Hemmings Classic Car

America’s Best V-8 Engine: Studebaker

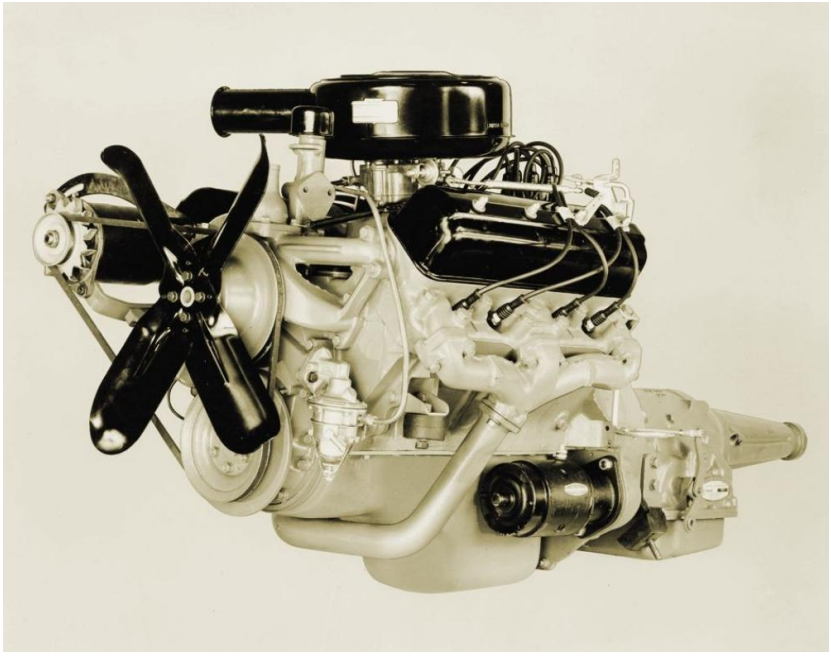
By Bob Palma from the March 2015 issue of Hemmings Classic Car

Now, before the Bow-Tie Brigade inundates our editor with demands for my dismissal, I will say this: The lightweight, small-block Chevrolet is America’s most versatile V-8, due to its compactness and low cost. But no postwar, domestic V-8 is as tough, and none tolerates poor maintenance as well as a Studebaker V-8. Here’s why.

As World War II drew to a close, industry engineers felt that OHV engines, configured as compact V-8s instead of impressive-looking but lengthy in-line engines, would make good use of the high-octane fuels that were developed during the war. Many thought even higher compression would be common by the mid-1950s, so Studebaker engineers designed their new V-8 to accommodate compression ratios as high as 13:1, or more.

When passenger-car gasoline never became blended for such high compression ratios, it left Studebaker with a sturdy, overbuilt V-8. It would be forever criticized as being heavy, and it is for its displacement. But that weight strengthens the engine in unseen ways.

For example, when introduced for 1951 at 232 cubic inches, the Studebaker V-8 had at least 25 percent more main bearing area per cubic inch than did Cadillac or Oldsmobile V-8s, and more main bearing area outright than the new 331-cu.in. Chrysler Hemi, displacing almost 100 more cubic inches! All Studebaker V-8s have forged, not cast, crankshafts riding in those husky bearing webs, to which only forged connecting rods are attached.



Eighteen bolts secure each cylinder head, more than most competitors. Head gasket issues were and have been virtually nonexistent, even when the engine was first supercharged for some 1957 models.

Studebaker V-8s rarely have valve problems. Hydraulic valve lifters were never used; every Studebaker V-8 has solid lifters. Forged, easily adjustable rocker arms ride on shafts in a Studebaker V-8; not cheap, stamped rockers, sometimes on individual, pressed-in studs that can pull out of cylinder heads under the right conditions.

Unique among OHV postwar V-8s is Studebaker's gear-driven camshaft. Not only do timing chains stretch, but engineers often reduce an engine's internal noise by capping camshaft sprocket teeth with plastic composites. They are subject to heat and age degradation, leading to camshaft sprocket failure. (I'd say its timing chain is the only design element preventing Chrysler's 273-360 LA-series V-8s from duplicating Studebaker V-8 minimum-repair longevity.)

Finally, the new Studebaker V-8 did not experience the internal oiling problems that plagued some early OHV V-8s. Studebaker's V-8 did experience early camshaft lobe failures, as did several in the industry until oils and metallurgical issues were sorted out for the new engines.

Studebaker's V-8 design produced an engine that was not only strong, but unusually powerful for its displacement. Only the new Chrysler Hemi V-8 produced more horsepower per cubic inch than did the Studebaker V-8 in 1951. From the jump, both engines produced more than ½ horsepower per cubic inch with two-barrel carburetors, a figure Cadillac and Oldsmobile couldn't muster even though their V-8s had already been in production two years. The Studebaker V-8 remained powerful to the end, too; the 1964 Studebaker R3 engine was conservatively rated at 335 horsepower from only 304.5 cubic inches. That's 1.100 horsepower per cubic inch; no small feat in 1964.

Indianapolis 500 legend J. C. Agajanian chose Studebaker V-8s to modify for the 1952, '53 and '56 Memorial Day Classics. Overall sturdiness was reportedly a factor in their being chosen over Cadillac, Chrysler, or Oldsmobile V-8s. In 1952, Agajanian spent $225,000 transforming at least two Studebaker V-8s into radical, 32-valve, DOHC speedway screamers. Bored 3⁄16-inch and using reworked stock crankshafts, the resulting 274 cubic inch engines produced an incredible 370hp at 7,100 RPM on methanol…in 1952!

Today, two beautiful Agajanian Studebaker V-8s are displayed at The Museum of American Speed in Lincoln, Nebraska. Visit their website to see what was done with America's best V-8 engine.