IMPORTANT CAMSHAFT BREAK IN INFORMATION

FOR FLAT TAPPET CAMSHAFTS

When breaking in a flat tappet camshaft there are many things that need to be taken into consideration to prevent premature break in failure.

Current engine oils are less than adequate for flat tappet camshaft break in, engine oil manufacturers have decreased the amount of zinc in both gasoline, and diesel engine oils to meet emission standards, this decreased zinc content will not support proper flat tappet camshaft break in.

Engines using a flat tappet cam shaft will need to use and engine oil with a zinc content of at least 1250 parts per million. Some small batch oil manufacturers are producing high zinc content oils, there are also zinc additives available that can be added to conventional oils that will bring the zinc content to the proper levels.

During assembly a high grade assembly lube such as MELL-LUBE should be liberally applied to the cam lobes, lifter faces, and distributor gear.

High valve spring pressures during break in can also cause failures, when using a multi piece valve spring the inner spring should be removed during break in, there are also reduced ratio rocker arms on the market that are intended to be used during break in, these reduced ratio rocker arms reduce the amount of load applied to the cam lobes by not fully opening the valves.

Up to 10 times more wear material is created during the initial break in period, taking this into consideration during break in a finer micron oil filter should be used, typically around 21 microns, race type filters have a micron count around 61 which will flow more oil, but provide less filtration, race type filters should not be used during break in.

Camshaft and lifters should always be replaced as a set, you should never put used lifters on a new camshaft, or new lifters on a used camshaft.

RECOMMENDED CAMSHAFT BREAK IN PEOCEDURE

Prior to starting the engine for the first time the engine oiling system must be primed using either a pressure primer, or drill driven priming tool, the fuel system should also be primed, and the timing set, this will ensure a quick startup, and eliminate extended cranking which can wipe assembly lube from the lobes and lead to cam lobe failure.

Once the engine starts it should not be allowed to idle, making sure there is adequate oil pressure immediately bring the engine RPM’s to between 1800-2400 the engine should be kept in this RPM range for 20 minutes.

After the initial 20 minute break in period the oil and filter should be changed, and then changed again after 500 road miles, or the initial dyno session.