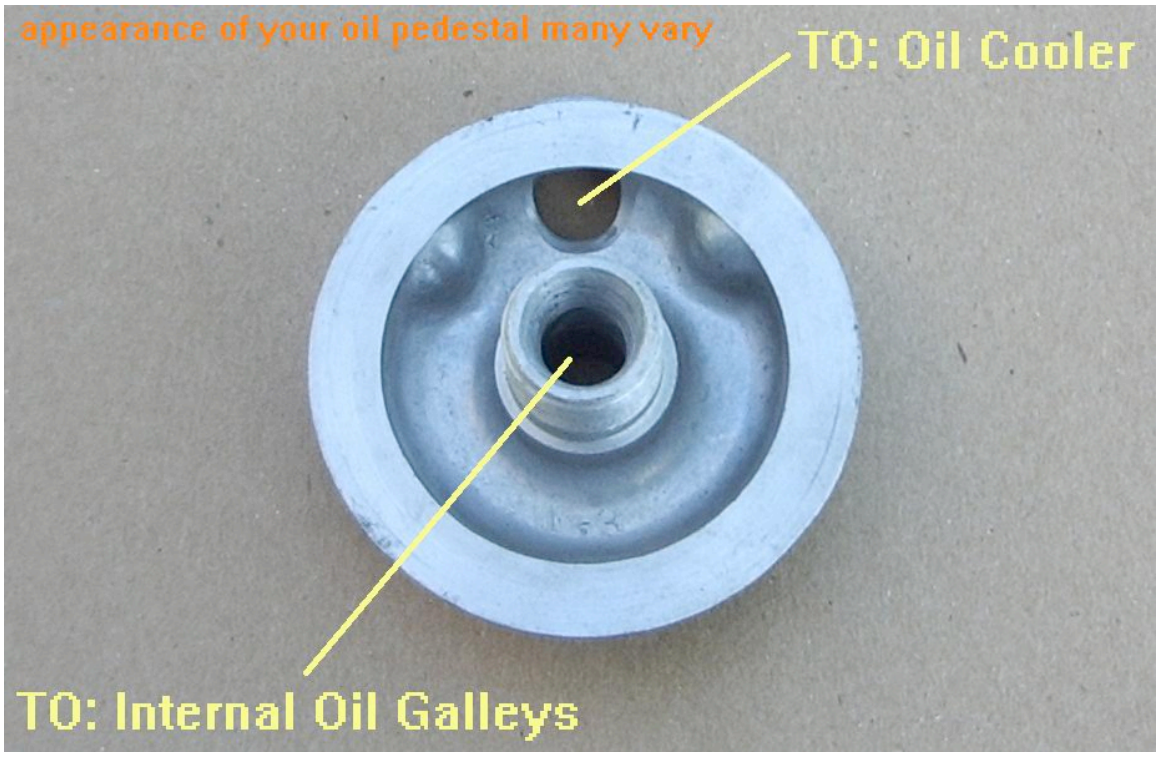
Pineapple Racing
Recommended Engine Break-in Procedure

1. Pre-lube the engine before starting. To pre-lube engine:
    a. Leave oil line loop at front cover unattached with catch pan under it.
    b. Repeatedly fill oil adapter outer cavity with oil and allow oil to gravity feed into loop line until oil is present at disconnected end of line. Attach the oil line at the front of the engine. All oil lines should be attached. Pour oil into center passage. Gravity will allow the oil to fill the engine's internal passages. A quicker way to move oil into the engine's internal passages is to apply low pressure air to filter adapter and push oil into loop line. Be sure to wear appropriate safety gear and use low pressure. The oil can blow out at you around the rubber tip of the air gun.
    c. Prevent engine from starting, then crank engine until pressure gauge shows oil pressure or until oil indicator light on dash goes out.
    d. Check for leaks.
    e. The above addresses only the oiling system; refer to factory manual for additional first-start precautions that may be necessary. Once Started, check for leaks while allowing engine to come up to operating temperature. Check all gauges frequently.



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2. After engine reaches operating temperature, bleed air from cooling system as necessary per factory service manual.
3. Check oil level.
4. Allow engine to run for approximately 30 min. in neutral varying rpms, then turn off. allow the engine to cool, then change oil and filter.
5. Especially for turbocharged engines: make sure spark and fuel mapping are safe for engine break-in. We recommend the engine tuner prevent the engine from exceeding recommended break-in operation specifications.
6. For the first 500 miles of driving, allow engine extra time to warm up before driving the car and do not exceed 4000rpm. Turbocharged engines should run minimal boost during the first 500 miles.
7. Change oil and filter at 500 miles.
8. From 500 to 2000 miles, gradually increase engine rpm and load to the point of occasionally bringing the engine rpm to 7000 using no more than ¾ throttle.
9. Dyno-testing/tuning is the best way to get the most out of your new engine. While not necessary for non-turbo applications, it should be done for turbo cars.
10. Check oil level frequently during break-in. During break-in, any engine can consume a noticeable quantity of oil. Running an engine low, or out of oil, will void your warranty.

Failure to follow break-in instructions does not necessarily cause immediate engine failure. BUT we have found it will greatly shorten the life of many of the components. For example, we have seen oil control rings loose ½ their life from lack of break-in. Consider your hard earned money and time when deciding a break-in procedure.

These instructions are not intended to supersede any other engine builder's recommendations. They should have been chosen for their skill and knowledge. If they cannot provide you with the technical support you require, consider that the next time you look for an engine builder.

Oil Recommendations:

Manufacturer: any quality brand of oil is OK except Pennzoil. I dislike this one brand for buildup reasons.

Startup Oil Weight: For startup use a dead dinosaur(mineral based) oil in a 0w20 through 10w30.

Post Startup: For non-turbo engines we like thin oils like the 0w20-10w30 for all applications where the oil temp is kept below 220*F. Virtually all stock or near stock applications will not have an issue with oil temp. A well designed race car should be able to run these thinner oils. We have run 0w16 in full race circuit cars with great engine life.

For turbo cars, due to higher temps in limited area of the engine package, like inside the turbo we recommend 10w40 -20w50.

After Break in: For all but the street driven RX8, we recommend changing to synthetic oil like Mobile 1. The extended oil change cycle(for normal use) and its superior wear protection and heat transfer properties make it a great choice. For n/a applications I will run it for 1yr./12K miles between changes.

For the RX8, it's tendency for carbon buildup makes a change to a synthetic oil a poor choice for all but the hardest driven cars. For turbo RX8 engines for street use dead dinosaur oil and 2000 – 2500mile oil changes are your best friend. For track use or extremely hard street use, synthetic oil in 10w40-20w50 is an option. It is a compromise of better oil protection vs. carbon buildup.