

Attn: GM LS Engine Owners

Re: Hydraulic Roller Cam & Lifter Failures Due To Improper Lubrication

As the marketplace stretches the power levels of the popular GM LS platform (especially in power adder applications), a marked increase is being seen in hydraulic roller cam lobe deterioration, along with lifter wheel and needle bearing failures. The root issue of this problem is a general lack of understanding about the lubrication needs of this engine platform. Customers often do not consider the need for either a break-in oil or application specific formula due to the fact that their application utilizes a hydraulic roller cam. Since these LS engines are primarily for street/strip use, a typical customer may use a conventional 20W-50 "Racing Oil" or a similar off-the-shelf lubricant. The engines are thus not broken in with specialized break-in oil, meaning that the proper foundation for valve train durability is never established.

As street applications featuring the LS engine are not typically warmed up before driving, the heavy weight oil (such as 20W-50) is slower in flowing to the hydraulic roller lifters. The result is a lack of adequate lubrication. The LS platform pump and oiling system is designed for 5W-30 viscosity grade oil, so using heavier weight oil actually reduces lubrication and often leads to rapid valve train failure.

Driven Racing Oil™ recommends using its BR30 Break-In Oil and LS30 Synthetic Street Performance Oil as a two-part solution to this growing problem.

By utilizing the BR30 Break-In Oil, the proper additive foundation will be introduced into the engine. This is accomplished first by breaking in the LS engine for 30 minutes to one hour much like a customer with a flat tappet valve train would. The customer should then drain the oil and change the filter, install a fresh fill of BR30 and continue to break-in the engine for the next 500 miles.

Due to the use of hydraulic lifters in these engines, it is critical that the oil be changed after break-in to remove the metal particulate created during the process. If these small particles are allowed to stay in the oil system for thousands of miles serious damage will occur.

After the break-in steps are complete, it is time to install the LS30 Synthetic Street Performance Oil, which is a properly formulated 5W-30 motor oil designed specifically for GM LS-based engines. The LS30 oil features mPAO synthetic base oil technology that increases High Temperature High Shear (HTHS) bearing oil film thickness, so the oil flows like a 5W-30 but protects like a 15W-40. This innovative technology enables LS30 to provide the required viscosity for the LS oiling system and deliver the added protection required for higher lift cams and hydraulic roller lifters.

This two-step lubrication process provides the proper viscosity and additive chemistry for the unique requirements of modified GM LS engines with hydraulic roller valve trains. Properly completing this sequence of steps utilizing both the Driven BR30 Break-In Oil and LS30 Synthetic Street Performance Oil will establish the proper anti-wear film in the engine, remove harmful break-in particles and provide excellent ring sealing.