



Technical Support

Recommended Tuning Guide for Raptor 12.90, 11.90 Stage 1 and Stage 2 Racing Engines

Tuning Guide:

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

Oil:

Run 14-ounces of oil in your Raptor 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 150° to 170°. Max CHT after a run is approximately 300° to 320°.

Idle RPM:

It is recommended to use an aftermarket idle control when using a 28mm carb. Idle should be set at approximately 4000 - 4200 RPM with clutch engagement at approximately 4500 - 5200 RPM.

Gearing:

For fastest E.T., use a 68 tooth 415 rear sprocket and a 9 tooth front sprocket for a gear ratio of 7.55 or a 90 tooth #35 rear sprocket and a 12 tooth front sprocket for a 7.50. This gear ratio is for 18x8x8 rear tires. **To slow down for 12.90 class** run between a 3.5 to a 5.0 ratio. 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:

For fastest E.T. Max flatline RPM should be between 7800-8200 RPM, for 12.90 class Max flatline should be between 5500 and 6500.

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 0.300" to 0.350" 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.

Do not use top lube in your racing fuel, it wont burn properly in the engine and may cause stumbling.