

1969 Performance Options - I(m)

In 1969, Ford came out with new options for improving the performance of 289 and 302 V8s. These options were designed to be used in conjunction with other available Ford kits to boost horsepower just a little, or a lot. The options involved improving the engine's breathing capability and moving the engine's peak horsepower into the upper rpm range. For this reason, other modifications, like 4V carburetors and dual point distributors (or a D0AZ-12A132-B dual point distributor kit) were a must, if any real power gains were to be achieved. Ford even offered a C9OZ-9424-D 4V dual plane aluminum high riser intake manifold, and a 427 HiPo C8AZ-9510-AD 4V 600 cfm, center pivot bowl Holley carburetor (tag number C8AF-AD) for just such upgrades in induction performance. This carburetor was soon replaced by a similar C9OZ-9510-N (tag number C9OF-R) 600 cfm, center pivot bowl Holley. The following year, a D0PZ-9510-U 4V 600 cfm, standard bowl Holley (tag number DOPF-AN) was also offered.

The high riser and Holley 4V were "Stage One" of Ford's legendary "Staged Performance" program introduced in its 1969 Muscle Parts Catalog. (See table on facing page.) Ford used three approaches to "Staged Performance" and called them "Impressor," "Controller," and "Dominator." The "Impressor" approach was based around the C9OZ-6250-C high performance hydraulic cam. The "Controller" approach went the extra step to include the installation of 351 Windsor cylinder heads. The "Dominator" approach, strictly a racing package, replaced the high performance hydraulic cam with a "LeMans" C7FE-6250-A mechanical cam, in addition to substituting in other 289 HiPo components to improve reliability. Stage Six of the "Dominator" approach was the conversion of the 289 into a 302. With the right components, a 289 2V could be modified into a 355 horsepower 302 HiPo featuring the "hot" LeMans cam, 351 Windsor heads with GT40 valves, and a host of 289 HiPo components. Further induction improvements, such as two 4Vs on a high riser or four 2V Webers, could push this number even higher.

For simplicity, six significant topics will be covered in this section relating to the 1969 "Staged Performance." They are:

- **Installation of a High Performance Hydraulic Camshaft**
- **Installation of a High Performance Mechanical Camshaft**
- **Spring and Retainer Application Chart.**
- **Installation of 351 Windsor Heads on 289/302 V8s.**
- **Conversion of the 289 V8 into a 289/302 HiPo.**
- **Installation of GT40 Valves in 351 Windsor Heads.**

Each of these options was specially designed with a specific purpose in mind. The high performance C9OZ-6250-C hydraulic cam was comparable to the 289 HiPo mechanical cam. (For C9OZ-6250-C camshaft characteristics, see Appendix G.) Though there was a small sacrifice in horsepower over the mechanical cam, the lack of messy valve adjustments made it an ideal choice for those who wanted added performance with minimum fuss. The C9OZ-6250-C hydraulic camshaft was good up to 6,000 rpm, and with the right supporting components, could generate about 250 to 260 horsepower.

For the purists, Ford still offered the C3OZ-6250-C 289 HiPo mechanical cam which produced about 10 to 20 more horsepower than its hydraulic version. Ford indicated that the mechanical cam could be used with the pressed-in rocker arm studs, if rpms were kept under 6,000. Mechanical camshafts also required push rod alignment guides and conventional type rocker arms. For 289 engines before L11 this was achieved through close tolerance push rod slots machined into the cylinder heads. However, starting with L11, round holes were used along with rail type rocker arms. This arrangement required constant contact between valve stem tip and rocker arm (zero lash) and was therefore inappropriate with the mechanical camshaft which required a clearance lash. Change level 11 and later engines necessitated the installation of push rod guide plates and threaded rocker arm studs to mount them. Any engine intended to work above 6,000 rpm also required the threaded rocker arm studs. Installing the threaded rocker arm studs involved milling the rocker stud boss 0.230" and tapping the stud hole with a $\frac{7}{16}$ " coarse thread. On L11 and later 289 V8s, and all 302 V8s (those with round push rod slots), hardened push rods and a set of conventional rocker arms were also required. (Except for a very short time in mid-1966, Ford used C2OZ-6565-B hardened push rods on all 289 V8s, and 302 V8s until L4, even though there was no requirement for them on L11 and later engines.) (See Appendix A for more information about engine levels.)