

NEW ENGINE INITIAL START-UP AND BREAK-IN PROCEDURE

1. Safety first - check everything you have done, make sure you are ready to start your new engine by inspecting all engine and drivetrain components. Set the emergency brake and chock the wheels. Re-check all your engine fluid levels before starting the engine, especially the engine oil. We recommend using an engine break in oil such as **AMSOIL Break-In Oil (SAE 30)** for the initial start-up and break-in.
2. To prime your new engine you need to disconnect your crankshaft position sensor and crank the engine until the oil light on your dashboard turns off, you are now primed and ready to start your engine. Connect the crank sensor and start the engine. Carefully monitor oil pressure, if oil pressure is low or the oil light comes on immediately shut off the engine.
3. We suggest around 20 minutes break-in time at varying speeds. You should keep the RPM range above 2000 and below 3000. It is critical to vary the RPM's to allow proper cam and lifter break-in for flat tappet cam- shafts (EVO X). Varying the RPM's is also necessary for proper ring sealing and initial break-in of all moving components.
4. For the first 20 minutes of run time, inspect the engine for any oil, fuel or coolant leaks. Keep a close eye on the engine oil pressure and water temperature gauges for any problems.
5. Driving break-in procedures vary by application. We recommend that for the first 30 to 50 miles that you vary the speed and engine load while keeping close watch on your engine gauges. During driving break-in, vacuum pulls are necessary to seat the piston rings. This involves accelerating with light load, letting off the throttle, and letting the engine slow the car down. Constant cruising should be avoided during this period, as well as wide open throttle/full boost scenarios. Monitor and adjust (if necessary) Air / Fuel ratios throughout this period as either a rich or lean condition can adversely affect the ring seating process and overall longevity.
6. After completing the initial break-in drive (approximately 50 miles), you should change the oil and filter. Always inspect the oil filter contents, and the removed oil for any unusual debris.
7. Once you have driven the recommended 500 miles for final break-in, change the oil and filter again. Your engine should be completely broken-in at this point and ready for normal driving.

OIL CHANGES AND INTERVALS

Oil changes are a crucial part of the maintenance routine for any vehicle. We recommend running a **SAE 30** weight oil or multi viscosity weight oil such as **5w30 or 10w30**. Please don't hesitate to call us if you have any questions on what type of oil to run. On freshly built engines we recommend changing your oil and filter much more frequently as outlined below:

- Initial startup / Break-in oil (such as amsoil break-in oil **SAE 30**) Conventional Oil is OK
- 50 Miles / Conventional Oil
- 500 Miles / Conventional Oil
- 1500 Miles / OK to switch to Synthetic if desired

You should change the oil and filter every 3000 miles for proper maintenance.

Important note: Due to the nature of forged internals and high performance engine assemblies, you may notice increased oil consumption in comparison to a stock engine.

NOTES: