# P2P Racing Engine Break In Procedure

**Purpose:**

The purpose of this document is to outline the procedure for typical engine break in for the P2P Racing LLC short/long block assemblies. A freshly built motor requires a certain amount of time /cycles to both "bed-in" the piston rings to the freshly-honed cylinder walls AND to allow the bearings to correctly seat and wear in before high loading events. If followed, this procedure will give you the most longevity out of your new motor, and keep your new build reliable. If you have any questions or comments, please email us directly.

**Procedure**

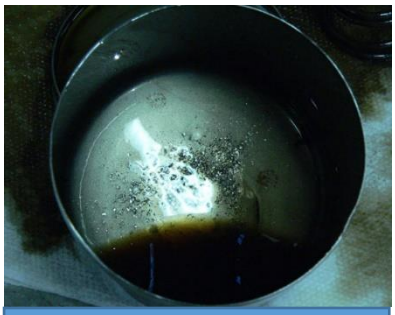
*Standard Street/Track Build*

When starting the car, check for oil leaks and coolant leaks. Before and after every drive, check your oil levels to verify there is not excessive oil consumption. There should be less than 0.5qt(s) of oil consumed during the first 100 miles. If oil consumption exceeds this allowable limit, please reach out to us as soon as possible please. Racing conditions will change this effect. Do not use Synthetic oil at this time. After the motor has been through an initial heat cycle/warm up procedure, immediately drive the car to bed the rings. Keep your RPM below the allowable limit, but when coming to a stop try to use a downshifting engine brake technique, instead of the brake pedal. Ex. 4$^{th}$ gear 45 mph, go to 3$^{rd}$, then 2$^{nd}$, then 1$^{st}$, and then finally apply the brake to 0mph. Use this technique for the entirety of the break in procedure. This allows the rings to better seat. If using Ethanol, oil changes must be done every 1,000miles or less as the Ethanol thins out the oil and may result in reduced shear capacity of the oil.

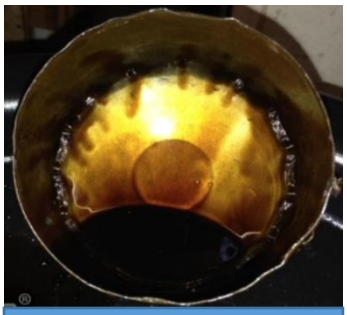
0 Miles – 100 Miles

- Required Oil – P2P Break-In Oil
- Required Filter – WIX, Denso, OEM
- Max RPM – 3500 RPM
- Max Boost – 1 Bar or 14.7psi
- DO NOT IDLE FOR PROLONGED PERIODS OF TIME
- Max oil temp 240*F
- Min Hot Idle (1000rpm maintained) Oil Pressure 15psi
- Average Running Oil Pressure is 75psi-85psi.

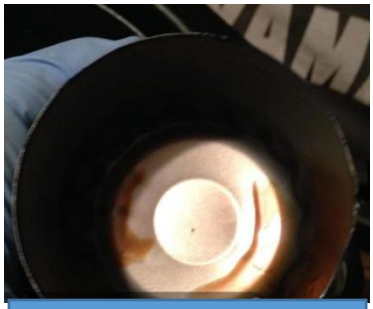
After the first 100 miles, change the oil and oil filter. Inspect the drained oil for large chucks of metallic material. A small amount of material in the oil is normal, this is usually from the cylinder wall and very top layer of bearing babbit. You may find an Oil Filter Cutter HERE. See pictures below;



Too Much Material



Normal



Ideal

100 Miles – 500 Miles

Continue with the same break in procedure as stated before, do not let the motor idle for long periods of time. Maintain lower boost levels with lower RPM while the motor continues to break in.

- Required Oil – P2P Break-In Oil
- Required Filter – WIX, Denso, OEM
- Max RPM – 3500 RPM
- Max Boost – 1 Bar or 14.7psi
- DO NOT IDLE FOR PROLONGED PERIODS OF TIME
- Max oil temp 240*F
- Min Hot Idle (1000rpm maintained) Oil Pressure 15psi
- Average Running Oil Pressure is 75psi-85psi.

500 Miles – 1000 Miles

Continue with the same break in procedure as stated before, do not let the motor idle for long periods of time. Maintain lower boost levels with lower RPM while the motor continues to break in.

- Required Oil – P2P Break-In Oil
- Required Filter – WIX, Denso
- Max RPM – 3500 RPM
- Max Boost – 1 Bar or 14.7psi
- DO NOT IDLE FOR PROLONGED PERIODS OF TIME
- Max oil temp 240*F
- Min Hot Idle (1000rpm maintained) Oil Pressure 15psi
- Average Running Oil Pressure is 75psi-85psi.

1000 Miles – 1500 Miles

You may now go get tuned. First change the oil and use a high grade Synthetic Racing Oil (Maxima, Motul, etc.) during the tune. Once the tune is complete, cut open your filter, verify there are no large particles (the oil will be darker and some material will be present) and do a full oil change back to conventional Break-In oil as stated below. Do not use synthetic oil until after 3,000 miles.

- Required Oil – P2P Break-In Oil
- Required Filter – WIX, Denso
- Max RPM –
    - ARP 2000 Rod Bolts – 7900RPM
    - ARP 625+ Rod Bolts – 8500+RPM
- Max Boost – Tuner Recommended
- DO NOT IDLE FOR PROLONGED PERIODS OF TIME
- Max oil temp 240*F
- Min Hot Idle (1000rpm maintained) Oil Pressure 15psi
- Average Running Oil Pressure is 75psi-85psi.

1500 Miles – 2000 Miles - Perform Oil Change

- Required Oil – P2P Break-In Oil
- Required Filter – WIX, Denso
- Max RPM –
    - ARP 2000 Rod Bolts – 7900RPM
    - ARP 625+ Rod Bolts – 8500+RPM
- Max Boost – 25psi
- DO NOT IDLE FOR PROLONGED PERIODS OF TIME
- Max oil temp 240*F
- Min Hot Idle (1000rpm maintained) Oil Pressure 15psi
- Average Running Oil Pressure is 75psi-85psi.

2000 Miles – 2500 Miles - Perform Oil Change

- Required Oil – P2P Break-In Oil
- Required Filter – WIX, Denso
- Max RPM –
    - ARP 2000 Rod Bolts – 7900RPM
    - ARP 625+ Rod Bolts – 8500+RPM
- Max Boost – 25psi
- DO NOT IDLE FOR PROLONGED PERIODS OF TIME
- Max oil temp 240*F
- Min Hot Idle (1000rpm maintained) Oil Pressure 15psi
- Average Running Oil Pressure is 75psi-85psi.

2500 Miles – 3000 Miles - Perform Oil Change to High Quality 10w-40 Synthetic Oil.

- Required Oil – High Quality 10w-40 Synthetic Oil.
- Required Filter – WIX, Denso
- Max RPM –
    - ARP 2000 Rod Bolts – 7900RPM
    - ARP 625+ Rod Bolts – 8500+RPM
- Max Boost – Tuner Recommended
- DO NOT IDLE FOR PROLONGED PERIODS OF TIME
- Max oil temp 240*F
- Min Hot Idle (1000rpm maintained) Oil Pressure 15psi
- Average Running Oil Pressure is 75psi-85psi.