



Technical Support

Recommended Tuning Guide for 3-1/2" & 3-3/4" ZR-4 Racing Engines



Tuning Guide:

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

Oil:

Run 13-ounces of oil in your ZR-4 Racing engine. Run synthetic racing oil only after the above engine break-in procedure has been completed. Recommended oils are Royal Purple XPR, Joe Gibbs XP1, Penn Grade and Lucas Jr Dragster/Go-Kart Racing Oil.

Target EGT and CHT:

EGTs vary and are not recommended to be used for initial tuning. CHTs should be between 130° to 140°. Max CHT after a run is approximately 230° to 250°.

Idle RPM:

Approximately 4200 - 4800 RPM with clutch engagement at approximately 5200 - 6000 RPM.

Gearing:

69 tooth 415 rear sprocket and a 12 tooth front sprocket for a gear ratio of 5.75 or an 83 tooth #35 rear sprocket and a 15 tooth front sprocket for a 5.73. This gear ratio is for 18x8x8 rear tires. Please remember that the gearing is an estimate and changes may be necessary due to package weight and elevation. Please give us a call for further assistance.

Max RPM:

Max flatline RPM should be between 7800-8000 RPM.

Valve Lash:

As a good maintenance procedure you should check valve lash often and replace lifters when it gets out of spec. Lash will wear much faster than the rest of the engine so to ensure maximum performance and life keep lash around .006" to .009" and replace lifters if lash grows beyond .015".

Torque Specs:

Head Stud (nuts) 150 inch-pounds (or 12.5 ft lbs).
Rod Bolts 150 inch-pounds (or 12.5 ft lbs)

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 0.500" to 0.550" BTDC. This is dependant on your application and may change depending on your racing requirements.

Other:

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