



# Recommended Tuning Guide and Break-in Procedure for JR Race Car Engine--Stage 3

## **Recommended Engine Break-in Procedure:**

For breaking-in your JR engine, we recommend the following procedure. Fill the engine with 12-14 ounces of a *non-synthetic* oil. The recommended weights are 0-30, 5-30 or 10-30 weight oil. When starting or running your engine, please follow the IHRA or NHRA warm-up procedures found in their respective rulebooks. This is for safety reasons only. Start and run your engine until a good temperature is obtained in the engine. Then shut the engine off and let it cool leaving the oil in the engine. After the engine has cooled, start the engine and repeat the steps. After this process has been repeated, change the oil. Again, use a non-synthetic oil. At this time you are ready to race. After 3 to 5 passes down the track you will need to change the oil again. At this point, the engine should be broke-in. You can now switch to your good lightweight synthetic racing oil. It is recommended that you change the oil in your engine every 3 to 5 passes. If you have any questions, please feel free to contact our technical support staff.

## **Tuning Guide:**

The following are tuning recommendations any may depending on your race car and racing program.

### **Oil:**

Run 12 to 14-ounces of oil in your JR engine. Run synthetic racing oil only after the above engine break-in procedure has been completed.

### **Target EGT and CHT:**

Idle EGT is approximately 550°-600° and CHT 150°-160°.

Max recall EGT after a run is approximately 1100°-1150° and CHT 300°-320°.

### **Idle RPM:**

Approximately 3800-4000 RPM with your clutch engagement at approximately 4600 RPM

### **Gearing:**

80 tooth rear sprocket and a 12 tooth front sprocket for a gear ratio of 6.75. This gear ratio is for 18x8x8 rear tires. Please remember that the gearing is a estimate and that changes may be necessary due to package weight and elevation. Please give us a call for further gearing assistance.

### **Max RPM:**

Max recall RPM should be between 7800 to 8000 RPM. Anything outside of this range is not recommended.

### **Torque Specs:**

Head Stud (nuts) 150 inch-pounds (or 12.5 foot-pounds).

Rod Bolts 150 inch-pounds (or 12.5 foot-pounds).

### **Gap:**

Spark Plug gap should be approximately 0.025"

Coil to flywheel air gap should be approximately 0.025"

### **Ignition Timing:**

The ignition timing recommended range is 0.325" BTDC to 0.350" BTDC. This depends on your application.

### **Other:**

The JR engine bolt in the set of 4 holes closest to the side cover on the clutch side.

Watch your chain tension. Set the chain tension with the driver in the race car on the ground.