



TECH BULLETIN

Tech Bulletin Prepared By VP's Quality Control Team

MR Pro 7 reg

We are thrilled to announce a significant advancement in our product line with the introduction of MR Pro 7 reg. Extensive testing on both dynamometer (dyno) and track environments has been conducted, and the findings indicate the need for specific engine tuning adjustments to fully optimize the benefits of Pro 7. Below are key findings and recommendations for ignition timing and fueling adjustments:

Ignition Timing:

Optimal Timing at Full Throttle/Load: Due to the higher flame speed (MFB 10-90), it is recommended to retard ignition timing by 1.5-2.5 degrees at 100% throttle/load. This adjustment helps to synchronize combustion phasing with the enhanced burn rate of the new fuel, optimizing power output.

Lower Throttle and Load Conditions: For lower throttle and load conditions, the best performance was achieved with a reduction of -4 degrees in ignition timing. It's important to note that some engine management systems have a transient ignition setting, and caution should be exercised to avoid overly aggressive values to prevent knock during transient throttle movements.

Fueling:

Sequential Tuning Approach: A recommended approach is to first retard ignition timing by 3-4 degrees from a Pro 6 ignition curve. Then, work on achieving the target air-fuel ratio by starting at lower throttle angles and progressing to larger openings/higher loads. After achieving the desired fuel curve, slightly advance ignition timing to find best power and torque.

Target Air-Fuel Ratio: A target air-fuel ratio of 12.8:1 yielded the best results in terms of power output. Achieving this ratio required an increase in fueling compared to Pro 6, with particular attention to lower RPM and throttle regions. The increase in fueling is not a uniform percentage across the RPM range, with a greater increase observed at lower RPM due to improved fuel vaporization characteristics, especially on dual injection applications.

Additional Notes:

Pro 7 has a lower Reid Vapor Pressure (RVP) than Pro 6 which helps with boiling and vapor lock issues on hot track days.

Dyno vs. Track Discrepancy: It was observed that the best power on an inertia dyno (Dynojet 250i) required approximately 1-1.5 degrees more advance than results on the track. Test riders, in a blind A-B-A test, preferred the ignition reduction on the track over the best power ignition setting on the dyno. It is advisable to experiment with these settings on the track for optimal performance.

Riders have reported improved response, allowing for the use of a smaller rear sprocket, enhancing acceleration.

QUESTIONS?

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