lighter car with more grab to it. Everything about the flathead engine is heavy – the flywheel, the crankshaft, the casting itself – and they feel very smooth. They work equally well when hooked to Hydra-Matics. They geared the Hydra-Matic to take advantage of the flathead's characteristics. They're very pleasant to drive because they shift at low rpm."

Carl Bjorge is a flathead Oldsmobile fan, and, while the collector world circulates around Rocket 88s and '60s musclecars, he spends a lot of time at



**The Cadillac flathead V-8 for 1941 has a compression ratio that fits today's gasoline better than much more modern GM V-8s from the late-1950s and '60s. It may not spin the tires, but grownups don't peel out, anyway.**

the wheel of his flathead-eight 1946 Olds 98 two-door sedan.

"The two advantages are smoothness and quiet," Bjorge tells. "They're not neck-snappers because they don't have the gross horsepower the Rocket V-8s have, but they're very smooth and excellent cruisers. They're also a lot more forgiving toward today's fuels because of the lower compression ratios. I see Oldsmobile musclecars come into shows with aviation fuel because of the high-compression engines, but I think my flathead Olds would run on kerosene if it had to. The flatheads are also very easy to work on."

Within the Pontiac-Oakland Club International, Don Barlup heads a sub-group dedicated to flathead Pontiacs, and he believes these cars are easier to restore on a budget.

"There was a lot of interchangeability of parts," Barlup says. "You can put one together and keep it running without a tremendous amount of money involved. Also, when they were new, the quality of the fit was excellent, and the metal was heavier than what came later. I've always enjoyed driving the flathead Pontiacs because they're more heavily built cars that stick to the road better. They have a nice, solid ride compared to the V-8 Pontiacs."

Between leaner restoration budgets, the need for greater fuel economy, and compression ratios that fit today's fuels, the flathead GM cars are some of the best entry-level collector cars. When equipped with the Hydra-Matic, these cars had longer-legged rear axle ratios for highway-speed cruising. Now is the right time to give them the attention they deserve. ■