**D-Mann Tuning Built-Motor Subaru Break-In Guide**

**0-100miles, Make sure the ECU is on a known good revision FROM ME! Prime the vehicle with no fuel to make sure oil is to camshafts etc. Make sure all leaks are taken care of and make sure the car will idle on its own. Turn the cabin temperature on as hot as possible and the blower fans on high. Warm the car to operating temperature making sure you bleed the cooling system for air. Then perform a High Idle (1500rpm) for 10 minutes. Shut the car off and it’s recommended to drain oil and replace filter. Cut the filter open and inspect for bearing material or anything out of the ordinary. Run engine lightly, no more than 20% TPS and NO BOOST!**

**100 miles**, run engine very lightly, **no more that 1-3 psi boost, no more than 25% TPS and 4000RPM**, Do your best to vary the engine RPM (switching gears if you have to while cruising) and decelerate the engine (from a higher RPM) under vacuum as frequently as you accelerate the engine, you want your engine to break-in evenly. Make 100% sure you always engine break whenever you drive, and never leave the RPMs constant for more than 20 seconds.

**100-500 miles**, run engine very lightly, **no more that 3-5 psi boost, no more than 40% TPS and 4500 RPM Change engine oil and filter at 250 miles.** Look for more glittery material in oil. Do your best to vary the engine RPM and decelerate the engine under vacuum as frequently as you accelerate the engine; down shift the vehicle to come to a stop rather than using just the brakes.

**500-1000 miles**, run engine more aggressively, **no more that 6-9 psi boost, no more than 50% TPS and 5000 RPM Change engine oil and filter at 750 miles.** Look for less glittery material in oil. Datalog the engine, look for knock events, etc (call me on this step)

Slowly raise the rev limit throughout break-in all the way to redline just after 1000 miles. Add 300-500 rpm per 50 miles.

(Eg. 5300rpm@1050; 5700@1100; 6100@1150; 6600@1200; 7000+@1250 miles.)

**At 1250 miles** change the oil and filter again and use synthetic oil, **approved by me,** before the final tune. (Call me for this)

Please be sure to vary the RPM range throughout engine break-in…you want to do what you can to promote even break-in of the engine hardware. Ideally, the engine will optimally perform throughout the RPM range. Engine ring sealing can be tested throughout the engine break-in process with a compression gauge and cylinder leak-down test kit (CLT); you can test at TDC and BDC. Be sure to perform these tests on a warm motor with the throttle blade fully open. You would want your measured compression to be within 20psi of each other on all cylinders and the CLT to 7% or less across all cylinders.

**Recommended Oils**: Almost any 10w-30 regular Dino motor oil will work for the first startup/high idle. Shell Rotella in the white jug 10-30 is ideal and cheap. You can use Brad Penn Break In oil; however, it is HIGHLY recommended to run Motul 10-40 Break-in Oil from 50-1250miles or so. I would recommend specially formulated “break-in” oil be used at minimum the first 750 miles minimum and not moving to a synthetic until at LEAST 1000 miles. The bearings need good seat time with a non-synthetic to build good “meat.” The synthetic oils are more micro-lubricants and almost too slippery to maintain good bearing bite during initial break-in.